

Bangladesh News Articles from January 2020 to April 2022



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Bangladesh: Potentials of blue economy

This will help reduce wind pressure of cyclones and also solidification of new lands. Mangrove in the Sunderbans comprising of 577,040 hectares provide livelihood to about 7.5 million people, timber, wood, boat building materials, rafts and garan for tanning nets, honey, wax etc including acting as spawning/breeding ground for many species. Mangrove afforestation in newly accreted intertidal areas has been going on for decades now. Bangladesh is already working for delta planning and in the long run it will help sustain agriculture, river course and intrusion saline waters etc. Human resource, maritime surveillance and spatial planning Human resource-Well-trained, skilled and educated human resources are the driving force of the development of an economy, who can participate in the globalization of business and the accompanying technological revolution.

Dynamic and sustainable development is not possible without skilled work force. Having assessed the need of world market and local industry, appropriate courses on marine science/oceanography, ocean and coastal engineering, maritime education and trade are essential to introduce at tertiary education system. A large eligible population places Bangladesh in a suitable position to produce skilled human resources in almost any sector imaginable.

A thrust in blue economic growth may come from a large army of skilled coastal and offshore engineers, navigators, merchant mariners, fisheries technologists, biotechnologists, etc. and in a variety of other professions. There are reportedly shortage of marine officers and rating worldwide and shortage escalating about 20% every year.

Philippines, China and India are supplying providing most of the officers to all the merchant ships around the globes. Even Myanmar and Sri Lanka are ranked ahead of India in terms of providing ratings. Bangladesh has enormous potential for seafaring job opportunities from its 18 private and public marine academies provided it can arrange on board practical training facilities for its would-be seafarer and also can remain in the white list following STCW 95. Recently the National Oceanographic Research Institute (NORI) has been established for coastal and oceanic research. Maritime surveillance-aims to improve the situational awareness of all activities at sea impacting on maritime safety and security, the marine environment, fisheries control, trade and economic interests as well as general law enforcement and defence.

Maritime safety including Search and Rescue is understood as the combination of preventive measures intended to protect shipping and port facilities against threats of intentional unlawful attacks and prevention of pollution caused by ships. There is a growing demand for all of these functions due to the increasing number of (legal and illegal) activities at sea.

The last decade has seen an increase in threats, including piracy, illicit human and drug trafficking as well as terrorism. Maritime spatial planning (MSP) – is a mechanism for the integrated management of maritime areas in which a central vision for the future of the area, in conjunction with knowledge of activity interactions and impacts, guides the location, timing, intensity and future development of all activities in the maritime space. It recognizes that seas and oceans are drivers for the economy with great potential for innovation and growth.

A comprehensive understanding of the maritime environment is crucial for successful MSP, as is a thorough understanding of how maritime activities impact each other and the environment. In conclusion it can be said that the future development potential of a blue economy strategy for Bangladesh strongly depends on the ability of the economic actors to find a business model which fits the developmental stage and the national and global developments.

However, once confidence of the future potential is established, new players can easily enter the business, invest, upscale and grow the business. Once risks subside, large industrial players (e.g. from pharmaceutical, chemical and cosmetics, but also energy, utility and mining companies) are expected to become interested in the opportunities of Blue economy.

Access to finance is therefore amongst the most important barriers for the maritime economic activities in the not so developed maritime economic functions. Clearly, investment risks are substantial in this phase, but so can be the rewards.

Apart from funding of activities in the development phase, access to finance can block the realization of investment plans and new business initiatives. In light of this, it is essential that Bangladesh recognizes the true potential of its marine resources and develops an integrated maritime policy that acknowledges the interlinkages that exist between the different domains and functions of its seas, oceans and coastal areas.

The Blue Economy strategy builds on policy initiatives to recognize the potential of these marine resources and thus aids in realizing a future strategy towards smart, sustainable and inclusive growth. Our ability to compete and achieve future success in maritime economic activities, such as deep-sea fishing, aquaculture, international/coastal shipping, port infrastructure, coastal and cruise tourism, offshore drilling, renewable energy, biotechnology, coastal protection, salt production, human resource for maritime activities and development of existing islands and chars will have important knock-on effects for both upstream and downstream suppliers.

Successfully rolling out tomorrow's maritime economic activities will, therefore, have a positive impact on an entire portfolio of other maritime economic activities, namely those of a cross-cutting nature such as shipbuilding, blue biotechnology, drilling in the Bay and port infrastructure, human resource and maritime monitoring and surveillance.

URL: <https://dailyindustry.news/potentials-of-blue-economy-in-bangladesh-2/>

Bangladesh: A threat to livelihood

Mahadev Rajbangshi (60) used to fish throughout the year in Bangshi river and used to make his living by selling fish. However, now he only gets to fish for two months during the entire year. The reason is the dense pollution of the river by industrial liquid waste. Thousands of fishermen in Savar are passing days in hardship, while the majority of them have already left their hereditary profession.

According to Savar Upazila Fisheries Office, there are more than 2,000 fishermen in Savar. There are three rivers and 18 government canals in the upazila, as per the information acquired from the UNO's office.

During a recent visit to Bangshi, Turag and Dhaleshwari rivers and many of the canals in Savar, this correspondent found none of them free from pollution. Senior Fisheries Officer Kamrul Islam Sarkar also expressed concern over the pollution.

“During my visits, I found no difference between river water and sewer water. No fish, as well as aquatic creatures, can survive in such polluted water. Two dolphins died and floated on the Turag two months ago. We suspect that they died in the contaminated water,” said Kamrul. “To reduce pollution, the authorities concerned, including the Department of Environment (DoE) must be vocal,” he added.

Contacted, Zahirul Islam Talukder, Dhaka district deputy director of DoE, said they regularly inspect the factories and often impose fines on them for polluting the rivers and the canals. Asked why the pollution continues despite regular monitoring, he said, “Apart from the tannery industry, there are about 120 dyeing factories and 60 washing factories in Savar. They are open 24 hours a day, while we can only monitor them for eight hours. We have a huge human resources crisis.”

“Factory authorities run CETP (Common Effluent Treatment Plants) during our visit and stop running them afterwards, which leads to the pollution. We are working on this issue as well,” he added.

URL: <https://www.thedailystar.net/news/bangladesh/news/threat-livelihood-3006096>

Bangladesh: Calls for protecting oceans to save planet earth

Bangladesh has announced five new commitments to the ‘7th Our Ocean Conference’ in Palau in order to achieve SDG 14. ‘We must protect, preserve and promote our oceans and ecosystems to save planet earth,’ Bangladesh foreign minister AK Abdul Momen told the conference co-hosted by Palau and the United States on April 13-14.

Mentioning the five new commitments, Momen said that Bangladesh announced the National Plan of Action to eliminate illegal, unreported and unregulated fishing in compliance with the internationally agreed market-related measures.

The foreign minister referred to establishment of a new Marine Protected Area in Saint Martin’s Island reaching a total of 8.8 per cent of its Exclusive Economic Zone. He said steps aimed at ensuring safe ship recycling by 2023 have also been taken. He also mentioned the Solid Waste Management Rules 2021 as part of the commitments.

Bangladesh is committed to harnessing marine resources sustainably under Blue Economy for inclusive development, Momen said. ‘We must not hesitate to break the mould. We must not be afraid to set a new trajectory for development of our oceans and seas for a better life,’ he observed.

He said the nations must not constrain their ambitions, even if experience tells them that change is difficult. ‘It is in the face of such challenges that we must redouble our efforts and partnerships.’ Momen said that US presidential special envoy John Kerry could take a special jet from Guam to come to Palau, instead, in order not to pollute the world and to contribute less emissions, he came to Palau by a normal passenger flight.

‘We are proud of such personal commitment; and if others follow, we can save the planet earth for our future generations,’ he said. The FM said oceans, seas and marine resources are increasingly threatened, degraded and destroyed by human activities. ‘The ocean gives us life. We rely on it for food, livelihoods, climate resilience and recreation. To ensure the longevity of our planet’s life, decisive and collective action is required,’ he said.

The conference was a key moment for countries, civil society, and industry to commit to concrete and significant actions to protect the ocean. Throughout the six previous conferences, participants had made more than 1,400 commitments worth approximately \$91.4 billion and protected at least five million square miles of ocean, the conference was told.

URL: <https://www.newagebd.net/article/168107/bangladesh-calls-for-protecting-oceans-to-save-planet-earth>

Bangladesh: Exploring marine resources

The Bay of Bengal is one of the 64 largest marine ecosystems globally. As a maritime country, Bangladesh has a larger share of the Bay of Bengal, covering 118, 813 sq km, which is almost equal to its land area. This marine area is affluent in fisheries production. It is estimated that production of about 80 lakh MT production from the Bay is possible, whereas among the country’s total fish production, 45.03 lakh MT, our Bay contributes only about 7.0 lakh MT. There is a vast gap between the stock availability and estimated catch.

Statistics show that inland aquaculture production in the country has increased almost six-fold in the last two decades. On the contrary, marine fish production has remained almost the same during the period. So, where is the gap? Why is marine production not increasing significantly?

The ocean is an unbounded open area, but it is a challenging task to operate there. The first and foremost requirement for exploring marine resources is the availability of enough data with intensive research coverage to draw up plans to cash in on the ocean resources. This is an area where we lag far behind many of our peers who have been successful in exploring and gaining from the blue economy. There are many opportunities for developing the sector through regional and global cooperation along with national coordination.

The successful demarcation of the maritime boundary of Bangladesh with the neighbours in 2012 and 2014 led to open up the access of Bangladeshi fishers to the Area Beyond National Jurisdiction (ABNJ) of high seas and the term ‘Blue Economy’ came to the forefront. Many government organisations, NGOs, universities, research institutes, and maritime trade centres are dealing with the sea and marine resources in the country. All of them do not have the same facility to collect necessary data. More over, it has been learnt that the cost involved in

oceanographic research is quite high which appears to impede extensive research despite the fact that there are many eager and competent researchers.

If we consider regional cooperation, the priority is to have a Common Fishing Policy (CFP) for the sustainable management of the ecosystem and its biological resources. It will protect the IUU fishing or overfishing practices as well. For any shared resource, a joint policy is a prime need, and enough data must flow from each country.

For a long term execution of CFP development, a regional platform needs to be developed– first for data, knowledge and technology sharing. Through a common regional platform, the country can share ideas and techniques and even go for human capacity development. Not only that, instituting a blue bond may help facilitate more research work and planning for capacity building.

Alongside the regional cooperation, the country may go for global cooperation. In that case, raising funds for more projects and sharing knowledge with advanced technology may help flourish the sector. For example, the EU has already developed a standard fishing policy that we can replicate regionally. It can help as a model and could share their experience to develop the Bay of Bengal regional fishing policy.

In April 2016, Bangladesh government started giving licence for exploring Tuna and other pelagic fishes beyond the 200-meter depth of the Bay and in international waters. A total of 17 firms got the licence for long lining and purse seine fishing till April 2018, but none of the firms' operated trawlers until the end of 2019. Even responsible authorities stated that the Department of Fisheries (DoF) had made at least half a dozen attempts to send private sector fishers for deep sea fishing, but all such attempts turned fruitless. The reasons behind discouraging deep sea fishing are the poor data availability and study report for target fishing with the small size and poorly structured fishing vessels.

Any effort is meaningless at this moment to explore the sea without proper data and capacity building with advanced technology. Dealing with sea means devoting a macro scale investment. It is time to step up with proper planning to flourish in the marine fisheries sector.

URL: <https://thefinancialexpress.com.bd/views/views/exploring-marine-resources-1649603841>

Bangladesh: Safety of fishermen in the Bay of Bengal

Along Bangladesh's 710 kilometre coastline, several million people from the 14 coastal districts and 49 Upazilas are estimated to depend directly or indirectly on marine fishing for their livelihood– either for the whole or part of the year. The government's Marine Fisheries Department states that Bangladesh is now the fifth largest marine fishing country in the world in terms of tonnage caught. However, commercial marine fishing is considered to be one of the most hazardous occupations worldwide. Is anything known about the health and safety status of the fishermen of the Bay of Bengal? How many of the fishermen get killed or maimed on the job while supplying fish protein for the country's people?

Event #1: December 7, 2021– Due to the rough weather, a trawler carrying 21 fishermen capsized in the Bay of Bengal near Barguna’s Pathorghata area, and 20 fishermen went missing.

Event #2: March 28, 2022– Indian Coast Guard rescued 19 fishermen who were deserted in Indian waters in the Bay of Bengal. The Bangladeshi fishermen, who started from Cox’s Bazar were marooned as their wooden trawler developed a mechanical problem. The trawler had been floating for more than 20 days. The exhausted fishermen had nothing to eat. They were provided with first aid, food, and water by the Indian Coast Guard.

Event #3: February 6, 2022– A total of 144 fishermen were rescued after the drowning of 11 trawlers in the Bay of Bengal. The bodies of the two dead were handed over to their families. They were rescued from Pathorghata in Barguna by the Fishermen’s Trawler Owners’ Association and the Dublarchor Fisherman Group.

Event #4: November 29, 2021– Bangladesh Navy rescued 14 fishermen alive from a fishing boat that had been floating for eight days in the Bay of Bengal, 140 km away from Cox’s Bazar.

Event #5: March 28, 2022– Some seven fishing trawlers went missing in the Bay of Bengal due to rough weather. At least seven fishermen were considered missing, according to the Bangladesh Coast Guard. The trawlers disappeared in the Bhashanchar route after starting from Banskhali Upazila of Chattogram.

Around 17 million people (with about 1.5 million women) are engaged in fishing, fish farming, fish handling, and processing for their livelihood in Bangladesh. The fisheries sector contributes 4 per cent to the GDP while the agricultural sector contributes around 15 per cent to the GDP. Around 4.5 million tonnes of fish were harvested in 2017-18, of which 655,000 tonnes came from the Bay of Bengal, almost 16 per cent of the total production. Bangladesh earned taka 4,310 crores from exporting almost 70.95 thousand tonnes of fish, shrimp, and other fisheries or fishery products during 2019-20 and this is 1.40 per cent of the total national export earnings. The country has seen a rise in fish capture, fish culture, and marine fish production, and in terms of distribution, inland capture accounts for 28 per cent, inland culture 57 per cent, while the rest is marine capture.

It is difficult to count how many people rely exclusively on fisheries or related activities in Bangladesh but a great portion is involved in subsistence fisheries on its flood plains. Fisheries and related activities support more than 7 per cent of the country’s population. The number of fishermen increases dramatically between June to October each year because of the seasonal patterns of fish harvesting. In terms of marine fishing, at present, there are 255 registered trawlers out of which 236 are used for fishing only. Of those, around 35 are shrimp trawlers, 52 bottom trawlers, 68 midwater transformed trawlers, 53 midwater trawlers, and 28 trial trip bottom trawlers. In addition, there are 67,669 mechanised and non-mechanized boats that are engaged in fishing. Currently, more than 600,000 people are engaged in shrimp farming activities alone.

Several studies conducted in the United States (US) confirmed that commercial fishing is still one of the most dangerous occupations. During 1992-2008, an average of 58 reported deaths

occurred (128 deaths per 100,000 workers) annually among commercial fishermen, compared with 5,894 deaths (four per 100,000 workers) in all other sectors in the US. To assess the hazards and risk factors, US CDC collected and analysed fatality data during 2000-2009: out of 504 fatalities, most (52 per cent) occurred following a vessel disaster (e.g., sinking, capsizing, or other events when the crew had to abandon ship) or a fall overboard (31 per cent).

Some risk factors and causes identified for marine fishing by research studies include– 1) fishing vessels often manned by fewer individuals, 2) working with heavy-duty equipment, 3) working in unsafe environments, 4) working for very long hours, 5) economic pressures forcing inappropriately geared vessels to operate, 6) vessels not fit, not allowed or not safe going further out in sea than permitted. Deaths among the marine fishermen resulted from a wide variety of situations involving 1) vessel loss, 2) falls overboard, 3) fire and explosions, 4) cable entanglements, and 5) gas exposure. In many cases, the real causes or circumstances remained unknown as autopsies are difficult for drowning or hypothermia cases and decomposition and animal predation of the dead bodies made the investigation obscured.

Things must be much worse in Bangladesh for its commercial marine fishermen. Research findings will help with the development of effective prevention measures and practices through the delivery of appropriate safety awareness training. Studying the marine fishermen is important to characterise potential influences on or barriers to safety to design interventions that can alter safety practices and behaviours. The Bangladesh Coast Guard (USCG) can conduct periodic surveys on fishing hazards.

All training programmes must target increasing the awareness among fishermen about the severe occupational risks inherent in their work. Fishing community trust and collaborative partnerships are essential to the success of such initiatives. Simple, yet appropriate training and awareness measures must incorporate visual and written safety messages that can favourably influence attitudes, beliefs, and behavioural intent related to high priority risk factors as identified by fishermen. Opportunities exist and strategies are needed for improving the safety of fishermen in the Bay of Bengal.

URL: <https://thefinancialexpress.com.bd/views/safety-of-fishermen-in-the-bay-of-bengal-1649258919>

Bangladesh: Price hike of fish feed keeps farmers in trouble

The rising cost of fish feed has dealt a fresh blow to thousands of aquaculturists in Mymensingh who had only just started recovering from the coronavirus fallout as transportation and other facilities returned to normal after economic activities resumed. The government had enforced a nationwide economic shutdown between March 26 and May 30 last year in a bid to curb the spread of Covid-19.

But even after the lockdown ended, certain restrictions on public movement and other measures were kept in place to control the recurring waves of infection. As a result, thousands of fish farmers in Mymensingh, one of Bangladesh's main fish producing hubs, faced significant losses due to the lack of smooth transportation facilities. Abu Raihan, an aquaculturist based in

Dhanikhola village of Trishal upazila, told this correspondent that the price of fish feed advanced significantly in recent months.

The price of fish feed rose by about Tk 8 to Tk 10 in the last six months, and around Tk 15 in the last one year. “This is yet another trouble for fish farmers who have been hit hard by the pandemic as production costs are now higher than trade prices,” he said.

For example, Basa, locally known as Pangas, are currently being sold for between Tk 100 and Tk 105 per kilogramme (kg) even though it costs around Tk 95 to produce. Other breeds such as the Climbing Perch (Magur) and Gulsha are priced between Tk 180 to Tk 240 per kg and Tk 250 to Tk 300 per kg respectively while the Roho labeo (Rui) and South Asian Carp (Katal) cost about Tk 150 to Tk 300 per kg depending on its size even though each species costs at least Tk 150 to produce.

And although the fish market is now faring a little better than last year, the increase in production cost has wiped any smile off the farmers’ faces, Raihan said. Echoing him, Md Nurul Haque, proprietor of Brahmaputra Fish Feed Complex in Mymensingh sadar upazila, said farmers were left with little to no profit under these circumstances.

To address the issue, the government needs to strictly monitor the feed market as farmers require this support to survive such hard times, according to Subrata Kishore Thakur, another fish farmer in Trishal upazila. Dilip Kumar Saha, district fisheries officer of Mymensingh, recently spoke with the owners of some fish feed factories in Bhaluka upazila who told him that the present situation was a result of them not yet getting orders for the required raw materials.

Saha then claimed that the price hike is restricted to certain areas where local dealers are pulling the strings. About the losses faced by farmers last year, he said local aquaculturists were unable to supply their fish to various parts of the country due to the lack of transport facilities amid the countrywide lockdown.

And as the fishes remained unsold while feeding and maintenance costs increased, farmers incurred serious losses and ultimately had to sell their fish at throwaway prices, Saha added. There are around 112,000 fish farmers in the district who mostly hail from the Trishal, Gouripur, Phulpur, Tarakanda, Bhaluka and Muktagacha upazilas. There are also some 295 hatcheries and 1,043 nurseries in the district.

Mymensingh’s aquaculture industry faced losses of Tk 400 crore amid the Covid-19 pandemic. The region produces around 3.95 lakh tonnes of fish each year against local demand of 1.26 lakh tonnes, according to the district fisheries officer.

The surplus is supplied to different districts in the country, including Dhaka. But in some cases, farmers do not get fair prices for their hard work. For example, fishes are sold for nearly half their retail value as middlemen eat up a lion’s share of the profits, local farmers said.

For sustainable and safe production, fair prices should be ensured. Besides, a fish processing zone and cold storages should be set up in Mymensingh in order to support the industry. And

other than ensuring proper monitoring of feed prices, the authorities should widen the scope for export, they added.

Farmers in the region also urged for their problems to be addressed on a priority basis while saying that easy access to finance would help them cope with the situation. To fail Ahmed, senior fisheries officer of Trishal upazila, said around 7,500 fish farmers in the region faced losses amid the pandemic and the price hike of fish feed will surely hamper their recovery, especially that of small and marginal farmers.

The aquaculture industry in Mymensingh employs around seven lakh people, many of whom may lose their jobs or face a financial crisis if the industry is severely affected, he added. Talking to this correspondent, Khaled Masud Sujon, an executive of Quality Feeds, said the price of fish feed increased significantly in one year due to the price hike of raw materials like soybean, rice bran, oil cakes, maize and others. At present, there is no sign that the price will reduce as the price of raw materials is increasing, the official said, adding that the situation would worsen if costs were not immediately contained.

URL: <https://www.thedailystar.net/business/economy/news/price-hike-fish-feed-keeps-farmers-trouble-2998931>

Bangladesh: Jatka conservation can produce 6L tons of additional hilsa

It will be possible to produce additional 600,000 tons of hilsa, if jatka (hilsa fry) is properly conserved, Fisheries and Livestock Minister SM Rezaul Karim has said. Hilsa is the country's most delicious fish certified internationally with the geographical indication (GI), he said while attending a workshop as chief guest in the capital on Monday, organized marking the Jatka Conservation Week 2022.

The workshop, titled "Tolerable Extraction in Hilsa Resource Development and Jatka Conservation Management", was arranged by Bangladesh Fisheries Research Institute (BFRI) at Bangladesh Agricultural Research Council. Joining virtually from his Bailey Road official residence as the chief guest, Rezaul Karim said Bangladesh is the highest hilsa producing country in the world.

"If only jatka is preserved, we will be able to take the opportunity to extract additional 600,000 tons of hilsa. That is why we all have to be careful in protecting jatka," he said. The fisheries minister said hilsa production was 2.98 tons in fiscal 2008-09 and it increased to 5.65 tons in fiscal 2020-21 due to the implementation of the government's hilsa management strategy.

During the tenure of the present government, he said, the size of hilsa has become more balanced due to jatka and hilsa conservation and protection of hilsa sanctuaries. Hilsa of different sizes are available in the market almost all the time, he said, adding that even hilsa are now found during winter. Rezaul Karim said: "Because of timely and practical steps taken by the government, we have been able to produce huge amount of hilsa and even in winter season we have the opportunity to get hilsa".

URL: <https://www.dhakatribune.com/environment/2022/04/04/rezaul-jatka-conservation-can-produce-6l-tons-of-additional-hilsa>

Bangladesh: How solar power changed the life of Meghna fishermen

As evening falls on the banks of the Meghna, darkness does not descend. Instead hundreds of boats light up the waters like fireflies. The lights spread, weaving and bouncing, along the water. There is a silent revolution happening in the Meghna River where fishermen have learned to harness the power of the sun.

Alamgir, a boatman in the Meghna River in Laxmipur, installed a 50-watt solar power panel five years ago to use electric lights on his boat at night. Before that, he used to light kerosene lamps at a princely sum of Tk1,500 per month.

The kerosene lamps were very vulnerable during inclement weather, including rains and storms. The solar panel means he no longer has to worry about the elements. Alamgir is among thousands of fishermen in the Meghna River in Laxmipur who have rediscovered their fishing life with the use of solar power. Most of the boats on the river have high powered lights, with the fishermen also boasting smartphones and various electric products. The fishermen now also enjoy movies and watch movies in the middle of the river to pass their idle times, something unimaginable two decades ago.

Ibrahim, a boatman, said, “We now use solar power to charge mobile phones and other electrical products. We use various electric lights in the boat. Such lights are also used on the fishing nets to protect those from other vessels.”

Yusuf Majhi, a fisherman who was sitting inside the boat, said, “Boat collisions and subsequent casualties were frequent in the river even six to seven years ago. Now, most of the boats have several lights, including signal lights, which prevent such accidents. The use of electrical products has provided us security, among other facilities.” The use of solar power and electric devices have brought a transformation to the monotonous life on the Meghna River.

Md Abdur Rob, president of Tanki Bazar Fish Ghat in Ramgati Upazila, said, “The fishermen of the river have been using solar power for the last 10-12 years. As a result, they do not have to worry as much as before. Fishermen use a variety of modern technology to catch fish at night. Now, it would be impossible for them to pass a day without solar power.” According to people concerned, this silent revolution has created a business of electric products beside the Meghna River in the area with a monthly sale of more than Tk1 crore.

Jasim Hawlader, an electronics trader from Motirhat Bazar and an advisor to the Laxmipur District Telecom Association, said, “At first, the non-government organisations [NGOs] gave solar power to the boats in the river six to seven years ago. It made a revolution in the life of the fishermen. Currently, the NGOs are not involved in it anymore. They have been replaced by other companies.

“Around 270 telecom and electrical equipment shops have been set up along the 50-kilometre stretch of the river from Majuchaurirhat Ghat on the Meghna River to Tanki Bazar in Ramgati. They mainly sell electrical goods to the fishermen,” he said. “Each of these shopkeepers sells electrical products worth Tk5,000 to Tk50,000 per day to the fishermen. Their monthly sales are more than Tk1 crore,” he added.

Kalam, a fisherman in the Char Kalkini area, said, “A boat needs 10-15 types of electrical equipment including solar panels, batteries, chargers, charge controllers, fishing lights, job lights, watch lights and ordinary lights.” According to Codec, a local organisation, about 3,000 Bede families are living in boats in the Meghna River in Laxmipur and they have also begun using solar panels.

Dulal Sutradhar, former officer of Grameen Shakti Solar, Laxmipur branch, said, “The fishermen of the river got the first opportunity to use electric lights mainly through Grameen Shakti Solar. Through a special project, Grameen Shakti delivered electricity services to isolated chars in the coastal districts including Laxmipur.”

According to the Office of the Senior Fisheries Officer, Laxmipur, the boundary of the Meghna River in Laxmipur district is around 88km where about one lakh fishermen are involved in fishing. According to the Department of Fisheries, the number of registered fishermen in Laxmipur is 50,252. About 3,000 fishing trawlers approved by the authorities and several thousand small boats are regularly used for fishing purposes in the Meghna River in Laxmipur.

URL: <https://www.tbsnews.net/bangladesh/how-solar-power-changed-life-meghna-fishermen-395062>

Bangladesh: Life in the Saltlands

“The salt water has damaged everything,” Saleha Khatun says as she stands in front of her dry, dead farm where she used to grow pumpkin, bitter gourd, okra, spinach, and other vegetables. Khatun lives in Boishkhali village in Satkhira, a district situated along Bangladesh’s low-lying southwestern coast, where fresh water should be abundant. But these days, she has to buy 30 liters of drinking water a week for about 30 taka (U.S. 35 cents).

“The situation is very tough ... How long can a person survive under these circumstances?” Khatun, 45, says. She is among residents that BenarNews interviewed during a recent visit to the area, one of the places in this South Asian nation that suffers the most from the ravages of climate change.

The encroachment of seawater – a problem known as salinity intrusion – has killed crops and turned the lives of people in coastal Bangladesh upside down, the villagers say. Fiercer storms and rising sea levels spawned by climate change have eroded wetlands and underground sources of fresh water, such as aquifers, causing salt water to seep in, researchers say. In turn, this threatens the lives of people who rely on the land for their livelihoods.

Over the past 25 years, salinity intrusion in Bangladesh has increased by about 26 percent, with the affected areas along the coast expanding each year, a study published in 2019 by WaterAid showed.

Khatun and many other local residents face an acute freshwater crisis, even for their essential daily needs such as drinking and cooking. At the same time, food and local sources of income are growing scarcer because of the damage to the farmlands and a lack of water suitable for irrigation.

“We have been buying drinking water for six months,” Romesa Begum, 40, another resident of Boishkhali village, told BenarNews. She used to collect fresh water for drinking and cooking from the next village a few kilometers away. But nowadays, the villagers there refuse to give her water, saying they need it to irrigate paddy.

“They have asked us to purchase the water. But my husband is a hawker and earns only 300 taka (\$3.50) a day. We have to spend it to buy water, rice, and firewood for our survival,” she said. Around 70 percent of residents in Satkhira depend on water in faraway ponds, according to a survey conducted in 2013 by BRAC, a Bangladeshi NGO, and Jahangirnagar University.

Local women told BenarNews that they have to walk two to five kilometers every day to collect and bring back fresh water for the families’ daily uses. It’s a common sight in the coastal districts to see women carrying jugs of fresh water as they walk from the nearest well through a brown and bone-dry landscape littered with dead trees. Ironically, the area is not far from the Sundarbans, the world’s largest mangrove forest.

Climate change will dramatically increase river and groundwater salinity by 2050 in Bangladesh, the World Bank warned in a study published in 2014. It also said that shortages of water for drinking and irrigation would become worse and harm the livelihoods of at least 2.9 million people already struggling with a lack of fresh water.

Fisheries compound problem

Meanwhile, the cascading effects of migration induced by climate change will ultimately affect 13 million people across Bangladesh by 2050, according to a study published last year by Advancing Earth and Space Science, an international non-profit organization.

Bangladesh is especially susceptible to sea-level rise because it is a low-lying country, the report said. “Most of the capable men go to other districts to work ... There is no work in our villages because salinity has killed all the scope for earning here,” Sheikh Abdul Bari, a resident of Gabura village who works at a local brick kiln, told BenarNews.

Those who have stayed work in agriculture or fisheries to earn their living. Still, the rising levels of salinity in the water supply has also impacted that economic activity, especially because some villagers are resorting to seafood farming. Muhammad Mahbubur Rahman, 50, from Sora village, said that most of the ponds that local people used for everything from bathing to farming were destroyed after Cyclone Aila in 2008.

“Previously, we cultivated paddy in our lands, but now it is not possible because the water is too salty,” he said. Muhammad Alimuddin Gazi, a 58-year-old farmer from Joyakhali village, is adversely affected by a relatively new form of fish and shrimp farming, called cage culture. The sea products are grown in mesh enclosures by damming up salt water in the agricultural lands. “The cage culture is increasing the salinity on the coast. The trees are also dying because of the salinity. The whole area looks like a desert now,” Gazi told BenarNews. “If it is stopped, maybe the trees will revive, and the farming of cattle and goats will be possible again. It would help us with our poverty...”

URL: <https://www.benarnews.org/english/news/in-focus/life-in-the-saltlands/index.html>

Bangladesh: World’s largest hilsa producer, says Fisheries Minister

Fisheries and Livestock Minister, SM Rezaul Karim, today said that Bangladesh now produces 80 percent of the world’s hilsa.

He made the remarks while virtually participating in the inaugural function of Jatka Conservation Week-2022 as the chief guest at the Government Louhajang College ground premises in Munshiganj, reports our local correspondent. Bangladesh is the world’s leading producer of hilsa – which is a collaborative effort on everyone’s part. Hilsa production has advanced as a result of various steps taken by Prime Minister Sheikh Hasina, said the minister.

Addressing the fishermen, he said, “Neither we nor the fisheries officer will go to catch these small jatka. Only fishermen will be able to catch these fish. If the fish grows in size, they will be able to sell it for more profit. People will also get a taste of fish this way.”

A colourful naval rally was later held on the Padma river. Jatka Conservation Week-2022 will be observed in Munshiganj’s Louhjong Upazila from March 31 to April 6.

URL: <https://www.thedailystar.net/health/food/news/bangladesh-produces-80-the-worlds-hilsas-fisheries-minister-2994811>

Bangladesh: Can vannamei save shrimp exports?

Bangladesh is endowed with a porous 580-kilometre coastline, its brackish water in Khulna, Bagerhat, and Satkhira in the southwest creating a perfect setting for shrimp cultivation. This gives around 800,000 farmers a means of livelihood and each year the country earns some precious dollars by exporting shrimp to Europe, USA and a few other destinations.

However, since hitting its historic high point (\$510m) in the 2014-15 financial year, Bangladesh’s earnings from shrimp exports had dropped to \$320m in the last fiscal year. The sector showed some promise of a post-Covid rebound in the first six months of the current financial year, but nothing significant.

Industry sources say a policy indecision on allowing Bangladeshi growers to produce and export highly productive whiteleg shrimp or vannamei has long been holding Bangladesh from competing in the global shrimp export market, which is a whopping \$32 billion in yearly trade. By now, nearly 80% of the market is dominated by vannamei.

For too long, Bangladesh has remained content with its traditional shrimp export basket of Bagda (Black Tiger) and freshwater scampi, while the whole world has developed a taste for the vannamei.

By gradually shifting to the vannamei, India has more than doubled its shrimp export earnings between 2009 and 2021. China and the Philippines adopted vannamei in '80s, while Vietnam and Myanmar also started commercial vannamei farming over two decades ago.

As the adage goes, it's better late than never. Bangladesh's Department of Fisheries (DoF) is now coming out of its conservative shell over vannamei and giving permissions to companies to go for trial cultivation, but progress has been very slow. While only three companies managed to get the go ahead, over a dozen others who sought approval for vannamei cultivation are still waiting for their turns to come...

URL: <https://www.dhakatribune.com/business/2022/03/28/can-vannamei-save-bangladeshs-shrimp-exports>

India and Bangladesh: Transboundary rivers support millions of riverine communities

India and Bangladesh share 54 transboundary rivers and earlier these rivers greatly supported the livelihoods of millions of riverine communities in both countries and facilitated the locals in numerous ways. However, over the years the condition of these rivers worsened, adversely affecting the economic condition of lakhs of people.

Though the Inland Waterways Authority of India (IWAI) and the Bangladesh Inland Water Transport Authority (BIWTA) have been jointly trying to boost trade and transportation using National Waterway-I (Ganga river) and National Waterway-II (Brahmaputra river), the condition of the riverine communities has not improved.

India's Jaipur-based think-tank and NGO — CUTS International — under a regional programme “Transboundary Rivers of South Asia (TROSAs)” studied the rivers' condition, the dwindling economy of the riverine communities and the forest and environmental situation along the rivers. Senior Programme Officer of CUTS International, Sumanta Biswas said that increasing urbanization, deforestation, intensive agricultural processes besides the effect of climate change have adversely impacted the normal course of many rivers leading to unpredictable floods, siltation, declining navigability and increasing erosion and pollution.

“Several dams were constructed for different purposes including power projects and irrigation and these have also stifled the downstream flow of waters. Due to heavy siltation during floods, the rivers have become shallow and wide causing erosion of their banks every year,” Biswas told IANS. He said: “Due to scarcity of fish in these rivers, the fisherfolk are compelled to work

elsewhere as labourers. For many decades, the riverine communities shared close cultural ties and similar lifestyles and depend on the rivers for agriculture, fisheries and navigation.”

Biswas said that the communities living upstream and downstream of the rivers have their diverse perceptions and interests to utilize the rivers and these dissimilar objectives often affect them and the rivers. “Mutual misperceptions among the upstream and downstream communities need to be defused through consultative dialogue,” he observed and suggested that to save and secure the river centric livelihoods the rivers should be protected...

URL: <https://www.sentinelassam.com/topheadlines/livelihoods-along-india-bangladesh-trans-boundary-rivers-in-peril-584771>

Bangladesh: Chakaria Sundarbans nears extinction as shrimp farming takes over

If you cruise through the Ujantia canal up to its estuary with the Matamuhuri river of Cox’s Bazar, you will see the last remnants of a mangrove forest, almost obliterated from the country’s south-eastern landscape. Popularly known as Chakaria Sundarbans, the forest once acted as a shield against natural catastrophes and served as a source of livelihood for coastal people.

It also used to be home to the Bengal tiger, crocodile, monitor lizard, deer, langur, wildcat, reticulated python, and a host of birds. The natural treasure trove now exists only on a few hundred acres out of its original 45,000 acres spanning across Purbo Borobeula, Paschim Borobeula, Rampura, Charandwip, Bodorkhali, and Moheshkhali. The vast tracts of the forest have been wiped out, mostly in three decades, along with its flora and fauna to make space for shrimp farming and salt production.

Kamal Hossen, professor of Institute of Forestry and Environmental Science at Chattogram University, said Chakaria Sundarbans is older than the Sundarbans in Khulna and Satkhira. “We lost this majestic mangrove forest to the wrong policy taken during the Ershad’s regime. The forest was sacrificed for farming of shrimp, which the then government branded as white gold,” he told this newspaper. “A thousand acres of forestland was also leased out to influential people.”

The forest used to host the Bengal tiger among other important wildlife species, he said, adding some hundred acres of it still exists but that too are being preyed upon by the grabbers. As per the Forest Department data from last year, 238 grabbers have occupied a total of 2,500 acres of the forestland over the years.

Sirajul Islam Chowdhury Babla, chairman of Purbo Borobeula union parishad of Chakaria upazila, said tidal surge intrudes far deeper into his village, thanks to clearing of the mangrove forest. “During the 1991 cyclone, the devastation caused by the cyclone would have been much less, had the mangrove forest not been destroyed,” he said, recounting the massive cyclone that battered the coastal areas of Chattogram and Cox’s Bazar killing thousands of people.

As per the Chattogram Coastal Forest Division, 25,000 acres of the forest were declared reserved in 1903. The then British government relocated 262 landless families to the mangrove forest

leasing out around 4,000 acres of forestland in 1929, thus beginning the deforestation. Mohammed Abdur Rahman, divisional forest officer of Chattogram Coastal Forest Division, said the Chakaria Sundarbans had tigers in the Pakistan era and deer till 1980.

Around 10,000 acres of the mangrove forest was leased out in the light of the country's first Shrimp Farming Policy adopted in 1985 during Ershad's tenure. "The policy declares land that is eligible for shrimp farming could be leased out enabling the authorities concerned to lease out forestland. The decision was taken to benefit politically connected people as it ignored the science behind the shrimp farming in the mangrove forest," he added.

Replying to a question, Md Farhan Tajim, senior fisheries officer of Chakaria Upazila Fisheries Office, said they leased out 587 plots to various organisations and individuals from 7,000 acres of forest in the '80s in light of the Shrimp Farming Policy.

A study done in 2020 by Institute of Forestry and Environmental Science at Chattogram University and Rangamati Science and Technology University found that in 1974, the forest had 25,000 acres and it reduced to 170 acres in 2012 due to shrimp and salt production. Besides, the Department of Geography and Environmental Studies of Rajshahi University and the University of Education Freiburg, Germany conducted a study on Chakaria Sundarbans in 2013.

It found the mangrove forest in Shaharbil union decreased by about 29.28 percent accounting for 3681.76 acres. In Dulahazara union, it was 30.92 percent or 3509.92 acres" Shrimp farming and salt production have increased enormously, contributing to the ravaging of the forest in every union, the study found.

URL: <https://www.thedailystar.net/environment/news/end-majestic-forest-2986861>

Bangladesh: Green mussels farming could be alternate source of income for fishermen

Seaweeds and Green Mussels, which are increasingly recognised as important marine resources around the world, have the potential to contribute significantly to Bangladesh's economy if properly planned and commercialised.

"We should emphasise to popularise seaweeds and Green Mussels as a food source and consider them as a viable economic crop in the blue economy initiative. Seaweeds and Green Mussels farming could be one of the alternate sources of income for the fishing community," experts said at a seminar on Saturday. WorldFish Bangladesh organised the seminar on seaweeds and green mussel farming in the Seagull hotel in Cox's Bazar under its USAID-funded ECOFISH II activity.

Seaweed farmers, traders, consumers, processors, chefs, academicians, practitioners, researchers, and private sector, government officials, and development practitioners attended the event. Speakers at the event stressed the need to harness seaweed's potential.

Emeritus Professor Dr Md Abdus Sattar Mandal, former vice-chancellor of Bangladesh Agricultural University, and member of the Planning Commission of Bangladesh was present as chief guest.

He called for the formation of a sea-centric food security forum to ensure food and nutrition security and proper utilisation of marine resources. Professor (Retd) Dr Md Abdul Wahab, team leader, ECOFISH II, WorldFish Bangladesh, presided over the programme.

Captain M Minarul Hoque, Director General of the Bangladesh Institute of Maritime Research and Development; Ashraful Haque, Project Management Specialist of USAID Bangladesh; and Dr Md Sharif Uddin, director (Marine), Department of Fisheries attended as special guests.

Dr Md Asaduzzaman, assistant professor, Chattogram Veterinary and Animal Sciences University; Dr Abdullah Al Mamun, professor and chairman, Noakhali Science and Technology University; Dr Mostafa Ali Reza Hossain, professor at Bangladesh Agricultural University; and Zahanara Islam, chairman of Zahanara Green Agro addressed the event.

Apart from organising the seminar, the ECOFISH also organised a blue food festival at the hotel premises. Renowned chefs, producers, and entrepreneurs demonstrated a wide range of food, cosmetics, and allied products made from seaweed and green mussels.

URL: <https://www.thedailystar.net/health/food/news/green-mussels-farming-could-be-alternate-source-income-fishermen-experts-2987551>

Bangladesh: Dried fish processing plant – a belated but important move

That the government's move to establish a modern dried fish processing plant is an important one can be explained from the high prospect of both domestic and overseas marketing of dried fish as well as the financial benefit likely to occur to numerous impoverished fishermen in the coastal areas. A report published in this newspaper says the dried fish processing centre to be set up at Khurushkul in the southeastern coastal district of Cox's Bazar at a cost of taka two billion with modern facilities for fish preservation, drying, and packaging will cater to the increasing demand of the item at home and abroad. The plant, according to the Executive Committee of the National Economic Council (Ecneec), will have an annual production capacity of 14,000 tonnes, and will also provide storage and marketing facilities for local and international markets.

The project appears to address some of the key issues hindering the growth of dried fish production up to the expected level. Reports say, in order to equip the plant with logistics and technology, Bangladesh Fisheries Development Corporation (BFDC) is going to build a fish landing shed, a modern laboratory, and cold storage of 100-tonne capacity. BFDC will also establish 380 mechanical dryers, 350 of which will be of the greenhouse type, a packaging factory and 36 sales centres by December 2023. These, among others, as incorporated in the project look fine to start with.

It might seem intriguing that despite the increasing local and overseas demand, there is no modern and hygienic facility in the country for dry fish processing. It is the sole initiative of the

fishermen that have resulted in indigenous methods of dried fish processing, mostly in the vicinity of the catching points. One such is in Nazirtek in Cox's Bazar. Dublar char in Khulna district is another big fish drying and processing hub. The latter, however, is functional only during the dry season when the tide is low and the char skirting part of the Sundarbans remains above water for some months.

The open-air drying method with sunlight as the only aid is no doubt primitive, and there is vulnerability, too, from sudden downpour or squall. However strange it may seem, it is this method of processing that has been instrumental in meeting domestic demand as well as sending increasing volumes abroad as export. It has been gathered that over a period of last ten years export growth has been manifold— from little over a paltry 600 tonnes to nearly 2500 tonnes, according to the department of fisheries data. Observers believe that this figure is far below the actual capacity, and that with the processing plant coming into operation in a couple of years, prospect of a meteoric increase in export is not at all far-fetched. Over and above, this is going to bring an end to the unhygienic methods of processing, reliant largely on the use of harmful preservatives and chemicals to ward off worms and prolong shelf life. It is expected that all concerned would be forthcoming to make the project a success.

URL: <https://thefinancialexpress.com.bd/editorial/dried-fish-processing-plant-a-belated-but-important-move-1647878463>

Bangladesh: Women from coastal communities are planting mangroves to save the Sundarbans

High tide in the Sundarbans brings the fruit of the keora tree, a species of mangrove, floating upriver. The fruit, which is popular across the coastal belt of Bangladesh, can be easily collected and sold.

For years, 45-year-old Shilpi Rani, who lives in the small rural administrative unit of Padmapukur in Satkhira district of southwestern Bangladesh, made a living from keora fruit. Then in 2009, Cyclone Aila breached the embankment protecting her village. The sudden intrusion of saltwater caused many mangroves to die. Despite being close to the Sundarbans, the world's largest mangrove forest, the villagers faced an acute shortage of wood for fuel.

Once the floodwaters retreated, Rani and other women in the village started collecting keora fruits again. But this time they planted them, hoping to replace the mangrove trees and ensure their source of fuel and income. In the years since, the communities of Padmapukur have observed another benefit to mangrove reforestation: the trees protect them from storm surges in the Bay of Bengal. So, on the new flood-control embankments that surround villages, they have planted mangroves as a shield. With the extra fruit from these trees they make jams and pickles, which they can sell. This is a significant addition to families' incomes and empowers the women of Padmapukur.

Rabeya Khatun, another resident of Padmapukur, has gone a step further than collecting keora fruit and planting it. After Cyclone Aila, she started to go to the edge of the Sundarbans to collect saplings of various mangrove species and plant them on the embankments. Later, with the help

of local NGO Friendship, she formed a group of 15 women who carry out community-led mangrove planting. Having witnessed the erosion that happens when there are no mangroves, she believes this will help to protect people's livelihoods and the Sundarbans.

Climate resilience

As climate change makes storms more powerful and pushes saltwater further inland, the role of the Sundarbans as a storm shield has become more crucial. Farming has become less and less productive as soil and water turn more saline, and farmers are being forced to seek other means of sustenance.

Communities that are less resilient to the impacts of climate change are more likely to be forced into precarious and dangerous livelihoods. In 2009, Basanta Mandal lost his farm in Padmapukur when saltwater turned the soil barren. He now depends entirely on the Sundarbans for his livelihood.

“Before Cyclone Aila, I used to grow rice on my land,” he said. “But I lost that land because of floodwater. Nothing grows in my land due to salinity. Now I have no other alternative than going to the forest to collect crabs and honey.” Like Mandal, many former farmers go deep inside the forest to collect honey or catch crabs and fish. It is a risky venture, with the forest's large tiger, crocodile and snake populations. Meanwhile, fish catches are declining as greater numbers of people turn to the forests' resources.

Sandhya Rani Mandal lives in Mirganj village, in the Shyamnagar region of Satkhira district. She used to catch fish and crabs from rivers near the village, but was always afraid of being attacked by tigers or snakes. She received training from Friendship and now plants mangroves and sells the saplings. In many households, mangroves are often the only safe and assured source of income.

Government's support

The initiative has spread. Abu Naser, divisional forest officer of the Sundarbans West Division, told The Third Pole: “Through the women-led mangrove plantation initiative in the islands and embankments of Satkhira and Khulna districts, we have been able to have at least 100 acres [40 hectares] of new forest coverage. At least 1,500 marginalised women are involved in this initiative which is going on for the last few years.....

URL: <https://scroll.in/article/1019136/in-bangladesh-women-from-coastal-communities-are-planting-mangroves-to-save-the-sundarbans>

Bangladesh: World Bank supports food security and higher incomes of farmers vulnerable to climate change

The government of Bangladesh and the World Bank today signed a \$120 million financing agreement to help improve the irrigated agricultural and fisheries production and increase the incomes of 170,000 poor people vulnerable to climate change.

The Climate-Smart Agriculture and Water Management Project will improve climate resilience by modernizing flood management, drainage and irrigation infrastructures. The climate resilient infrastructure and services will cover 120,000 hectares of land, which will reduce damage to crops from floods by 60 percent.

“Bangladesh’s success is well-rooted in the agriculture sector. With a large population and scarce arable land, it is a major accomplishment for the country to achieve its level of food production today. But the climate change and increased natural disasters pose threat to food security,” said Dandan Chen, Acting World Bank Country Director for Bangladesh and Bhutan. “The project will help Bangladesh sustain food security by protecting crops and fisheries through better flood management, irrigation and drainage systems with active participation of local communities, and with particular emphasis on regulating the excess water during the monsoon and water deficits in the post-monsoon.”

The project has identified 19 Flood management, Irrigation and Drainage schemes in poor and climate change vulnerable areas for rehabilitation. It will also provide training to 100,000 farmers on climate-smart agricultural technologies, diversification of crops, and post-harvest management. The project will also support conservation of indigenous species and improving disease control and management.

It will also support rice and fish/shrimp farming through setting up of cold storage facilities and improvement of local markets. This will improve the productivity of fisheries by almost 37 percent, vegetables by 10 percent and rice by 7.5 percent. The credit is from the World Bank’s International Development Association (IDA), and has a 35-year term, including a five-year grace period.

Bangladesh currently has the largest ongoing IDA program totaling \$14.8 billion. The World Bank was among the first development partners to support Bangladesh and has committed more than \$35 billion in grants, interest-free and concessional credits to the country since its Independence.

URL: <https://reliefweb.int/report/bangladesh/bangladesh-world-bank-supports-food-security-and-higher-incomes-farmers-vulnerable>

Bangladesh: JICA to carry out project for development of coastal fishermen

The Japan International Cooperation Agency (JICA) has set a pilot project for the development of fishermen in coastal areas of the Bay of Bengal by providing technical assistance. A Japanese delegation led by Jica Chief Representative Yuho Hayakawa revealed the plan in a meeting held with Fisheries and Livestock Minister SM Rezaul Karim at his secretariat office on Thursday, said a press release.

Jica intended to carry out a five-year project in Cox's Bazar's five upazilas, which included Teknaf, Ukhiya, Cox's Bazar Sadar, Moheshkhali, and Kutubdia. According to the media release, JICA aims to focus on value chain development in the fisheries sector, marine fisheries processing, socioeconomic surveys, training, seafood processing, fisheries management, nutrition development, and technical assistance to fisheries stakeholders through this project.

SM Rezaul Karim said, "Bangladesh and Japan have ample opportunity to work together to unleash the potential of the blue economy, including seaweed, mineral resources, and marine fisheries."

"At present, Bangladesh has a very favorable environment for foreign investment. The Bangladesh government has always encouraged investment in countries like Japan," he added. Yuho Hayakawa said, "JICA seeks to assist fishermen in improving the quality of life in the coastal areas of Cox's Bazar. This will create opportunities for fishermen in Cox's Bazar to participate in income-generating activities.

"JICA is ready to provide technical assistance in seaweed processing, aquaculture, marketing of fish products, and fisheries management for fishermen in Cox's Bazar for the development of their lives." "In the near future, there is a huge potential for JICA to invest in the fisheries sector in Bangladesh," he added.

Fisheries and Livestock Secretary Dr Mohammad Yamin Chowdhury, Additional Secretaries Shyamal Chandra Karmakar and Md Taufiqul Arif, and Director General Khandaker Mahbul Haque, and Takeshi Saheki, senior representative of JICA, were present in the meeting.

URL: <https://www.tbsnews.net/bangladesh/jica-carry-out-project-development-coastal-fishermen-379441>

Bangladesh: International Women's Day 2022, making disaster risk reduction gender-sensitive

South Asian countries are highly susceptible to natural and human induced disasters due to its geophysical location, land characteristics and other factors. Over the last three decades, the region has developed disaster risk reduction (DRR) and mitigation mechanisms to address the adversities that the people frequently experience. However, there are inclusion challenges of risk management in the region as, in most cases, exclusion cuts across intersectional groups and contexts.

Physical, economic, and social factors of vulnerability are closely linked with people's age, gender, (dis)abilities and other identities. "Intersectionality" refers to the interconnected nature of social categorisations such as ethnicity, caste, aging, disability, mental health, sexuality, class, religion, indigeneity, membership to certain groups, etc. as they apply to a given individual or group, regarded as creating overlapping and interdependent systems of discrimination or disadvantage.

Women in South Asia face greater challenges compared to men during a disaster or crisis. Despite challenges, South Asian women have proven to be of incredible potential in response to disasters effectively, which often go largely unrecognised. To build gender-sensitive resilient strategies in the disaster risk reduction process, it is necessary to address gender needs of women and men using an intersectional lens.

Among the international drivers of DRR, the Hugo Framework of Action (HFA, 2005-2015) is the first to address strategic DRR mechanisms with guidelines on mainstreaming gender. For example, HFA recommended including and addressing gender issues in all actions as a cross-cutting agenda for reducing vulnerability. However, at the implementation stage of HFA, women were primarily identified and classified in the “vulnerable” category rather than resilient.

Following critical analysis, the Sendai Framework for Disaster Risk Reduction (SFDRR, 2016-2030) was developed with a broader scope for addressing and integrating the gender approach in a comprehensive manner. The pioneering researcher’s efforts in identifying women as major contributors in disasters have been acknowledged, and women were focused as crucial role players in “designing, resourcing and implementing gender-sensitive DRR policies, plans and programmes.”

Countries started providing specific emphasis on gender and social inclusion, participation, and leadership of women in DRR and resilience building, adopting a whole of society approach. Although “intersectionality” was not prominent as a concept in the SFDRR, the realities of intersectional categories, for example, elderly, ethnic minorities, persons with disabilities, people living under difficult circumstances or locations, and other marginalised categories were addressed with special attention.

Bangladesh played crucial role in strengthening women and men’s indigenous knowledge-based disaster response and provided support to build resilience of the different categories. Government, non-government and development sector, academia, and other actors unitedly contributed to make the country a resilient one. Bangladesh has been identified as “role model” in facing the challenges of disasters.

However, despite overcoming many challenges, the Covid-19 pandemic –an unexpected disaster – calls for a new preparedness for Bangladesh as one of the affected countries around the world. Now, the question arises: can the pandemic be termed as a “disaster”?

Several reasons have been identified for linking Covid-19 pandemic with a disaster. Firstly, from the perspective of the concept of disaster (“a relatively sudden event which causes threats for lives, properties, and go beyond the capacity of a community or society to manage such crises”). Secondly, the pandemic is triggering risks and shocks for existing social structure, on which the system has no firm control. Thirdly, the pandemic also urges for managing risk and improving social safety net supports for the vulnerable people during frequent disaster in a pandemic situation. Finally, the experience of managing the Covid-19 pandemic has inaugurated rooms for redressing the multi-hazard, multi-risk and emergency management activities through strengthening risk governance (Revet, 2020; Montano & Savitt, 2020; Nasreen, 2020).

Due to disasters, women face multiple challenges, which have become more visible during the first and second waves of the pandemic and are combined with i) increased burden of unpaid work, ii) increased domestic violence, and, iii) increased rate of unemployment.

Accompanying current health crisis, pre-existing health conditions, healthy practice, social behaviour, norms, and gender inequalities embedded in various sectors, compel to scrutinise pandemic impacts through a gender lens. Gender-inclusive pandemic study is the demand of time as reinforced gender roles often make gendered division of labour critical, where violation of one party (especially women, considering Bangladesh's context) is more vulnerable and victim to domestic violence and economic stress (Nasreen, 2008). Policy response mechanisms do not always necessarily incorporate gender-analytical data or gender-responsive plans for Covid-19 (Dutta, 2020). To understand the broad picture of the relational analysis between Covid-19 and gender-based resilience and intersectionality, more in-depth research needs to be conducted.

This year, the theme to observe International Women's Day (IWD) is "Gender Equality Today for a Sustainable Tomorrow". Aligning with the theme, GRRIPP South Asia will observe this year's IWD a day before the National Disaster Preparedness Day (NDPD) on "Intersectionality in Redressing Gender & DRR: #BreakingTheBias".

URL: <https://www.thedailystar.net/supplements-old/news/making-disaster-risk-reduction-gender-sensitive-2977746>

Bangladesh: Prime Minister Sheikh Hasina measures being taken to tap potential of blue economy

Prime Minister Sheikh Hasina today said her government has been taking required measures to leverage the potential of the blue economy to further expedite the country's development. "We have already declared marine resources as the blue economy. We can make our economy more vibrant, stronger and solid using the marine resources and we're taking various measures to this end," she said.

The premier was addressing the Mujib Borsha Passing Out of 41st batch of the Marine Fisheries Academy at its campus in Chattogram. She joined the ceremony virtually from her official residence Ganabhaban here. She added that they are out to achieve the SDG-14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development). Sheikh Hasina said, "I hope your role will be the most important to achieve the target."

The prime minister said her government has successfully achieved the MDGs (millennium development goals) and is set to achieve the SDGs (sustainable development goals). The country's economy is advancing towards prosperity with gaining cherished strength despite the economy has suffered a setback due to the Coronavirus, she said.

Fisheries and Livestock Minister S M Rezaul Karim, MP and Secretary of the ministry Dr. Mohammad Yamin Chowdhury, spoke on the occasion. On behalf of the prime minister, the fisheries and livestock minister. distributed awards among Cadet Benazir Ahmed, Cadet Rupaida Rahman, Cadet Abdur Rahman Al Wadud, Cadet Mohammad Ariful Islam and Cadet Asif Alam

Darpan for their outstanding performances in various fields. A video documentary on the Marine Fisheries Academy was also screened at the programme.

This year, a total of 84 female and male cadets, including 33 cadets in the nautical department, 31 cadets in the marine engineering department and 20 cadets in the marine fisheries department, took part in the passing out parade at the 41st batch of the academy. The prime minister remotely witnessed the passing out parade and took salute.

Referring to attaining a vast sea area from India and Myanmar, Sheikh Hasina said the Awami League government has laid special emphasis on “Blue Economy”. She said extraction of resources from the sea has opened a new door in the socio-economic development of country’s growing population. “I hope that with your active participation, the extraction of marine resources will be further enhanced, which will enrich our economy and at the same time the goal of the government’s blue economy will be realised,” she said. The prime minister said that the Bay of Bengal, a reservoir of natural resources, is constantly supplying a huge amount of fishes to meet the demand for protein of the people.

“So, you have to play a leading role in extraction, preservation and marketing of fisheries from the Bay of Bengal alongside conservation of its biodiversity and prevention of environmental pollution,” she added. The prime minister said that the cadets, after being trained from the academy, are going to become fearless sailors in the deep sea.

“I firmly believe that this knowledge, gained through hard work, determination and intensive training, will be helpful in your future work,” she said. She hoped that in order to survive in this ever-changing and competitive modern world, you have already prepared yourself with the knowledge you have acquired. “I think that by learning these qualities you will brighten the image of the country fulfilling respective responsibilities in the new workplace,” she added.

Sheikh Hasina said Father of the Nation Bangabandhu Sheikh Mujibur Rahman had given priority on agricultural and industrial revolution and the maritime sector to shape economy of war-torn Bangladesh after independence. In this regard, she said that the Territorial Waters and Maritime Zones Act, 1974 was enacted by Bangabandhu for Bangladesh at a time when there was no specific standard for framing the maritime law in the world.

She mentioned that the United Nations later adopted the United Nations Convention on the Law of the Sea (UNCLOS) in 1982 as an international maritime law. She continued that the Marine Fisheries Academy, the first maritime educational institution in independent Bangladesh, was established in 1973. The premier also said the academy was established to generate trained manpower in the fisheries sector for efficient extraction of fish resources from the country’s vast seas to meet the protein demand of the largest population and earn foreign currency.

Sheikh Hasina regretted that after the assassination of the Father of the Nation in 1975, the progress of the Marine Fisheries Academy was hampered and at that time no development was made. The prime minister mentioned that since the Awami League government assumed power, it is transforming this institution into an international standard maritime educational institution.

During this time, she said, the expansion of academic buildings, enhancement of facilities in various labs and library, collection of modern training equipment and construction of male and female cadet hostels have been done. At the same time, facilities have also been created for the physical and mental development of the cadets alongside setting up of a modern standard swimming pool, auditorium and gymnasium, she added. According to the election manifesto of Awami League government, she said female cadets are being admitted to this academy for the development of women's education and their empowerment.

She mentioned that the recruitment of female cadets started through the 32nd batch in 2010. Sheikh Hasina said from 2018, Continuous Discharge Certificate (CDC) is being issued by the Department of Shipping for the cadets of this institution who completed pre-C training of the Department of Nautical and Marine Engineering to provide scope for getting job in the maritime sector abroad.

“As a result, the cadets of this academy have got the opportunity to get employment in the sea-going merchant ships and their fields of work have expanded all over the world.” Mentioning that Marine Fisheries Academy was affiliated to Bangabandhu Sheikh Mujibur Rahman Maritime University since 2018, she said four-year BSc (Hons) in Nautical Studies, BSc (Hons) in Engineering and BSc (Hons) in Marine Fisheries degrees are being offered from it. “For this, after completing their education from this academy, the path of higher education of the cadets has become easier,” she added.

The prime minister said initiatives have been taken to install modern simulators (artificial sea training system) for the academy and “I think it will be done quickly”. When it is attached to the academy, it will soon be upgraded to an international standard maritime educational institution, she added. She said so far, 1,914 cadets, including 58 female cadets who have successfully passed out from the academy, have been working hard in various maritime sectors at home and abroad to strengthen the foundation of the country's economy.

URL: <https://www.tbsnews.net/bangladesh/measures-being-taken-tap-potential-blue-economy-pm-380656>

Bangladesh: In coastal rising sea levels erode lives and livelihoods

Growing up, it only took Hosnera Begum a quick stroll to the ponds near her home to fetch fresh water.

These days, the 27-year-old must walk more than 2 km every day to gather 20 liters of safe drinking water for her family, as encroaching seawater increasingly contaminates supplies in her home village in Gabura, in southern Bangladesh.

“In my childhood the problem was not so severe,” Begum told Arab News. “Now the situation is getting worse every day. There are only a couple of ponds protected from getting mixed with salt water ... providing drinking water to thousands of us.”

Gabura, located in the Ganges Delta and under Satkhira district, is home to around 45,000 people.

Begum is among millions living in coastal Bangladesh who have suffered through the devastating impacts of climate change. Increased cyclones, higher tides, and flooding have particularly brought salt water further inland, contaminating precious sources of drinking water.

Bangladesh, a country of about 167 million people, is among the hardest-hit by climate change, despite contributing only a fraction of the world's emission. The Intergovernmental Panel on Climate Change estimates that a 45 cm sea-level rise will inundate almost 11 percent of the country's territory and displace 5.5 million people from the coastal regions.

Mohon Kumar Mondal, head of LEDARS Bangladesh, a local organization working on climate resilience, said the impacts of climate change have affected Gabura residents for more than two decades.

Though residents can still get fresh water from the local ponds, the filtration process does not generate pure drinking water and subsequently affects people's health.

“(It results) in a high number of water-borne diseases, skin diseases, and cervical cancer among the people,” Mondal told Arab News.

Another Gabura resident, 45-year-old Shahida Begum, said increasing salinity of the soil in coastal villages has also impacted rice farming, the region's traditional occupation.

“We can't grow rice anymore on our paddyfields,” she told Arab News. “Earlier, we could grow different freshwater fish in the ponds. But now the ponds are without any fish.”

Salinity in soil, according to a 2010 study by Bangladesh's Soil Resources Development Institute, has increased by 26 percent over the past 35 years.

Shahida said other villagers have switched to shrimp cultivation, which does not need many day laborers, using land previously used to grow rice.

Climate scientist Prof. Atiq Rahman said coastal regions must focus on adapting against the impacts of climate change “since there is no way to undo the situation.”

Rahman told Arab News: “People have come up with innovative solutions in terms of agriculture and cattle rearing, these kinds of innovations should be promoted and the knowledge disseminated among people across the coastal regions.”

The local government in Gabura said harvesting rainwater is the only sustainable solution for the islanders.

“But government initiatives are not enough, in contrast to huge demand for rainwater harvesting plants,” Masudul Alam, chairman of local government representative body Gabura Union, told Arab News.

Alam said the government managed to distribute rainwater harvesting plants for six families in the last year, out of 7,000 affected households in the region.

For people living in places severely impacted like Gabura, climate change has forced them to leave. Data from the Bangladesh Bureau of Statistics show that the population rate in the area has declined, with thousands of men migrating elsewhere in the country over the years.

But that is not feasible for some like Begum, who earns a meager \$2.50 daily.

“Since I can’t afford a town life, I have to continue living here with the most hardships caused by nature,” she said.

URL: <https://www.arabnews.com/node/2027591/world>

Bangladesh: Seeks global support in rehabilitation of climate migrants

Bangladesh has urged global leaders to share the burden of rehabilitation of the climate migrants, noting that each year thousands of people are being uprooted from their homes and traditional jobs due to global warming, riverbank erosion and erratic climate changes.

As the Climate Vulnerable Forum (CVF) president, Bangladesh Foreign Minister Dr AK Abdul Momen has urged the international community to proactively address the unique challenges of the CVF countries.

“They indeed need further support in building capacity for trade-facilitation reforms. Otherwise, they would have to sacrifice development and quality of life for their citizens,” said Dr Momen while delivering his remarks at a webinar on “Climate Change Priorities in Trade and Investment” on Monday evening.

WTO Director-General Dr Ngozi Okonjo-Iweala, WIPO Director-General Daren Tang, Deputy Secretary-General of UNCTAD Isabelle Durant and Deputy to the Director-General of UNIDO Hiroshi Kuniyoshi also joined it.

The foreign minister flagged six points, the first of which was that all must be strict in implementing the Paris Agreement.

Secondly, Dr Momen said transfer of clean, green, and advanced technology to developing countries at affordable costs, including for meeting energy requirements is crucial.

Sharing his third point, the Foreign Minister said developed countries must keep their commitments to mobilize 100 billion dollars annually for climate finance with a 50-50 balance between adaptation and mitigation finance.

Fourth, climate-vulnerable countries' development needs, including climate smart agriculture, sustainable industrialisation, and enhanced contribution to the global value chain, must be addressed by decisive actions.

Fifth, the minister said collaborative steps must be taken for ensuring sustainable marine fishing which is important for preserving marine ecosystems and combating climate change.

“It also remains crucial that developed countries and global financial institutions extend developing economies access to low-interest financing for climate friendly and climate proof trade and investment,” Dr Momen said as he flagged the sixth point.

Dr Momen thanked Bangladesh's Permanent Mission in Geneva for organizing this event. “Indeed, we're speaking at a time when the correlation between human activities and climate change is more scientifically proven.”

He said climate change is the single most harmful contributor to humanity and the planet and this has severely impacted human lives and livelihoods.

“The increased number of climate disasters and their impacts have brought vulnerable countries to a tipping point of irreversible damage,” he said.

As identified by the United Nations, Dr Momen said climate-related disasters increased by 83% in the first two decades of the 21st century compared to the last two decades of the 20th century.

“These have affected our agriculture, food, energy security, economic growth, and sustainable development. Needless to say, the implications are more disastrous for the most vulnerable countries,” he said.

Bangladesh contributes less than 0.47% to global carbon emissions and its per capita carbon dioxide emission is 0.5 metric tons, which is about 30 times less than that in the high emitting countries.

“However, we're the seventh most climate-vulnerable nation. The whole coastal area of Bangladesh, which includes the gateways of our international trade, is under serious threat. Frequent disasters often severely disrupt our domestic supply chain,” he said.

“We've lost our land and capital due to sea-level rise. Our infrastructure and transport routes are regularly hit hard by the climate effects that affect transportation of goods and services,” said the minister.

Despite constraints, Dr Momen said under the visionary leadership of Prime Minister Sheikh Hasina, Bangladesh has emerged as a global leader in climate change adaptation.

Bangladesh is the first LDC to set up a self-financed \$450 million “Bangladesh Climate Change Trust Fund” back in 2009 that supports nearly 800 adaptation and resilience projects in the vulnerable areas of the country.

“Bangladesh has one of the world’s most extensive domestic solar energy programmes. Last year, we submitted our updated NDC to the UNFCCC, enhancing both unconditional and conditional contributions with ambitious quantifiable mitigation targets,” he said.

URL: <https://www.dhakatribune.com/foreign-affairs/2022/02/15/bangladesh-seeks-global-support-in-rehabilitation-of-climate-migrants>

Bangladesh: Biodiversity under threat as salinity increases

Sundarbans Day’ will be observed on Monday as every year since 2002 with an appeal to save the largest mangrove forest in the world. Virtual discussions have been organized in Bagerhat, Khulna, Pirojpur, Satkhira and Barguna due to covid situations like last year. Rafiqul Islam Khokon, executive director of a private development agency ‘Rupantor’, said the day will be observed with the slogan ‘Love the Sundarbans on the World Valentine’s Day’.

This time alternative employment for the people dependent on the Sundarbans will be focused on in this event. There is human pressure on forests for livelihood. Local people adjacent to the forest should be involved in different activities to protect the forest, said Chief Forest Conservator Md Amir Hossain Chowdhury. Sundarbans, a World Heritage site, hosts a complex network of tidal waterways. The forest presents an excellent example of ongoing ecological processes and many of its flora and fauna are unique to this region. However, salinity in the Sundarbans is increasing due to climate change. Besides, the flow of water in the rivers and canals of the forest is decreasing gradually and several canals of the forest have been filled with silt.

Sundari trees are dying due to excessive salinity. Wildlife is also being affected by various diseases by consuming salt water. In the Sundarbans, wild animals are being hunted and people do fishing by spraying pesticides in rivers and canals which threaten the biodiversity of the Sundarbans. According to various sources, there are 450 small and big rivers-canal in the Sundarbans. Due to lack of water flow, several small and big canal beds in the Sundarbans have been filled with silt. A variety of wild animals, including tigers and deer, leave the Sundarbans, cross canals, and enter the locality very often and lose their lives.

In this situation, various demands have been raised at different times to protect the Sundarbans, including celebrating ‘Sundarbans Day’ nationally. There is also a demand for the formation of a separate ministry for the Sundarbans. Executive Director of Sundarbans Academy Anwarul Qadir said that they have been demanding the formation of a separate ministry for the management of the Sundarbans to conserve the Sundarbans and improve the living standards of the people living near the forest. He is hopeful that if their demands are met, the fortunes of the forest and its people will improve.

Rafiqul Islam Khokon, executive director of ‘Rupantar’, said the first National Sundarbans Conference in Khulna ended on 14 February 2001 with the ‘Sundarbans Declaration’. Some 80 organizations including Rupantar, Khulna University, Bangladesh Poribesh Andolon (BAPA) jointly organized that conference. At the conference, it was decided to observe ‘Sundarbans Day’ on February 14, and asked the government to observe ‘Sundarbans Day’ nationally. Since 2002, Sundarbans Academy, Sundarbans Division, various press clubs and various organizations have been observing ‘Sundarbans Day’ on 14th February in the districts adjoining the Sundarbans.

In the eighteenth century, the area of the Sundarbans was almost double that of today. In 1878, the Sundarbans was declared a protected forest. The Unesco Commission of the United Nations declared three Sundarbans sanctuaries as World Heritage Sites in 1997. In 2017, the government expanded the sanctuary area in the Sundarbans. Out of the total forest area of 6,01,700 hectares, now the sanctuary area is 3,17,900 hectares. Earlier it was only 1,39,700 hectares. It has 375 species of wild animals, the Royal Bengal Tiger and other threatened species such as the estuarine crocodile, the Indian python, and the gangetic dolphins.

URL: <https://unb.com.bd/category/bangladesh/sundarbans-day-biodiversity-under-threat-as-salinity-increases/87545>

Bangladesh: Tax exemptions to be given for fish processing industry

Bangladesh Fisheries Development Corporation is establishing a world-class dry fish processing industry in Cox’s Bazar and the government will extend tax exemptions to the businesses which will import machineries or take initiatives for such industry in the country, Fisheries and Livestock Minister SM Rezaul Karim said today.

The minister made the comment during the inauguration of work of the office building of the dry fish processing industry being implemented by BFDC near the fish distribution centre of the corporation in the city with the biggest uncut beach in the world.

The prime minister is working relentlessly for the development of all the people and the government is taking numerous initiatives for the modernisation of Cox’s Bazar, an iconic city in Bangladesh, he said. BFDC Chairman Md Hemayet Hussain presided over the event which was also attended by Fisheries and Livestock Secretary Mohammad Yamin Chowdhury.

URL: <https://www.thedailystar.net/business/news/tax-exemptions-be-given-fish-processing-industry-minister-2960141>

Bangladesh: New MPA announced around Saint Martin’s Island

Bangladesh has announced the creation of a new 1,743-square-km/672-square-mile marine protected area. The new MPA is centered around Saint Martin’s Island, which hosts an enormous amount of biodiversity and is home to the country’s only coral reef that has more than 230 finfish species.

The island, known locally as “Coconut Island,” has 7,000 residents who rely heavily on seasonal tourism for their livelihoods. The designation of the waters around the island as an MPA aims to protect them from the over-exploitation caused by the booming tourist industry.

The new MPA will not only protect the local wildlife but also migrating species in the area like whale sharks, green, loggerhead, olive ridley turtles, and Indo-Pacific humpback dolphins.

According to Ministry of Environment, Forests and Climate Change Deputy Minister Habibun Nahar:

“The St. Martin’s Island MPA, together with the existing Swatch-of-no-ground MPA and two other marine reserves declared by the Ministry of Fisheries and Livestock, brings Bangladesh one step closer towards achieving our national goal and international obligation under the Convention on Biodiversity and United Nations Sustainable Development Goals to protect 10 percent of our marine waters.”

URL: <https://www.deeperblue.com/bangladesh-announces-new-mpa-around-saint-martins-island/>

Bangladesh: No greenlight for Vannamei shrimp production hurting exports

Bangladesh is gradually losing out in the shrimp export market to other countries as the government has not yet permitted commercial cultivation and fry production of Vannamei shrimp. According to the Bangladesh Frozen Foods Exporters Association (BFFEA), the high-yielding Vannamei now accounts for 80% of the \$32 billion international shrimp market. Its popularity has grown rapidly due to its low cost, but processing plants in Bangladesh are not getting enough shrimps as there is no commercial production. The lack of greenlight has resulted in almost 80% of the production capacity of processing plants to remain unused.

Although the Department of Fisheries recently gave the nod to several companies for the experimental production of Vannamei under the supervision of the Bangladesh Fisheries Research Institute (BFRI), entrepreneurs stressed the need to start commercial production as soon as possible to retain the country’s place in the export market. For this, the authorities should also allow Vannamei fry production in the country which needs to be exported currently, they said.

According to the Export Promotion Bureau (EPB), Bangladesh exported 41,236 tonnes of shrimp worth \$455 million in 2013-14 fiscal year (FY). Since then, however, shrimp exports have been falling. Shrimp exports decreased by 34% in 2018-19 FY compared to 2013-14 FY. In 2018-19 FY, Bangladesh exported 29,543 tonnes of shrimp worth \$361 million, as per the EPB. The falling trend followed as shrimp exports declined further in 2019-20 FY to \$332 million and in 2020-21 FY, it reached \$329 million.

In the first six months of 2021-22 FY, the export stands at \$269 million. Kazi Belayet Hossain, president of the BFFEA, told The Business Standard, “If we cannot start commercial production of high yielding Vannamei shrimp soon, we would not be able to compete in the international

market.” At least, 30 companies have closed their business in the last 10 years and 10-15 companies are on the way to do the same, as per the BFFEA. Officials of the BFFEA said there are 76 European Union approved shrimp processing plants in the country with a capacity of four lakh tonnes. However, the annual production of shrimp in the country is a little over two-and-a-half lakh tonnes. From this, only 77,000 tonnes of shrimps are being processed.

As a result, 80.75% of the processing capacity of the companies remains unused. Meanwhile, MU Seafood, one of the two companies permitted for experimental production of vannamei in the first phase, has completed the production by importing 10.8 lakh Vannammi fries from Thailand. About 24% of the fries died before reaching the company’s pond in Khulna’s Paikgacha. Officials of the company said that so many fries would not have been wasted if they were produced locally. Entrepreneurs have demanded that the production of Vannammi fry through hatcheries in the country be allowed for rapid expansion of its cultivation.

Md Atiar Rahman, additional director general of the Department of Fisheries, said, “We have started giving permission for Vannammi production. However, a number of companies have applied for fry production, but they need further screening to see whether they have the infrastructure and other capacities to do so. “We will send a report after further verification to our technical committee. They will take the final decision in this regard. It will take more time,” he added. According to the Department of Fisheries, in the first phase, a company named AgroBusiness Enterprise and Sushilan, an NGO, were permitted to produce Vannammi experimentally in Cox’s Bazar. Sushilan started production jointly with MU Seafood. In the second phase, MU Seafood, Fahim Sea Food Limited and Grotec Aquaculture Limited were given the permission.

MU Seafood has cultivated 13,886 kg of Vannammi shrimp in 1.56 hectares of land in a controlled environment in just 90 days in Paikgachha, Khulna. The production rate is 8,901 kg per hectare. Shyamal Das, managing director of MU Seafood, said, “We have not been able to increase exports due to the raw materials crisis. For this, we need approval for commercial production of Vannammi. At the same time, we need permission to produce Vannammi fry, otherwise, we have to depend on foreign countries.” According to the BFFEA and the Department of Fisheries, Vannammi could be cultivated in 90-100 days, whereas it takes 140-160 days for Bagda shrimp. Vannammi is widely cultivated in China, Philippines, Thailand, Vietnam, India, Myanmar. India is the world’s largest exporter of vannamei shrimp.

Officials of shrimp processing companies say that Bangladesh produces shrimp in three lakh hectares of land. On the other hand, India produces around eight lakh tonnes of shrimp with a production rate of 9,000-15,000 kg per hectare on less land. Vannammi cultivation needs soil test, pond excavation, electrification, generators, laboratories, biosecurity and quality feed which needs high investment. Producers are ready to take the risk to start commercial production very soon, they said. Shyamal Das, managing director of MU Seafood, said, “We made an agreement with an Indian company for Vannammi production. The feed is also imported from India.”

URL: <https://www.tbsnews.net/dropped/trade/no-greenlight-vannammi-shrimp-production-hurting-exports-368497>

Bangladesh: Hope and relief for dried fish producers

The peak season for dried fish has kept producers in Chattogram busy at work, with collection, sorting, drying, piling, warming, packing and storing going on in full swing. Due to favourable weather and high demand in the market, they are expecting a good share of profit this year.

According to the producers, the period between late Ashwin (October) and early Falgun (March) is considered as peak season for dried fish. Take Bastuhara Khetchar. Located on the banks of the Karnaphuli, it is one of the major hubs for dried fish production. Visiting the area recently, this correspondent saw some makeshift structures erected in its fields to facilitate activity during these busy months. Around 20 species of fish, including Ribbon (Chhuri), Bombay duck (Loitta), Faissa, Poa and prawns were being dried in the area.

The area is buzzing with not only workers busy with the daily grind but also with children's laughter. In between playing, they also lend a hand to their parents' work. Meanwhile, toddlers rest in their mothers' lap while they continue to sort dried fish. Md Jasim, a worker, said a kg of dried fish can be produced after drying around four kgs of raw fish. According to the workers, the entire process requires seven to 10 days to be completed. Once the fishes are completely dried, producers send them to warehouses, mostly located in Asadganj, from where wholesalers buy them.

This correspondent found over a 100 karbari (producers) busy with work in their fields. Around 20 workers, both male and female, work under a karbari. However, there's a discrimination in wages between male and female workers. For example, one Fatema Akter said she works for eight hours a day and receives Tk 350 for her work, while male worker Mainuddin said he works for 10 to 12 hours and gets Tk 600 a day. Asked about this, Abdus Shukkur, president of Bastuhara Tower Dried Fish Producers and Marketers' Cooperative Association, claimed since male workers do the more labour-intensive work, they are paid more. Meanwhile, workers said a good production mostly depends on the weather.

"A good quantity of dried fish got decomposed last year due to unfavourable weather in the peak season. The market rate fell as well, yielding me a loss of Tk 5 lakh," said Nurul Absar, a producer. "But the rate is far better this year and so is the weather. I expect to make a good profit," he added. Another producer Abdur Rahim informed that he incurred a loss of Tk 7 lakh last year due to the lower prices. "This year, I'm making a profit on every trip," he said.

Currently, a kg of chhuri is priced between Tk 700 and Tk 1,600 in the wholesale market, while a kg of loitta is sold between Tk 400 and Tk 650, a kg of faissa between Tk 450 and Tk 600 and a kg of prawn between Tk 700 and Tk 1,200. "I have made a profit worth Tk 2 lakh so far this year, and expect to cover the previous year's losses with this," hoped Rahim.

URL: <https://www.thedailystar.net/chattogram/news/hope-and-relief-dried-fish-producers-2957881>

Bangladesh: Cage fish farming gaining popularity

Kabir Chowdhury, who hails from Dotto Pungoli village in Pabna's Faridpur upazila, became unemployed about 10 years ago after suffering huge losses in his cattle feed business. However, he has since found a new lease on life through cage fish farming, which is a type of aquaculture where fish are grown in floating net pens made of wood, bamboo or metal in natural water bodies. Chowdhury and his friend Md Abdur Razzak Nayan spent about Tk 20,000 to begin cage fish farming in the Boral river near their residence a few years ago. Now, the pair earn about Tk 8-9 lakh annually.

"I came to know about cage fish farming through the internet," he said. Having piqued his interest, Chowdhury went to Chandpur to get more on-hand knowledge about this form of aquaculture. He eventually began farming fish in the Boral river with 10 pens made of bamboo in 2013. That year, Chowdhury and Nayan sold fishes worth about Tk 35,000 to get a profit of Tk 15,000. "This inspired us to forge ahead," he said. They kept expanding cultivation each year and now, the pair have a total of 65 cages in the river.

"Last year, we sold fish worth Tk 80 lakh to earn Tk 8 lakh profit and this year, we expect to sell fish worth Tk 85 lakh to earn a profit of Tk 9-10 lakh," Chowdhury said, adding that his success encouraged many unemployed locals to start cage fish farming. Nayan told The Daily Star it costs about Tk 10,000 to set up a pen measuring 20 feet long and 10 feet wide made of iron rods and traditional nets.

Each cage produces about 40 maunds (one maund equals about 37 kilogrammes) of fish thrice a year. "We cultivate 900 to 1,000 fish fry in each pen to get yields of 12 to 14 maunds," Nayan said. As the fish get proper nourishment in the flowing river, they grow rapidly and are comparatively tastier than their artificially grown counterparts, according to Robindranath Haldar, another cage fish farmer.

Haldar, who hails from a village in the Narayanpur area of Faridpur upazila, set up 30 cages in the Boral river this year and expects to make a profit of Tk 4-5 lakh. Md Abul Kalam Azad, the district fishery officer, said cage fish farming has been gaining popularity over the past eight to 10 years thanks to its high returns. As such, various fishermen in Pabna's Faridpur, Sujanagar and Ishwardi upazilas have set up cage fish farms along the Boral and Padma rivers. There are now more than 500 cages in both rivers with a majority being in the Boral river. The farmers expect to collectively produce 200 tonnes of fish this season. "Tilapia is the most highly cultivated breed of fish in the district but the Pabda and Tengra varieties are also being farmed in small cages in both rivers," Azad said, adding that the fisheries department has taken various measures to help these farmers increase production.

URL: <https://www.thedailystar.net/business/economy/news/cage-fish-farming-gaining-popularity-2957796>

Bangladesh: Fisheries Department signs MoU with USDA to boost trade of fish, fish products

The Department of Fisheries signed a Memorandum of Understanding (MoU) with the United States Department of Agriculture funded Bangladesh Trade Facilitation Project on Thursday,

outlining a collaborative effort to streamline processes and to share trade information about opportunities and requirements for export markets.

Under the MoU, the organisations will also work to enhance the ability to use scientific methods to ensure food safety and manage risk during the importation of goods for this important, export-earning industry, read a press release. Kh Mahbubul Haque, director-general of Department of Fisheries and Michael J Parr, country director of Land O'Lakes Venture37 and project director of Bangladesh Trade Facilitation Project, signed the MoU on behalf of their respective organisations at a ceremony held at the Department of Fisheries' building in Dhaka.

Michael J Parr, representing the USDA program, expressed his hope that the collective efforts in implementing the MoU activities will expand opportunities for the fisheries industry of Bangladesh and contribute to its continued economic growth. Kh Mahbubul Haque thanked USDA for responding to Bangladesh's request to assist government agencies and the private sector in addressing challenges to trade facilitation.

He stated that the next five years are crucial for Bangladesh as the country is graduating from Least Developed Country (LDC) status in 2026 and hopes that the collaboration between the Department of Fisheries and the Bangladesh Trade Facilitation Project will contribute towards enabling Bangladesh to successfully overcome the challenges of graduation. The Department of Fisheries is responsible for regulating and promoting the production and national and international trade of fish and fish products as well fish and aquaculture feed. Fisheries officials and scientists inspect import and export consignments, sample and test products, and monitor fish production and storage facilities to provide necessary certifications and licenses.

The Bangladesh Trade Facilitation project is a USDA-funded, demand-driven technical assistance project which is partnering with the Government of Bangladesh in implementing the Category-C measures of the World Trade Organisation's Trade Facilitation Agreement, which cover the trade of agricultural products, including fisheries.

The project aims to expand regional and international trade in agricultural goods by addressing systemic constraints to agricultural trade; simplifying and automating trade procedures; harmonising processes; improving the capacity of government agencies, laboratories; and developing the cold chain system by fostering private and public investment in cold storage facilities and temperature-controlled logistics.

URL: <https://www.tbsnews.net/economy/fisheries-department-signs-mou-usda-boost-trade-fish-fish-products-366127>

Bangladesh: Supporting women fish farmers to recover pandemic losses

Rakhi Mondal is a prawn and fish farmer in the village of Kathi in the Bagerhat district of Bangladesh. She started working in aquaculture in 2012, managing two “ghers” or fishponds. Her business was thriving until the COVID-19 pandemic struck, and the family suffered large financial losses. Supply chains diminished, feed stopped being delivered on time, and the fish markets had closed under lockdown.

The village where Mondal lives with her husband and son is in the southwest region of Bangladesh, known as a haven for aquaculture. However, the area is also under threat from climate change and the intensification of storms like Cyclone Yaas, which inundated some fish ponds, aggravating the current crisis. Mondal was a homemaker and mother when she, like many of her neighbors, decided to begin fish farming with the support of the Bangladesh's Department of Fisheries program.

One fifth of the world's aquaculture production is centered in Bangladesh, where women hold about 1.4 million of an estimated 17.8 million jobs in the sector. The fisheries sector generates incomes and livelihoods for 3.5 million people in the coastal areas.

Women in Bangladesh have been deeply engaged in aquaculture production and value chain activities. Before COVID-19, this consistent work made vital differences in their lives, helping to sustain their families and boost livelihoods. The work can be a source of empowerment and it is often the first means of livelihood for rural women. However, the pandemic led to the collapse of many family fishing businesses. Many women told us that the pandemic had placed their families in more precarious conditions as fish prices dropped and feed became unaffordable, if it arrived at all.

Empowering Women Fishers in Bangladesh

Women fishers have long been invisible in many countries, and often their contributions to fisheries can be underrepresented or ignored in country GDP figures. Bangladesh has a strong history of women's involvement in fisheries, most often through aquaculture, yet more can be done to include women on all levels of business and decision making. Women contribute to a variety of stages of the value chain, from fishing and fish farming to handling and processing. In Bangladesh, poor fishers and women are looking for fuller participation at the higher levels of the sector.

For many women, the work can be empowering and provide a significant contribution to family income. For others, however, their labor is unrecognized as they have less access to finance and do not have decision-making authority. The COVID-19 pandemic added another layer to this set of vulnerabilities, with long periods of joblessness for husbands as well.

Karol Rekha is another fish farmer we met who has benefited from these initiatives. Rekha is a fish farmer in the village of Dahanadad in the Lakshmipur district, where she lives with her husband and two children. Her daughter is in secondary school and her son has just completed his MBA. With the support of the government, she has diversified her income with poultry and livestock as well as fish farming. But the onset of COVID-19 triggered a crisis for her family as well.

"I could not sell fish in a timely manner, and it has been hard to pay for fish feed," she said. But the World Bank supported project has helped her back on her feet and she said the economic outlook has brightened. "The financial incentives during COVID-19 have been a significant

support for us,” she said. Now, Rekha is able to buy fish feed and maintain her ponds. Both women are planning to expand their businesses this year, thanks in part to the support.

Through our work in the World Bank-funded Bangladesh Sustainable Coastal and Marine Fisheries Project (BSCMFP), we have provided emergency support, helped to restore the logistics chain and improved food supply by getting fish to markets. The emergency support provided fishers electronic cash transfers and technical assistance to purchase feed and relieve debt.

Our project was conducting community field work when the pandemic struck in 2020. The team had completed aquaculture training in 16 coastal districts where more than 35 million people live. But then an emergency response was needed. The Department of Fisheries (DoF) under the Ministry of Fisheries and Livestock arranged for cash transfers along with the Ministry of Planning, and Ministry of Agriculture, as part of the government’s COVID 19 emergency response through the World Bank project. The transfers have been distributed among 78,074 fish, prawn and shrimp farmers from 75 affected Upazilas, or administrative regions, under the project. More than 4,000 of these recipients are women fish farmers. “We suffered enormous losses during the pandemic,” Mondal told our team. “We benefited a great deal from the monetary help, and we have recovered.”

URL: <https://blogs.worldbank.org/endpovertyinsouthasia/supporting-women-fish-farmers-bangladesh-recover-pandemic-losses>

Bangladesh: Dried fish processing plagued by problems

Fish drying is now going on in full swing in the coastal district. Hundreds of fishermen and workers in several areas of Cox’s Bazar have been found to be busy drying fishes, currently being caught in plenty. Despite having huge potential and employment opportunities, the business environment is plagued by allegations of discriminatory wages, and the use of harmful ingredients.

Nur Mohammad, a fisherman who works on a contract basis, alleged that their employers do not value their wages. “The owners of the trawlers do not pay us fixed wages. And, we are not paid on time.” Another fisherman Atiq said, “The fishers risk their lives to catch fishes from the deep sea. But we have neither life insurance nor any compensation system for our life.” According to them, around 0.1 million (100,000) people are directly involved in the dry fish (Shutki) trade for their livelihood.

Every year from September to February, fishermen catch fishes from the deep sea and later dry them in the sun. A total of 1,300 fishing trawlers are now engaged in catching fish every season. Varieties of fishes like Laitta, Chhuri, Maitta, Rupchanda, Faisya, Ulua, Lauksya, Sundari, Guijya and Chameli, among other fishes are mostly caught and dried as Shutki. Rahima Begum, wife of Samiti Para’s Ali Akbar, said that her husband lost his life two years ago while fishing in the deep sea. But the owner did not help them financially.

“I have to spend our days in extreme misery with three of my daughters and two minor sons. It is quite difficult for me to make both ends meet. I cannot even educate my children”, she added. Akhter Kamal, a councilor of Cox’s Bazar municipality, said that dried fishes are not completely safe for public health. “These fishes contain a lot of salt and pesticides, making them harmful for all of us,” he explained adding, “Although there are healthy rules of producing dry fishes, most of the workers do not comply with them.”

URL: <https://thefinancialexpress.com.bd/national/dried-fish-processing-plagued-by-problems-1643170768>

Bangladesh: Where have all the fish in Brahmaputra gone? As ecosystem loses balance, 7,000 fisher families land in trouble

Prafulla Chandra Das’ (48) fishing boat and nets have been drying out in the sun. His entire ancestry has been devoted to the same trade, and as such, Prafulla knows no other craft. As fish stocks in the Brahmaputra have drastically decreased over the years, Prafulla is finding it hard to run his six-member family and pay off debt with the little money he earns from fishing.

The angler from Jorgachh Majhipara village under Chilmari upazila in Kurigram is one of 7,000 ancestral fishing families from 105 villages in the district which are suffering the same fate. Most of these families do not even have their own homestead, but live on khas land or other people’s land.

“Even a few years ago, a group of four-five anglers could catch 40-50 kg of fish per day. It has now come down to merely five-six kg, which gets us Tk 200-250 every day,” he told this correspondent. This is not enough for his family, he said, and especially not for the loans he took out at high interest from local moneylenders.

This loan is a common feature of the fisher families’ life. “We are unable to provide for our families with the little money we make from fishing. This is why we’re forced to take loans from the Mahajons,” said Bisadu Chandra Das (47), a neighbour of Prafulla. “The situation is especially bad from December to June, as water level falls during this period,” he added.

Meanwhile, 84-year-old Ashu Chandra Das from Daspara village spoke of another woe. “We are deprived of our rights despite the “Jal Jar Khal Tar” [that allows fishers unobstructed access to waterbodies]. It is only on paper. We aren’t allowed to catch fish in government canals as they are occupied by politically influential people.” Contacted, District Fisheries Officer in Kurigram Kalipada Roy said, “There’s a shortage of fish in the Brahmaputra due to overfishing of mother fish and depletion of water.” “We are trying to help out the ancestral fishers,” he added.

URL: <https://www.thedailystar.net/news/bangladesh/news/where-have-all-the-fish-gone-2945126>

Bangladesh: Tilapia, pangasius lead the fish revolution

Researchers brought Nile tilapia from Thailand after independence, while its commercial production began in the 80s after some experiments. As the fish appeared to be fast-growing and profitable, its cultivation spread rapidly all over Bangladesh. At present, about four lakh tonnes of tilapia fish is produced every year. According to researchers, the species of tilapia now being cultivated is the 13th generation, which has been developed through research. The current generation of the fish produces 63% more than the first variety.

In other words, tilapia fishes that are now available in the market weighing around 1-1.5 kg are the outputs of lab research. According to the Food and Agriculture Organization of the United Nations, Bangladesh is now the fourth largest tilapia producer in the world. Another fish was brought from Thailand in the early 90s and its commercial production began subsequently after making it suitable to the local aquatic environment. The breed is now widely known as Pangas.

Besides, researchers in labs have developed many small-sized local fish varieties so that they could be produced commercially. Their efforts raised the production of local fishes such as pabda, koi and tengra to 2.5 lakh tonnes from only 67,000 tonnes in 2008-09. “Commercial production played a key role in ensuring fish availability. Annual fish production now exceeds 45 lakh tonnes, which is more than the local demand,” said Yahia Mahmud, director general at the Bangladesh Fisheries Research Institute.

According to the Ministry of Fisheries and Livestock, Bangladesh stands fifth globally in aquaculture production. The number of hatcheries has grown from only 60-67 to 950, show Department of Fisheries data. Of those, 820 are private. Since the country’s independence, researchers have developed 60 fish varieties and invented many breeding and farming techniques. Commercial fisheries and hatcheries are using both the new breeds and farm technologies.

Established in 1984, the Bangladesh Fisheries Research Institute can claim the credit for switching the country from inland capture to closed-water fisheries. The institute can also be credited with reviving the farm-raised fish to the regular food menu. To prioritise self-sufficiency in fish production, Yahia Mahmud said they created more than 100 scientist posts and recruited the researchers in the last 5-7 years.

URL: <https://www.tbsnews.net/economy/industry/rice-chicken-and-more-science-pushes-bangladesh-farm-revolution-360202>

Bangladesh: Leased out to non-fishermen, fishermen deprived

Madhaikhal beel, which lies on 157 acres of land in Kurigram’s Nageshwari upazila, was the main source of income for more than four hundred fishermen families.

The water body was open for all and anyone could catch fish even 15 years ago. Apart from the fishermen families, hundreds of locals also made a living by fishing in the beel which had an abundant supply of indigenous varieties of fish.

But now the Land Ministry has leased the water body to a section of non-fishermen who solely control the waterbody depriving the fishermen. Fisherman Suren Chandra Das, 72, of Madhaikhal village, who inherited the profession from his father, said his father Prabhat Chandra Das and his grandfather Lengtu Chandra Das used to fish in the beel. He used to run his family by fishing in this beel.

But his sons and grandsons can no longer fish in this beel. “The lessees of this beel do not allow the fishermen to catch fish in the beel. Many fishermen have been forced to give up their ancestral profession,” he said. Aftab Ali, a local of Madhaikhal village, said not only the fishermen but also the locals used to make a living by fishing in the beel. Now they are not allowed to fish in the beel. Dinesh Chandra Bishwas, president of Kaliganj Fishermen’s Association, said 500 families are getting benefits from the beel.

Of these, only 25 are families, whose ancestral profession was fishing. Although the beel is leased in the name of fishermen, the non-fishermen have become partners due to money. “We don’t have money that’s why we have had to involve the non-fishermen as partners,” Dinesh said, adding that although local fishermen are not partners in the beel, they are hired and paid for fishing here.

Former UP member Abdul Jalil said the beel is being leased for more than Tk 9 lakh every year. Even though outsiders can’t catch fish here, they are given fish. Kurigram District Fisheries Officer Kalipada Roy said the beel was leased from the Land Ministry. “It is up to the ministry to decide whether the Madhaikhal beel will be open to all as it was in the past,” he added.

URL: <https://www.thedailystar.net/news/bangladesh/news/leased-out-non-fishermen-fishermen-deprived-2939781>

Bangladesh: Marine experts urge all to reduce pollution to save Bay of Bengal

Experts, at a recent seminar, have said that the nation must become aware of the environmental challenges to prevent marine pollution and save the Bay of Bengal. Plastic and forms of pollution may render the bay useless within the next 30 to 50 years, they opined at the seminar – The importance of building an ocean-literate nation for the protection, restoration and sustainable use of the sea – at the Bangladesh Ocean Research Institute (BORI) auditorium at Pechardwip in Ramu upazila, Cox’s Bazar on Wednesday (12 January). BORI along with Octofin, an organisation promoting oceanography, jointly arranged the seminar.

BORI Director General (DG) (Additional Secretary) Saeed Mahmud Belal Haider was present as the chief guest and the special guests were Chittagong University (CU) Professor and Dean of the faculty of fisheries Dr Rashedunnabi Rafi and former chief hydrographer for Bangladesh Navy Sheikh Mahmudul Hasan.

According to the speakers, in order to increase knowledge about the sea, it is important to include ocean-related topics in the textbooks for grades one to twelve. CU oceanography department Associate Professor Dr Wahidul Alam said microbial pollution has increased in the

Bay of Bengal and warned that this will have a very negative impact on the country's tourism sector.

Experts highlighted that at present no marine-related chapters are taught in classes 1-12 and many are reluctant to accept brutal the reality of marine pollution. At the seminar, the experts said that a proper action plan should be adopted to protect the Bay of Bengal and suggested stopping the use of one-time plastic in tourist areas to stop pollution. Chittagong University Oceanography Department Assistant Prof Dr Md Saidul Islam Sarkar and Dr Enamul Haque, BORI Senior Scientific Officer (Chemical Oceanography) Abu Saeed Mohammad Sharif and Senior Scientific Officer (Geological Oceanography) Md Zakaria also spoke at the discussion.

URL: <https://www.tbsnews.net/bangladesh/marine-experts-urge-all-reduce-pollution-save-bay-bengal-356800>

Bangladesh: High-tech vessel shines hope on hilsa research

Researchers now have gotten an opportunity to promote hilsa production in the country, thanks to the introduction of a high-tech vessel by the Bangladesh Fisheries Research Institute. Equipped with a hilsa research laboratory, netting system and a portable mini hatchery, the vessel named "MV BFRI Research Boat" will act as a game changer in hilsa research, said experts.

They also said that the ship will play an effective role in getting a real picture of the hilsa population and its behaviour. "Earlier, researches based on market value were conceptual. They did not provide the real picture," Yamin Hossain, a professor of the fisheries department in Rajshahi University, told The Daily Star.

He said, "Through this ship, it is possible to know the nature of the movement of hilsa, where it lays its eggs, whether it is migrating or not and the level of oxygen in the deep sea. The ship will also help protect other fish biodiversity." He also said it would help researchers assess the kind of impact climate change would have on reproduction of hilsa in future. Yamin, however, said skilled researchers have to be recruited for this.

The ship, which cost Tk 7.56 crore to build, is equipped with fish finders, echo sounders, and navigation and modern telecommunication systems. Md Anisur Rahman, chief scientific officer of Bangladesh Fisheries Research Institute, said that the vessel would enhance the strategies and skills of the Hilsa research team. "This ship can go everywhere including the deep sea. As a result, the pace of work will also increase," said Rahman, who has been working on hilsa research since 1988.

The country now has the potential to produce an estimated 6 lakh 10 thousand metric tonnes hilsa every year, he added. "The current production stands at 5.5 million metric tonnes per year, which is much higher than it was in 2003, when the production fell below 200,000 metric tonnes. "The ban on catching brood and fry improved the situation and with the addition of this ship, it is possible to reach optimum production." Abul Bashar, director of the Hilsa research-strengthening project, said, "This ship will play an important role in identifying potential new

hilsa breeding grounds and help assess the current status of the previously identified sanctuaries.” Yahya Mahmoud, director general of the Bangladesh Fisheries Research Institute, said, “The ship can be used to go to all relevant places, including the sea bay and collect various information.”

URL: <https://www.thedailystar.net/news/bangladesh/news/high-tech-vessel-shines-hope-hilsa-research-2937221>

Bangladesh: Declared a new marine protected area (MPA) spanning 1,743 square kilometres (672 square miles) around Saint Martin’s Island

The government of Bangladesh has declared a new marine protected area (MPA) spanning 1,743 square kilometres (672 square miles) around Saint Martin’s Island. This region represents 1.5 per cent of the country’s exclusive economic zone. The productive waters around this tropical island teem with biodiversity and provide critical habitat for Bangladesh’s only coral reef and upwards of 230 finfish species. The new MPA will also protect globally threatened wildlife such as Indo-Pacific humpback dolphins, whale sharks, white-spotted whip rays, long-tailed butterfly rays, and olive ridley, green, and loggerhead turtles.

Also known as ‘Coconut Island’, Saint Martin’s Island is a popular tourist destination and home to around 7,000 residents who depend on seasonal tourism and fishing. Despite considerable efforts to mitigate the negative impacts of the area’s booming tourism industry, overexploitation of corals and fisheries, along with uncontrolled waste and light pollution, have taken a heavy toll on marine biodiversity around the island. Deputy Minister Habibun Nahar of the Ministry of Environment, Forests and Climate Change said: “The St. Martin’s Island MPA, together with the existing Swatch-of-no-ground MPA and two other marine reserves declared by the Ministry of Fisheries and Livestock, brings Bangladesh one step closer towards achieving our national goal and international obligation under the Convention on Biodiversity and United Nations Sustainable Development Goals to protect 10 per cent of our marine waters.”

Proposed regulations in the new MPA include establishing zones with different rules to regulate fishing and vessel traffic. Said Amir Hossain Chowdhury, Chief Conservator of Forests: “To enforce and monitor compliance with MPA regulations, the Forest Department will prepare an integrated management plan where all stakeholders, including local fishermen, will be involved. “We are also planning to conduct joint patrols with the Department of Fisheries, Coast Guard, Navy and local fishing communities to conserve the rich biodiversity of this MPA.”

“Protecting the waters around Saint Martin’s Island is critical to sustaining fisheries and conserving globally threatened marine wildlife. It also provides an ideal opportunity to restore Bangladesh’s only coral habitat,” said Zahangir Alom, Country Representative of Wildlife Conservation Society Bangladesh (WCS). Said Elisabeth Fahrni Mansur, Senior Manager of the WCS Marine Conservation Program: “Declaration of the Saint Martin’s Island MPA is based on extensive at-sea investigations and community consultations conducted by the WCS. Recognizing the rapidly increasing and unsustainable fishing pressures and destruction of corals, local fishers we consulted expressed a strong willingness to comply with stricter regulations in the MPA to sustain productive fisheries in adjacent waters.”

The WCS is committed to working with the government of Bangladesh and local communities to establish effective conservation management in Saint Martin's MPA. The first steps are to develop a science-based, community-informed management plan, raise awareness about regulations in the MPA, build capacity for conducting government and community-led enforcement and monitoring patrols, control domestic waste, and restore degraded corals.

URL: <https://weather.com/en-IN/india/biodiversity/news/2022-01-12-bangladesh-designates-a-marine-protected-area>

Bangladesh: Desperately needs a comprehensive maritime law

Despite being quite a small country, in terms of landmass, Bangladesh has an extremely large population. In fact, it is the world's tenth most densely populated country. Consequently, sustaining such a large population with little arable land and natural resources has been a concern for policymakers for a very long time. But our nation has been blessed with a wealth of marine resources, the proper utilisation of which, can be a crucial factor for sustainable and continued development. Bangladesh is bestowed with a coastal area of 2.30 million hectares and a coastline of 720 km along the Bay of Bengal. Unsurprisingly, one-fourth of its total population, around 35 million, lives along the coast line, relying both directly and indirectly on the sea for their livelihoods. After resolving the maritime border disputes with India and Myanmar, Bangladesh now owns 2,07,000 square kilometers of sea, which is 1.4 times bigger than our total land area. An exclusive economic zone (EEZ) of 166,000 square kilometers is also included within this boundary, where Bangladesh can exploit natural resources at its will. The Bangladesh government has repeatedly professed its ambition to establish a "blue economy", expanding the nation's economic potential. A crucial part of this new horizon is going to be marine fishing and aquaculture. Bangladesh is also blessed in this regard, with a considerable extent of marine biodiversity. Around 1,093 marine species can be found in the Bay of Bengal, including finfishes, shellfishes, seaweeds and shrimps. Almost 457 fish species are available in our EEZ alone. Compared to the 250 fresh-water fish species found in our country, the Bay of Bengal can provide us with a hugely varied and abundant array of fish. For a developing nation such as ours, proper utilisation of this resource can fulfill our protein requirements and stimulate the economy.

Besides, byproducts of these resources can be used for research and development as well as industrial raw material. Unfortunately, there is not an adequate legal framework to protect these resources. The ocean is continuously being polluted with agricultural runoffs, urban waste, industrial effluents, sewage and unregulated vessels. Port activities and the ship breaking industry are also major sources for oceanic pollution. Even though Bangladesh has ratified many international conventions and laws regarding the ocean, no comprehensive national legal framework exists to conserve marine environments in our country. As per Article 192 of UNCLOS, states have an obligation to protect and preserve the marine environment. But Bangladesh, as of yet, has failed to comply with this obligation. The Environmental Conservation Act (ECA) 1995 (amended in 2010) has provided a framework for minimising pollution and conserving the environment. But the act does not contain any provision targeted at marine pollution. It also does not contain any mechanism for implementing the international laws and conventions Bangladesh has ratified. Though there are a number of sectoral laws, these are

not free from loopholes and lacunas. For example, under The Territorial Water and Maritime Zones Act, the government can take action against marine pollution. But there is no such provision in the act specifying the acts which constitute marine pollution. Another drawback of the law can be found in the fisheries sector.

As we know, implementation of fishery policy depends on an effective monitoring and assessment procedure. But the existing fishery policies lack proper clauses for adequate monitoring and impact assessment. The Coast Guard Act 2016 is the most praiseworthy initiative by the Bangladesh government. But there is no focus on capacity building of the coast guard and advancement of technological equipment. As a result the huge and resourceful maritime boundary of the country has not been utilised properly till date. Unsurprisingly, there has been no exclusive maritime court established in Bangladesh despite its large maritime boundary. Laws relating to the foreign investments in this sector are weak and obsolete. There has been no remarkable effort to encourage investment in this sector, even though there is a lot of potential. In order to protect the marine ecosystem, preserve marine biodiversity and prevent endangerment of the marine environment, we need to adopt a comprehensive marine law in conformity with the international marine rules and regulations as soon as possible. If not, we will see our crucial marine resources gone to waste.

URL: <https://www.hellenicshippingnews.com/bangladesh-desperately-needs-a-comprehensive-maritime-law/>

Bangladesh: Biodiversity at stake in Halda river

Halda river is one of the most prominent fish breeding grounds in the country. However, the restrictions given by the fisheries and livestock ministry are being overlooked. The biodiversity of the river is at risk as the movement of engine-powered vessels started again. As a result, the mother fishes and dolphins are dying. Md Manjurul Kibria is the co-ordinator of Halda River Research Institute and head of the zoology department at Chittagong University. The interview was taken by Sujan Ghose and SM Yusuf Uddin.

Halda is one of the most important rivers in the country. What sorts of initiative are needed to protect it?

A long term planning is needed to protect the Halda river. Instead of taking separate projects, the concerned ministries should develop a 50-year integrated plan. If different projects are implemented following that plan, it will be possible to save the river. And these initiatives must be taken by the proposed Halda authorities. If initiatives are taken in cooperation with the administration, local people, NGO and research institutes, it will be possible to save the river.

Are the initiatives taken by the authorities to implement the recommendations to protect Halda enough?

The initiatives taken by the authority to protect the river is highly positive as compared to other rivers. But that does not fulfill the expectation considering the significance of the river. We could have enjoyed a hundred per cent benefit of the sincerity of the authority to protect the river if

there was coordination between different ministries and departments. In this case, lack of coordination is a big concern. Different divisions and directorates under the concerned ministries work arbitrarily which results in more damage to the river instead of its protection. The construction of a rubber dam in Bhujpur, the ongoing projects of the Water Development Board and Chattogram WASA's efforts to extract about 140 million litres of water are the biggest examples in this case.

Why is the number of dolphin's death increasing in Halda?

There are three main reasons behind this. These are – injuries from the propellers of boats, death after being trapped in the nets and illegal poaching. If a dolphin gets even the slightest injury when a heavy engine-powered boat or a dredger passes by, it dies. Dolphins have a layer of fat underneath their skin. Even a slightest hit in this layer results in a rapid infection which leads to the dolphin's death. When fishermen cast net into the water, dolphins get near it to eat the fish trapped in the net. Dolphins have countless teeth. When they try to eat fish, their teeth get entangled with the net. If a dolphin stays like this for more than 30 minutes, it dies. Apart from that, dolphins are being killed to use it for the purposes of alternative medicine and fishing bait.

Then what is the way to protect the dolphins?

The way to protect dolphins is to make people aware. Movement of engine-run boats must be banned in the river. Initiatives should be taken to stop river pollution. Besides, the leasing of Balumahal should be stopped. The use of tangle net also should be banned.

What is the state of pollution in Halda?

Although the Halda river is less occupied, it is highly polluted. However, the situation is much improved as compared to the past. Extensive cultivation of tobacco in Manikchhari area, upstream of Halda river, has been stopped. One of the main sources of pollution in Halda river was the '100 Megawatt Power Plant' in Hathazari. It was closed in 2018, despite being a government organisation. The Asian Paper Mill in Nandirhat has been closed for two years. If the flow of waste from Chattogram city area and other areas under CDA, which falls into the river through Bamonshahi, Kuwaish and Khandkiya canal, is stopped, the river will be 70 to 80 per cent pollution free.

Despite so many initiatives, why is Halda facing disaster recurrently? What do you say about this as a researcher?

I have already said that the main reason for the disaster in Halda is the lack of coordination between different ministries and divisions. The organisations showing sincerity in protecting Halda have weak logistic support and manpower. As a result, Halda is not getting the benefit of discrete works. To save Halda from disasters, we have to form a Halda authority comprising government administration, local people, NGO and research organisations, which will implement the long-term plan to protect the river. Besides, the use of ray fishing nets should be banned.

URL: <https://en.prothomalo.com/environment/pollution/biodiversity-at-stake-in-halda-river>

Bangladesh: Country's seaweed is a goldmine waiting to be tapped: FM

Bangladesh sees huge commercial potential of marine "Seaweed" and its domestic use reducing import dependency and its subsequent export to global market, according to latest research. The research has identified five industrial applications of certain species of seaweed found in Bangladesh. These are fish feed, animal feed, food additive, bulk cosmetics ingredient and high value cosmetic ingredient. The results of the research show that some of the many species of seaweed found in Bangladesh have huge commercial potential, which can play a significant role in the Blue Economy of Bangladesh. "Seaweed" is the common name for countless species of marine plants and algae that grow in the ocean as well as in rivers, lakes, and other water bodies. "It's another goldmine. It needs promotion," Foreign Minister AK Abdul Momen told reporters at the ministry of foreign affairs on Wednesday while sharing the outcome of a research based on sea-based Seaweed. State Minister for Foreign Affairs Md Shahriar Alam and Secretary, Maritime Affairs Unit (MAU) at the Ministry of Foreign Affairs Rear Admiral (Retd) Md. Khurshed Alam also shared part of the research findings. Momen said industrial raw materials worth Tk 28,000 crore are currently being used in Bangladesh for a number of purposes including as ingredients of soaps and shampoos. He said Bangladesh can domestically source ingredients worth Tk 16,000 crore if it can develop seaweed locally apart from exporting the surplus production of seaweed. "It has a lot of potential," said the foreign minister.

The Maritime Affairs Unit, led by Khurshed Alam, has been conducting the research with significant progress over the last two years assessing the presence, overall location, economic potential and commercialization of Marine Genetic Resource (MGR) which includes all marine animal and plant resources. It was done as part of the blue economy development plan for the development of the biotechnology sector. The Netherlands-based researchers, along with representatives of the Maritime Affairs Unit, conducted field-level research in the sea area of Bangladesh in 2020. The study analysed the economic potential of MGR's overall position mapping in Bangladesh's exclusive economic zone (EEZ), including the identification of various species. On the basis of those results, 220 species of seaweed, 347 species of marine fish, 498 species of oysters, 52 species of shrimp, five species of lobster, six species of crabs, 61 species of sea-grass were identified in Bangladesh. Necessary laboratory tests on these species were later performed in the Netherlands. It resumed in 2021 after a pause in research activities on the emergence of Covid-19. The programme focuses on the potential and commercialization of Seaweed, especially in Bangladesh. In the current context, the state minister said, hatchery, farming, processing plant and industrial application will be required for commercial production and management of marine seaweed in Bangladesh.

He said Seaweed production in Bangladesh can be done very easily in an environmentally friendly manner. "Seaweed cultivation can play a role in protecting the ecological balance as well as protecting the coastal areas." Shahriar said Seaweed cultivation is capable of creating easy and secure employment opportunities for the coastal people of Bangladesh, where a significant number of women workers can be easily employed. After Prime Minister Sheikh Hasina's Blue Economy programme Momen said, they are going to be able to achieve a ground breaking achievement of extracting new commercial resources directly from the sea. In this context, both the Momen and Shahriar said, their next step is to make the interested and qualified

industrial organizations / entrepreneurs invest or participate effectively in various potential sectors of Seaweed in Bangladesh. In order to make such an effort a success, the necessary assistance will be provided by the Maritime Affairs Unit of the MOFA to the eligible industrial organizations / entrepreneurs. They expect that all those businesses that would benefit economically from Seaweed would use a portion of their profits for the betterment of the coastal people of Bangladesh.

URL: <https://www.theindependentbd.com/post/271892>

Bangladesh: Shrimp exports grow, but so do worries

Despite the spectre of the Omicron hanging over their heads, shrimp exporters have been all smiles in the first six months of the fiscal year 2021-22 (July-December) as the value of exports have grown by 38.23% compared to the same period last year. According to data from the Export Promotion Bureau (EPB), foreign exchange earnings from shrimp exports in the last six months were \$268.95 million, a jump from the \$194.58 million registered in the same period of FY2020-21. Riding on high prices of Bagda prawn, export figures in the first six months suggest that shrimp exporters can beat last year's haul of \$329m and perhaps even secure their highest earnings in a while after many years of consistent decline. Crimson Rosella Seafood Ltd Managing Director Md Delowar Hossain told The Business Standard that after the emergence of Covid-19, exports of Bagda prawn had stopped, with low prices deterring farmers. In 2021, however, the business came roaring back and exporters enjoyed high sales.

He, however, cautioned that the spread of Omicron could undo all the good work. "Preparations for the new season are underway. If any major lockdowns happen, then all shrimp traders and farmers will incur losses," he said. Kazi Belayet Hossain, president of the BFFEA, told TBS that it cannot be said that production was much higher than other years, but good prices for Bagda prawn (Black Tiger prawn) meant that export value was higher. He also said that if restaurants in Europe begin closing again due to the Omicron variant, exports will be affected again, adding that they had already begun feeling the impact of the virus. Kazi Belayat urged the government to ensure that the global markets for shrimps are not closed off. Sources at the BFFEA said 85% of the shrimp exported from Bangladesh goes to European countries, while 15% goes to America, Japan and other countries. Besides shrimp, live fish exports have also grown by 34%, earning \$4.41m. Frozen fish exports, however, have taken a hit, falling from \$66.33m in the first six months of the FY2020-21 to \$53.05m compared to the same period this year.

According to the EPB, Bangladesh exported a total of 41,236 metric tonnes of shrimp worth \$455m in the FY2013-14. Since then, its exports began to shrink, along with production. According to EPB data, Bangladesh's share in the world shrimp market has decreased from 4% to 2% in the five years till 2018-19. During this time, shrimp exports have fallen by 33% and production has shrunk by 28.5%.

Changing tastes, unaltered methods

Exporters say that the commercial production of Vannamei shrimp (White leg shrimp) has increased its presence in world markets, with India, Vietnam and Thailand, among others,

becoming its suppliers. Bangladesh, on the other hand, has yet to tap into this variety, preferring instead to stick to the Galda and Bagda prawns. Vannamei shrimp, however, now accounts for 77% of the world's total shrimp exports, with Bagda capturing a comparatively negligible 11%. At present, the price of Bagda prawn is also \$2 higher per pound than that of the Vannamei shrimp. Kazi Belayet Hossain told The Business Standard that this hybrid variety of White Leg shrimp was high yielding and also cheaper, so many countries had begun to benefit from its production. "We are working on how to quickly move to commercial production of Vannamei shrimp," he said, adding that it took 20 years of lobbying before experimental cultivation of the variety was allowed.

URL: <https://www.tbsnews.net/dropped/trade/shrimp-exports-grow-so-do-worries-353371>

Bangladesh: Country strengthens research to boost hilsha production, says minister

Fisheries and Live Stock Minister S M Rezaul Karim has said the Bangladesh government has strengthened the research of hilsha, the national fish of the country, to increase its production. "Production of Hilsha is increasing every year and the country earns huge money by exporting the fish after meeting the domestic demand," he said at a hilsha research ship handover ceremony on Khulna Shipyard Ltd premises as chief guest on Tuesday. BFRI is researching for sustainable development of country's hilsha resource, the minister said, adding that country's hilsha production is increasing every year as after government is taking various steps, enforcing including 22-day Hilsha netting ban. The Hilsha research ship will play a vital role to enhance Hilsha production, new loitering and breeding area identification, netting and storing, he said. The minister lauded KSY's role in ship building and said KSY built the hilsha research ship with its own design. The BFRI is now capable of enhancing hilsha research in country's rivers, coasts.

Chaired by KSY managing director Comodore Khondokar Akter Hossain, Khulna City Corporation (KCC) Mayor Talukder Abdul Khaleque, secretary of Fisheries Ministry Dr Md Yasin and director general of BFRI Dr Yahia Mahmud, among others, addressed the function. Under the Hilsha Research Strengthening Programme at Chandpur River, Bangladesh Fisheries Research Institute (BFRI) implemented the project. Built by Khulna Shipyard Ltd, the hilsha research ship was estimated by a committee formation by Bangladesh University of Engineering and Technology (BUET), Bangladesh Navy, Directorate of Shipping, Institute of Marine Science of Chittagong University and Marine fisheries Academy. The Hilsha research ship has modern equipment and technology, portable mini hatchery, netting system, hilsha research laboratory, fish finder, echo sounder, navigation, modern telecommunication and fire control system. Experimental trial of all equipment and machineries of the ship was completed after commissioning, said Md Kamruzzaman, administrative officer of KSY. Khulna Fisheries Officer Joydeb Paul said at least 14 officers and employees have completed onboard training for operating the research ship.

URL: <https://thefinancialexpress.com.bd/national/bangladesh-strengthens-research-to-boost-hilsha-production-says-minister-1641297457>

Bangladesh: High-powered team suggested for supervision of marine protected areas

A separate ministry along with a strong marine policy is also needed for dealing with marine affairs, they suggested at a roundtable at a city hotel Wednesday. International Union for Conservation of Nature (IUCN) Bangladesh and WorldFish Bangladesh jointly organised the programme. In the programme, three presentations titled ‘Key Findings from IUCN Activities in the Nijhum Dwip MPA’, ‘The Research Output from Naf-St Martin Seascape by WorldFish Bangladesh’ and ‘The IUCN Green List of Protected and Conserved Areas And Marine Protected Areas In The Context Of Bangladesh’ were made. Raquibul Amin, country representative of IUCN Bangladesh, moderated the roundtable meeting and presented one paper. In his presentation, Raquibul Amin said, by 2020, at least 17% of terrestrial and inland water, and 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services were conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas.

Sher-e-Bangla Agricultural University fisheries professor Kazi Ahsan Habib said it is necessary to determine new spots for determining MPA as it has been difficult to declare St Martin’s as an MPA due to different stakeholders’ interests. Many businesses that are involved in business there are destroying ecological balance and biodiversity there. If there is any plan to do anything there, the multi-stakeholders should be rehabilitated first, he observed. Dhaka University Professor of Geography and Environment department M Shahidul Islam said about seven years ago, St Martin’s island was divided into three zones determining the activities in specific areas. But nothing is being complied with now and people are polluting the environment.

He expressed concern about the destruction of the coral island. He also informed that 50 spots can be declared as MPAs and conserved. From the Key Findings from IUCN Activities in the Nijhum Dwip MPA, it was found that there are 130 bony fish species from 31 families- a comprehensive checklist of bony fishes living in the MPA waters. Hatiya, Monpura, Charfesson, Rangabali and Galachipa were declared MPAs on 23 June 2019 with an area of 3188 sq km. There are several key management aspects including a theoretical zoning plan which includes, Hilsa replenishment zone, marine megafauna conservation zone, sustainable fishing zone, community fishing and tourism development zone. From the route of the boat-based survey, a total of 30 boats and 20 landing spots were surveyed. About 70% of fishing efforts are found to be concentrated outside the MPA. From the Shark-Ray survey for MPA Zoning, only 3.18% of fishermen have Knowledge of sharks and rays in Bangladesh. And 14.29% of fishermen have Knowledge of Protection status Laws.

URL: <https://www.tbsnews.net/bangladesh/high-powered-team-suggested-supervision-marine-protected-areas-350593>

Bangladesh: We faced so many cyclones’: how people in the country are rebuilding after climate catastrophe

The cyclones that repeatedly hit his village deep in Bangladesh’s south did not just bring waist-high water that washed everything away, they forced Shayma Kanta Mistri to make a choice about his future. The salt waters that had surged in from the nearby Bay of Bengal ruined his paddy fields, which were already providing only a tenuous living that had to be supplemented by

seasonal labouring for other farmers. Mistri needed to adapt or leave. Everywhere in Shyamnagar, there are signs of people refusing to just accept that climate change will force them to move. This is the most south-western part of Satkhira district and one of the areas in Bangladesh most vulnerable to the climate crisis. Rice fields have been turned into ponds by owners who realise their land will not easily recover and so have begun farming crab and shrimp. People are fighting back to avoid the fate of thousands of others, who have had to leave for overcrowded cities, broken by the effects of global heating on their land and their lives. “We faced so many cyclones – Sidr, Aila, Bulbul, Amphan – and they brought waters that came up to here on the street,” said Mistri, holding his hand at waist level. “When the waters left it was like a desert, all the plants and trees were dying from the salt and there was no clear water to drink either. There were only a few people with money who could survive these conditions. “We could not live from farming any longer. We had to think about other ways to make our living.” Mistri had planned to start a shrimp farm but was encouraged by Practical Action, a charity that helps smallholder farmers, and its local partner Shushilan, to move into crab farming because it had a low start-up cost and crabs were less vulnerable to white spot syndrome, a virus that plagues shrimp farms.

Now he can make an average of 2,000 taka (£17.60) per day by selling 100kg of soft-shell crabs from 2kg of crablets that he buys from local fishermen. He had previously only run a nursery, rearing the crablets and then selling junior crabs to bigger crab farms, but taught himself the sensitive and valuable technique of harvesting the crab at the moment it sheds its hard shell. “Now I’m more comfortable. We have a more secure income and both of my children are in school – my son has almost graduated from college,” said Mistri. Aside from the profit, the quick turnaround means he earns throughout the year, softening the losses of the storms that can leave rice farmers without an income for months because of the crop damage and time it takes to prepare the land. Satkhira and the south-west have borne the brunt of the weather changes, repeatedly being hit by major cyclones that have displaced millions and caused permanent changes to the land. During last year’s cyclone Amphan winds hit 151kmph and flooded a quarter of Satkhira, which the UN said was the worst-hit district. According to a 2016 study from the University of Jessore (now Jashore), two-thirds of migrants from south-western Bangladesh moved because they had to give up farming. Most went to cities where they worked as day labourers, while some did seasonal agricultural work. Those who were able to stay were people who had diversified, especially crab and shrimp farmers.

Practical Action’s field coordinator, AJM Shafiqul Islam, said the charity’s work is about ensuring people are offered the most suitable solution and support to help build their resilience to the climate crisis. “Since cyclone Sidr [in 2007], the people of this area have struggled with salinity in their soil but these methods are transforming lives. Shayma had very little before but now he has a poultry farm alongside the crabs that he built with the income. He no longer has to travel to sell his labour,” said Islam. “This works for the farmers who have limited income. It helps them work with the change of their land and also hopefully it will stop them having to migrate. They will be able to live sustainably.” The threat to Shyamnagar’s people is evident on Gabura, an island encircled by two rivers of the Sundarbans mangrove forest, which is frequently inundated during cyclones and is losing its coast to erosion. Locals live in fragile homes mounted on stilts, and say a quarter of people have now given up and moved elsewhere. Those who remain are reliant on catching crabs or collecting honey from the forest but their income is

curtailed by government limits to protect the forest's resources. Islam says Practical Action's work is also about bringing balance. "These farmers look to wild sources like the river or the Sunderbans, which is vulnerable environmentally and needs to be protected.

The government is also establishing crab hatcheries but someone has to raise them, so these crab nurseries for smallholder farmers can be the intermediaries," said Islam. That balance also applies to other methods being encouraged here, such as teaching farmers how to grow extra vegetables in the mud walkways between plots of land. Archana Boyda, 24, provides farmers in her area with compost using dung from her two cows and earthworms she was given by the charity. Boyda has six vats of her compost in a tent outside her home. She had been living in a leaking mud hut that was destroyed by a falling tree during cyclone Amphan. But Boyda had been saving the 3,000 taka she earned a month with her husband and they have built a new wooden house on a platform raised above any floodwaters. "Amphan had a really big effect on us, the house was destroyed and we had nowhere to go so we just tried to cover the gaps with sheets. This house is still not finished but it is so much better and our life is becoming more secure, step by step," she said.

As we approach the end of the year in India, we have a small favour to ask. We'd like to thank you for putting your trust in our journalism this year – and invite you to join the million-plus people in 180 countries who have recently taken the step to support us financially, keeping us open to all, and fiercely independent. In 2021, this support sustained investigative work into offshore wealth, spyware, sexual harassment, labour abuse, environmental plunder, crony coronavirus contracts, and Big Tech. The new year, like all new years, will hopefully herald a fresh sense of cautious optimism, and there is certainly much for us to focus on in 2022 – a volley of elections, myriad economic challenges, the next round in the struggle against the pandemic and a World Cup. With no shareholders or billionaire owner, we can set our own agenda and provide trustworthy journalism that's free from commercial and political influence, offering a counterweight to the spread of misinformation. When it's never mattered more, we can investigate and challenge without fear or favour. Unlike many other media organisations, Guardian journalism is available for everyone to read, regardless of what they can afford to pay. We do this because we believe in information equality. Greater numbers of people can keep track of global events, understand their impact on people and communities, and become inspired to take meaningful action.

URL: <https://www.theguardian.com/society/2021/dec/12/cyclones-people-bangladesh-climate-catastrophe-guardian-observer-charity-appeal>

Bangladesh: Unplanned tourism damaging country's only coral island

Saint Martin's Island in Bangladesh is an ideal habitat for corals mainly due to its diversified and enriched ecosystem and marine environment, but studies now show that its coral colonies have been steadily declining. Sayeed Mahmood Belal Haider, director general of the Bangladesh Oceanographic Research Institute (BORI), in a study paper published in December said the only 7.3 kilometer (4.5 mile) long island has been experiencing a coral bleaching event between 2018 and 2021. Dead corals and plastic pollution have also been found on the island, he said in his

study, adding that E. coli, total coliform and fecal coliform are found in the beach water. Haider said that during the peak tourist season, around 8,000 visitors come to Saint Martin's Island every day in 10 cruise ships, which is much higher than its capacity. A study published last year in the Ocean Science Journal titled "Detection of Coral Reefs Degradation using Geospatial Techniques around Saint Martin's Island, Bay of Bengal" analyzed images taken from satellites. In 38 years, the coral cover on the island has decreased from 1.32 square kilometers (0.5 square miles) to 0.39 square kilometers (0.15 square miles).

The number of coral species has decreased from 141 to 41. Destruction of the coral reef habitat was basically caused by anthropogenic activities like tourism and extraction of coral by fishermen, it added. Mohammed Shah Nawaz Chowdhury, an assistant professor of marine sciences at the University of Chittagong, is a renowned ocean expert. "The condition of the corals is under threat, but we don't have a recent underwater study except one in 1997 by researcher (Tomas) Thomascik with support from the IUCN," he said, referring to the International Union for Conservation of Nature. "We have some satellite-based studies, but we could not learn the microscopic cause of the situation from those, whereas we don't have modern technology to determine the situation from the sky to underwater. "We need immediate underwater research to measure detailed data as we found many species of corals missing in the 1990s ... Coral bleaching, a process when corals become white due to hostile conditions, is also found on the island," he added.

Climate change, plastic pollution take toll

"The changing climate is also affecting the corals and their habitat on the island. Frequent cyclones along the coastal region, including Saint Martin's Island, cause the rocks and boulders to get displaced where corals build their colonies," Chowdhury said. Meanwhile, deferred or irregular rainfall due to changing weather is also affecting the corals as salinity and water transparency are major factors for corals to live and their good growth, he said. "Plastic pollution — more hazardously, microplastic pollution — is posing a mounting threat to the island. We recently found the presence of microplastic in marine fish in the Bay of Bengal. We also need research to know how deeply plastic pollution has affected the unique marine ecosystems in the world," he added, referring to the ecosystem on the island and the coral.

Plan needed to protect coastal region

Chowdhury suggested a well-designed investment plan that could change the current poor situation as well as generate financial benefit for the country. "We should separate the island site into three categories, including a restricted zone and tourist zone, so that the island can recover from the environmental damage," he said. "Our study shows that Saint Martin's Island is home to a major portion of our (Bangladesh's) marine fish due to its enriched habitat, so if we don't take care of the island, our whole marine biodiversity would be lost." Sharif Jamil, an environmental activist and general secretary of the Bangladesh Environment Movement, told Anadolu Agency that Bangladesh's coastal region is important as it is enriched with so many natural resources and routes for global trade and business. "If we fail to protect Saint Martin's Island, the whole coastal region in Bangladesh will be under threat. The government will have to take immediate measures to address the pollution in the coastal region and to protect the

country's maritime boundary." Jamil, who is also a council member of the Waterkeeper Alliance, a nonprofit organization focused on clean water, suggested restricting tourists for the time being and planned tourism to ensure the island makes a recovery. "There are so many development projects being implemented like sand dragging, LNG terminals and coal power project hubs along the country's coastal regions. The world's longest (natural) sea beach, Cox's Bazar, started experiencing beach damage, and Saint Martin's Island (will be) no different very soon due to the unplanned development work," he added.

National action plan

Mohammad Sulaiman Haider, director (planning) of the Department of Environment, also acknowledged the poor situation on the island, blaming unplanned tourism and a lack of awareness among tourists. "The water of Saint Martin's Island has been contaminated, and the presence of harmful bacteria including E. coli have been found as human waste gets mixed with the island water from the resort and hotels there," Haider said. High-ranking government officials are aware of the situation on Saint Martin's Island and effective and immediate measures will be visible soon, he added. "The government has taken an action plan with support from the World Bank and is waiting for final approval from the prime minister's office. Once approved, a major change will be there in the implementation phase."

URL: <https://www.yenisafak.com/en/world/unplanned-tourism-damaging-bangladeshs-only-coral-island-3586870>

Bangladesh: Cage fishing revolutionizes rural economy in Narsingdi

Through the highly-profitable cage fishing, an ingenious method devised by local scientists to boost efficiency as well as production, young farmers have been changing their fortune for the better all over Narsingdi. District Fisheries office sources said a significant number of young farmers in Narsingdi Sadar, Raipura and Monohardi upazila have been farming Monosex Tilapia fish in floating cages in the Meghna River and its tributaries for the better part of the last decade. Meanwhile, farmers from Monohardi upazila have been doing the same in the Arial Kha River for the last seven to eight years. Raihan Sarker of Dattapara area in Narsingdi municipality first started cage fishing experimentally in the Meghna River in 2011 with only four cages. After getting positive results, he then expanded his venture. Currently, he has 150 cages from which he is able to produce 300-400 kg fish from each cage every four months.

Inspired by Raihan's success, over 350 young farmers have currently engaged themselves in cage fishing in Sadar, Raipura and Monohardi upazila. District Fisheries officer said cage fishing has opened up a new chapter in the fisheries sector. He said cage fishing is highly profitable as a farmer from one cage (10x10x6) can produce 400-500 kg Tilapia fish every four months. Tilapia is sold at Tk100-110 per kg in the local wholesale fish market, he said. He added a farmer can easily make an average profit of Tk1 lakh with just one such cage in one year. The fisheries officer also said that cage fish farming has brought a revolutionary change in the rural economy of Narsingdi district, creating employment for rural farmers and fulfilling the local demand for nutrition.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/12/24/cage-fishing-revolutionizes-rural-economy-in-narsingdi>

Bangladesh: Can pangasius sector comply with sustainability certification?

Despite being a leading aquaculture producer, new research published in Aquaculture Reports shows that Bangladesh is lagging in farm-level certification. This is especially true for pangasius, which accounts for 18 percent of the country's aquaculture production. The study surveyed 150 pangasius farms across Bangladesh and gathered data on their day-to-day operations, and assessed their environmental integrity, governance and worker well-being. The researchers adapted sustainability criteria from the Aquaculture Stewardship Council (ASC) and the Sustainability Assessment of Food and Agriculture (SAFA) framework from the FAO to create 57 farm-level indicators. The results show that only 35 percent of these sustainability and quality indicators were met at the "best" or "good" level. In addition, most of the "best" and "good" results were seen on production and economic indicators (47 percent), while environmental and social indicators lagged significantly (40 percent and 29 percent respectively).

According to the study authors, Bangladesh's pangasius sector must redouble its efforts and improve its governance, environmental protections and social dimensions going forward. One way to ensure compliance with certification schemes is to adopt a "cluster farm management" approach. This would cluster agribusinesses, farmer cooperatives and processing plants together at the local level and have them adhere to unified production standards. The researchers say that clustering pangasius producers with other supply chain actors would facilitate communication between farmers and processors. This would strengthen the industry at the farm level and allow the supply chain to comply with environmental and social criteria in certification schemes. Improving these production parameters could also allow Bangladesh's pangasius sector to extend beyond the domestic market and enter the country's aquaculture export portfolio.

Why sustainability certification matters

Aquaculture certification schemes are being used as a market-based tool to minimise the potentially negative environmental and social impacts of farming. These schemes usually audit farm-level and processing practices and provide third-party verification for the fish's value chain and quality, which in turn allows farmers to sell their fish at a price premium. Certification schemes also boost consumer confidence in the aquaculture industry. Thus far, Bangladesh has lagged in developing and implementing farm-level sustainability certification, despite its potential benefits. When it comes to the pangasius industry specifically, most producers are not able to adhere to practices like farm registration, compliance with water and land regulations or labour laws. The industry doesn't do many value-adds or product development for processing, either. These lax standards are translating into low returns for farmers, despite an increasing market demand for sustainable pangasius.

Why clustering could work

The researchers say that grouping farms and farmer organisations in the same area allows them to share the same resources and communally agree and execute certain production standards. This would facilitate communication and potentially unify some administrative procedures (government registration, health plans, etc). Since a significant portion of sustainability indicators are related to farming regulations, improving farm-level administration and reporting could establish a production baseline that the schemes can track and engage with. Farm clusters can also be formed in connection with processing plants. This type of partnership could enhance farmers' business activities and give them additional influence in the value chain. Case studies from Vietnam show that establishing local clusters has facilitated the uptake in sustainable technologies in the shrimp and pangasius sector – there's reason to believe this could work in Bangladesh as well. In addition to the local cluster solution, the researchers say that Bangladesh's Department of Fisheries (DoF) could host training in best management practices (BMPs) with its contract farmers. Information on sustainability certification and BMPs would be more widely disseminated if the DoF targets farming clusters. It could also lay the groundwork for improving the industry's governance. In a best-case scenario, the DoF could take the lead and act as a point of contact and implementation for sustainability certification.

URL: <https://thefishsite.com/articles/can-bangladeshs-pangasius-sector-comply-with-sustainability-certification>

Bangladesh: Resiliency in a changing climate: “We are building dreams from ruins”

Sabuda Begum, 50, lives in Gobindapur, a village on the banks of the Ichamati River in Bangladesh. She lives with her husband and has three adult children, two daughters and a son. Their village is underwater for half of the year. Gobindapur's landscape is constantly changing as a result of climate change. Flash flooding, cyclones, and erosion have made it impossible to earn a living through crop cultivation. Local knowledge of farming techniques is dwindling and becoming obsolete as persistent waterlogging in the Ganges floodplain have driven farmers to look elsewhere for work. With no other options, Sabuda and her family have been forced to work low-paid jobs that involve heavy manual labor.

The Climate crisis is a hunger catastrophe

“We have experienced many disasters,” says Sabuda. “Cyclones, floods, and erosion have destroyed our home more than eleven times now. Every year, we spend three months with our land underwater, and it takes another three months to dry out and get back to everyday life. We are trying our best, fighting with nature and loss.” Mosel, Sabuda's husband, is in his mid-70s, and he has always worked hard to provide for their family. Still, they struggled. Sabuda also found work as a day laborer to earn additional income. The work was seasonal and often inconsistent. “My husband got paid 250 Taka (\$2) per day. I got 100 Taka (less than \$1), because women always get less than men. We worked the same hours, did the same work, like digging the canal, working in the field, or working in the embankment. Our lives were miserable. I could not educate my children, because we had no money to support them after providing food.” “We were deprived of nutritious food, and so we were suffering with health problems. We could hardly get rice and salt during the days when we had no work. We could not grow anything in

our yard because we did not have any savings. We had no idea how to grow vegetables or raise livestock...I had no idea how we could change our lives.” Action Against Hunger and the Soneva Foundation work together in Bangladesh to help communities like Sabuda’s adapt to climate change. We’re teaching families new skills and offering business training, as well as how to increase their food production at home by using climate resilient farming methods. This dual action plan ensures that families can access nutritious food either from their gardens or with their income. Sabuda learned of Action Against Hunger’s project while she was digging a canal in their community. She and her husband both attended the training programs. “We have learned how to grow vegetables in our yard, fishing, and have our cattle.

In the beginning, we were afraid as it’s tough to grow crops or vegetables due to the constant rain and salinity of the water. But my husband encouraged me.” The family received 3,020 Taka (\$35) to grow vegetables at home, as well as 13,020 (\$150) to start a fish farm. They worked hard from dawn until dusk to make the most of the training and investment they received. “Our entire family got involved in growing vegetables and working in the pond. With our constant effort, our vegetable garden grew bigger. After keeping some vegetables for our family, I sell vegetables to our neighbors.” “We are now self-sufficient. It feels good to get fresh vegetables, and now we do not have to depend on others. My husband and I both work in our pond, vegetable garden, and make fishing nets.” “My only son helps us in our pond. By selling fish, we saved enough to buy cattle. I have chicken and a cow. Our lives have transformed so much,” says Sabuda. Before, when her daughters would come home to visit, Sabuda could not afford to treat them well. “Now, every time my daughters visit us with my grandchildren, I serve fish from our pond and cook vegetables. My grandson Mahfuz is six years old, he is going to school now, and we can provide for his education.”

A Stronger community

The families in the village who participate in the program formed a support and learning group, bringing the community even closer together. “Every year we picnic together and share our joys and triumphs. We shared information and were encouraged to grow vegetables and crops. It feels satisfying to see how other families of my village are doing good like us and can provide for their minor children.” Mosel’s health has improved, and Sabuda feels much better, too. They work hard, but the work is not as physically demanding as when they were day laborers, and they can take rests when they need to. Now, they are saving to build a new house. “If we have not received this support, we have no idea what we could do with our lives. Despite all hardship, we have our vegetable garden, our fishing farm, we can provide for our family. Our life has been transformed.”

URL: <https://reliefweb.int/report/bangladesh/resiliency-changing-climate-we-are-building-dreams-ruins>

Bangladesh: Fisheries sector visible presence in landscape

Fisheries sector visibly reappeared in Bangladesh’s cultural landscape with its efforts to restore the nation’s “machhe-bhate Bangali” or “fish-rice” tradition as fish production nearly doubled in

the past 12 years. According to fisheries department officials, fish now accounts for 60 percent of riverine Bangladesh's protein demand, against 17 percent of the global average, as fish reappeared as the Bengalis ancient food item. "On the eve of 50th anniversary of the independence we are now self-sufficient in fish production . . . Fisheries sector has emerged as one of the most productive and dynamic sectors of deltaic Bangladesh economy," Fisheries and Livestock Minister SM Rezaul Karim said. He said the sector witnessed revolutionary changes in the last 12 years which he attributed to various government initiatives including the adoption and proper implementation of the Fisheries Act. "Establishment of fish sanctuaries and beel nurseries, release of fish fry, proper management of marine fishery resources, development of fish landing centres and improved management system for inland open water are contributing to the increasing fish production," he said. Karim said extra attentions were given for conservation of mother and juvenile hilsa resulting in its higher yield as Bangladesh is the largest producer of the fish of this particular species. Fisheries department officials said the sector continued to witness over five percent growth in the last 12 years while the government set a target to enhance both the "culture" or "cultivation" and "capture" or open water fisheries by 20 percent within 2025.

"We set a goal in the eighth Five Year Plan (2021-2025) to increase overall fish production by 20 percent in next four years taking different initiatives," Department of Fisheries (DoF) director general Quazi Shams Afroz told correspondent. In 2020, UN-Food and Agriculture Organisation (FAO) report on State of World Fisheries and Aquaculture, Bangladesh ranked third in open water or capture water fish production and eighth and 12th in crustaceans and finfish production. Bangladesh was declared self-sufficient in fish production in 2016-17. According to official data, the fisheries sector contributes 3.5 percent to Bangladesh GDP, while about 26 percent of the country's total agriculture income comes from the fisheries sector. DoF director Azizul Haque said fish cultivation now accounted for 57.38 percent of consumed fishes while some 27.72 percent were coming from rivers and open waters and the sea providing the rest 14.9. He said Bangladesh consumed and exported over 45.52 lakh tonnes of fish in 2020-2021 while the production volume was increasing every year at a steady rate of five percent. DoF officials listed their steps for enhanced fish production as expansion and modernization of fish farming, promotion of environment-friendly shrimp cultivation, intensified campaign for hilsha conservation, protection of fish sanctuaries and wetlands for better fish habitats and breeding grounds. The precious hilsha is produced only in 11 countries while Bangladesh tops their list in terms of its availability while DoF officials said they were proceeding with a calculated target to boost production of the species as well. The DoF statistics showed that Bangladesh produced 5.5 lakh tonnes of hilsha in 2020-2021 while independent researchers expect the figure could be increased over 7 lakh tonnes if the fish species could be protected during its pre-mature stage spearheading an intensified conservation campaign.

"We are simultaneously working to save critically vulnerable fish species through fish sanctuary management," Haque said. DoF statistics suggests that fisheries sector is the direct or indirect livelihood means of some 1.95 crore people or 12 percent of the country's population, 14 lakh of them being women. The data shows the sector creates scopes of livelihood for about six lakh people every year, indicating the sector's growth. "We have set as well a target to increase fishermen and fish farmers' income by 30 percent by 2025 under different initiatives like offering technical services to farmers and entrepreneurs," Haque said. DoF officials said under

Prime Minister Sheikh Hasina's directives fisheries sector was incorporated as a key arena Vision 2021 and Vision 2041 while she referred to Father of the Nation Bangabandhu Sheikh Mujibur Rahman's fascination for fish and aspiration for the sector's development. "Prime Minister Sheikh Hasina's government continued to adopt appropriate conservation, development and sustainable production policies and strategies for the promotion of fisheries," the fisheries minister said.

URL: <https://dailyindustry.news/fisheries-sector-visible-presence-in-landscape/>

Bangladesh: US keen to provide support in fisheries and livestock sector

The United States is interested to provide assistance for the fisheries and livestock sector in Bangladesh. The interest came when a delegation of the US Embassy in Dhaka paid a courtesy call on Fisheries and Livestock Minister SM Rezaul Karim at his Secretariat office here on Sunday afternoon. Megan M Francis, agricultural attaché, of Overseas Agricultural Services, US Department of Agriculture, working at the US Embassy in Dhaka; and Tanvir Mahmud Bin Hossain, Overseas Agriculture Specialist at the US Department of Agriculture; were present, among others. During the meeting, Rezaul said: "We have friendly relations with the United States...there are many opportunities to work together on issues of mutual interest."

He said the two countries have opportunities to exchange experiences and cooperate in the fisheries and livestock sectors. There is also an opportunity for technology exchange between the two countries, Rezaul said, adding that the Bangladesh government is working to develop the country's agriculture and fisheries and livestock sectors, while the two countries can undertake a joint plan to this end. Francis said Prime Minister Sheikh Hasina is a visionary leader and she is playing a vital role in addressing the impacts of climate change.

The US Department of Agriculture may work with the government of Bangladesh to address the risks of climate change and exchange information in this regard, she said. Francis said there is ample opportunity for Bangladesh and the United States to work together to increase mutual cooperation in the fisheries and livestock sectors.

URL: <https://www.theindependentbd.com/post/271447>

Bangladesh: Immense potential of seaweed

The coastal population in Bangladesh are gradually taking up cultivation of seaweed as a new source of livelihood due to its rising demand in the local and international market. During a visit to Cox's Bazar, it was seen that a couple of women were cultivating seaweed at Rejukhal, a tidal canal with saline water into Bay of Bengal. They set a long queue of bamboo poles along the waterway, which is an artificial method of growing seaweed. In addition to men, a significant number of women in Cox's Bazar are also getting involved in seaweed processing and marketing as a new source of livelihood. Women are very much used to processing seaweed abundant in Nuniarchar, Hajipara, Rejukhal area of Cox's Bazar sadar upazila. They are also involved in

marketing of the seaweed. The raw seaweeds are usually sold at Tk60 per kg and the dry ones at Tk200 to Tk250. The ethnic minorities in different upazilas of Cox's Bazar and Chittagong Hill Tract are the main consumers of seaweed in the country right now.

Potential in Bangladesh

Due to easy access to labour and a huge coastal zone with 480km of coastline and 25,000 sq-km of coastal area, Bangladesh can be one of the biggest seaweed producers in the world in the future, according to scientists, experts and local farmers. The Food and Agriculture Organization of the United Nations (FAO) says seaweed farming is one of the fast-growing aquaculture sectors globally with an annual production of about 33 billion tons, valued at \$11.8 billion. This is anticipated to double within two years. "Bangladesh currently produces some 400 tons of seaweed, valued at Tk55 million," said Mohammad Shah Nawaz Chowdhury, associate professor, Institute of Marine Sciences and Fisheries, University of Chittagong. "Production can be easily increased more if the government and private organizations come forward," he told Dhaka Tribune. According to a study titled "seaweed for blue economy in Bangladesh", seaweed production in Bangladesh could be increased to 50 million tons from shallow coastal waters by 2050. However, people across the country hardly know about seaweed. There are also many misconceptions and social stigma among the coastal communities.

What the experts say

Researchers have been promoting seaweeds with scientific data to remove the negatives around this sector with huge potentials. According to the experts, seaweed is healthy for human bodies, skin, the environment, and the economy, and there is much potential in Bangladesh to develop commercial cultivation. "Seaweed grows in saline water and can be easily cultivated. As a result, there is ample opportunity for seaweed to be used locally as well as for export," said Md Shah Nawaz Chowdhury, associate professor, Institute of Marine Sciences and Fisheries, University of Chittagong. "Seaweeds are being used in the production of a wide range of items, including food, medicine, cosmetics, fertilizers, biofuels and products to prevent environmental pollution," he told Dhaka Tribune. "There is huge potential for seaweed production in Bangladesh to support nutrition security, livelihoods, as well as exports to meet global demand," said Md Ruhul Amin Talukder, additional secretary of the Ministry of Agriculture. Attending a workshop in Cox's Bazar, he said: "Seaweed is highly nutritious. We need to create awareness among the general public to include it as a daily food item. Robert D Simpson, FAO representative in Bangladesh, said: "Seaweed is a great resource of the sea. It can be eaten and processed as an ingredient for a wide range of items, including medicine, cosmetics, fertilizers, biofuels and products to prevent environmental pollution." He said: "This project has demonstrated the viability and potential of commercial seaweed cultivation, processing, and marketing in Bangladesh. "We will work with the government and other partners to exploit the potential."

A rising trend in Cox's Bazar

Farmers say it takes only a month to harvest seaweed. However, cultivation is suspended during the rainy season due to high tide. "We invest Tk20,000-30,000 in a season to cultivate seaweed and get a return of Tk80,000-90,000. It provides a great support for our family," said Nasima

Akhter, a seaweed farmer in Nuniarchara area of Cox's Bazar. "My husband and elder son also help me with the processing and selling of the seaweed as they are unable to deposit such an amount working as a day labourer," she added. Nur Nahar, a seaweed farmer in Hajirpara area of Cox's Bazar Sadar, said: "By investing Tk80,000-90,000 in cultivating seaweed, we can earn more than Tk1.5 lakh." Like them, many local farmers are getting interested in cultivating seaweed. "Cultivation of seaweed is being expanded as it gradually becomes popular among the local community and tourists," said Dr Kabir Uddin Ahmed, a scientist at Bangladesh Agriculture Research Council (BARC).

Government and non-government interventions

Experimental cultivation of two species of seaweed first began at Saint Martin's Island in 2010. Since 2016, Bangladesh Agricultural Research Institute (BARI) has been cultivating seaweed in the coastal areas of Cox's Bazar. The FAO and the Ministry of Agriculture recently completed a joint pilot project that aimed to kick-start the country's seaweed industry. As a part of its efforts to popularize edible seaweed as well as its use in cosmetics, the FAO recently organized a fair to showcase seaweed products made by local farmers and entrepreneurs. It also distributed 25 carts of seaweed to food entrepreneurs in Cox's Bazar. According to FAO, the project trained 120 farmers in seaweed culture and processing, 40 participants in seaweed-based food production, and 20 participants in creating seaweed-based herbal cosmetics. More than half were women. "The farmers, who got the training, have gained the ability to expand the cultivation of seaweed in Bangladesh," said Nur Ahmed Khondaker, assistant FAO representative in Bangladesh. "A new development project proposal is being prepared for expanding cultivation of seaweed," said Dr Kabir Uddin Ahmed, a scientist at BARC.

URL: <https://www.dhakatribune.com/bangladesh/agriculture/2021/12/17/immense-potential-of-seaweed>

Bangladesh: Study backs value of country's prawn and shrimp farms

The University of Stirling's Institute of Aquaculture and partners conducted the study over four years, collecting quantitative and qualitative data from 240 households and 160 shrimp-prawn farms in four different communities. Contrary to criticism in recent years of the impact of export-driven prawn and shrimp farming on communities and the environment in Bangladesh, the study found that a relatively small volume was exported, providing important income for communities, and other fish production had a low impact on the environment, while providing crucial nutrition. The researchers found that only 20-40 per cent of all farmed aquatic animals – the shrimp and prawn – were destined for export, with a high diversity of other fish being produced, sold and consumed locally in mainly small-scale enterprises.

"There has been very little research into the detail of what's happening on the ground in Bangladesh, to counterbalance global discourse about food security and trade liberalisation. There has been criticism of the effect of prawn and shrimp export on communities and the environment," said PhD researcher Abdullah-Al Mamun, lead author of the study. "This study is important, because it shows that the family-driven, polyculture system currently in operation in

southwest Bangladesh actually safeguards household nutrition and income, whilst requiring far fewer inputs than the intensive systems in operation in other places, making it better for the environment,” he added in a press release. The researchers used an interdisciplinary approach to gather data at household level. Four areas of gher dikes (where rice, fish and vegetables are grown together) were studied: high saline (coastal), medium saline, low saline and freshwater (inland). Forty households farming fish from each area were chosen at random, and underwater biodiversity was measured. Dr Mamun said: “As well as prawn and shrimp, we found 52 other fish species growing in the water across the four areas, which is surprisingly diverse, as well as a range of vegetables. “The prawn and shrimp for export brought in the highest price for households. The other 52 fish species and the vegetables were consumed and sold locally. “We found 60 per cent of households were farming fish and the other 40 per cent were indirectly linked – either employed by farms or along the supply chain – so aquaculture is incredibly important to people in southwest Bangladesh.” The study also found that very few inputs were needed to grow the fish, making the impact on the environment low.

“Ninety per cent of these farms were extensive – ie with a low stocking density and relying on food produced naturally in the pond rather than on artificial feed, irrigation, energy or electricity,” said Dr Mamun. “In the freshwater area, hatcheries were being used to produce finfish, but in the saline areas, the finfish grew naturally.” The researchers studied 60 households from each of the four areas, asking local leaders to place families on a scale from rich to ultra-poor. Better off and poorer households that had at least one adolescent girl present were then sampled. Dr Mamun said: “Women, adolescent girls and infants are the most vulnerable in terms of getting their proper share of food. We measured how much food each family member got from the pot, in terms of protein, energy and food group. We calculated how much food each should receive, depending on their energy expenditure, and found that adolescent girls were still receiving ten per cent less food than they should be. “We also mapped the nutritional profile of what they ate, analysing biomarkers from a finger prick test. Interestingly, the girls in the high saline areas showed a higher level of a crucial fatty acid – EPA and DHA – showing that the coastal fish that they could access is more nutritious. “While the prawns and shrimp were exported, they actually had lower nutritional value than the finfish retained for local consumption. But the exported catch gave financial strength to households.” The study was overseen by Professor Dave Little at the Institute of Aquaculture. He said: “The data-set in this study was of an extremely high quality. The results send a clear message that consumers can safely eat Bangladeshi shrimp, knowing they are also supporting local people being able to eat more nutritionally valuable seafood.”

The study involved two nutritionists – Professor Baukje de Roos from the Rowett Institute at the University of Aberdeen and Nanna Roos, associate professor at the Department of Nutrition Exercise and Sports (NEXS) at the University of Copenhagen. It was funded by the Commonwealth Scholarship Council, UK, and the EU Sustaining Ethical Aquaculture Trade (SEAT) research project, supported by UK Aid’s Innovative Methods and Metrics for Agriculture and Nutrition Actions (IMMANA) programme. Minister of State for South Asia and the Commonwealth, Lord Ahmad said: “The UK Government is pleased to be supporting this Scottish research, bringing new insights into how prawn and shrimp fishing benefits communities and can combat climate change. “This high-quality study will have a major impact in how we approach future development work by challenging long-held assumptions about

smallholder fish farming, as opposed to more intensive commercial farming. “University of Stirling’s work will enable us to look at ways to protect a vital part of Bangladesh’s economy, which offers climate-resistant livelihoods and highly nutritious food security to more than 38 million people.”

URL: <https://thefishsite.com/articles/study-backs-value-of-bangladeshs-prawn-and-shrimp-farms>

Bangladesh: ‘Climate change actions must be gender sensitive to address the existing inequality in the society’

Farah Kabir, the Country Director for ActionAid Bangladesh (AAB), is one of the leading voices in the fight for climate justice in the country. In this interview, Kabir spoke about the work her organization does in relation to climate change, as well as on issues related to climate justice.

Can you give us a brief overview of what Climate Change related works ActionAid Bangladesh does in the country, and if this is among your main areas of focus?

ActionAid Bangladesh decided to prioritize climate justice back in 2008 when the organization realized that the issue was proving detrimental to its development and humanitarian response work. It started from the perspective of disaster risk reduction and disaster preparedness but then was swiftly moved on to resilience building, adaptation as a part of our project interventions and climate justice as a part of the advocacy at both national and global levels. The organization does activism, campaigns, advocacy, and training, organizing dialogues and conferences. We also have strong communication and working relations with youth networks, women networks and South Asian networks.

As someone who has been working for climate justice for a long time, how do you define or how do you frame climate justice?

Climate Justice is about picking up equity-ness. We want people to understand how climate change affects different communities based on their gender, location, economic condition, or even political position. Also now we unanimously agree that climate change has become a global crisis because of the development paradigm and approaches of the rich countries initially, and then the following of the same model by the developing countries of the south. So there is a responsibility agenda here. We want to make sure there is differentiated responsibility and differentiated actions that need to be taken by different countries. We feel strongly that the commitment to keeping the emission levels below 1.5C should be at the centre of all the thinking and action. It is important wherever there is technology, knowledge and tools, it should be shared and not limited to only the rich because the impacts of climate change don’t select anyone or leave anyone behind.

ActionAid Bangladesh is supporting the ‘EarthWalk’ campaign to rally up support and solidarity in order to push leaders to take action at COP26. What are your thoughts on this?

We are trying to take up different campaigns to make sure the agenda of climate justice remains on the table and the global leaders understand what the demands are. Through the EarthWalk campaign, we want to rally up support, solidarity and put our demands in front of the global leadership at COP26. People from different countries, from the north to the south will be marching with the same demands.

What are some specific actions that ActionAid Bangladesh is taking to ensure climate justice for the most vulnerable communities?

Action Aid Bangladesh mainly focuses on the adaptation side as a solution for climate change impact. The organization is also doing some policy advocacy and campaigns. Supporting the communities to build up their resilience and listen to them and understand the indigenous knowledge they have and how to utilize them to address some of the climate change issues is another objective. ActionAid Bangladesh has also been advocating for Gender justice as an essential ingredient of climate justice. The organization has represented Bangladesh in the sessions on Gender and Climate Change at multiple COPs. Since 2016 AAB has lobbied with the Bangladesh government and facilitated the coming together of non-government actors on this issue, leading to the engagement of relevant ministries as well as the PPPA recently.

We are actively making our demands to our political actors at the national level. As I said earlier, climate justice has been one of our agendas since 2008. We were there, involved in the advocacy for setting up a national fund, something Bangladesh celebrates in being one of the first countries in doing so. Then we were involved in the national adaptation plan, and now in the Nationally Determined Contributions (NDC). In all of these areas, we are trying to take the learnings from the communities and put them at the table for the leaders to understand and formulate policies based on that.

What are the key aspects to work for or focus on in climate justice?

When we are working regarding climate justice, we want to make people understand there is an existing inequality in the society, infrastructure, institutions and systems. So when we now take any action or design any program it has to be gender sensitive. It has to understand how climate change impacts women and girls, and how young people are losing out. If you constantly have to move, you basically become a climate refugee. These have traumatic impacts, which is why we want to keep talking about these issues with policymakers and also at the same time we want to find innovative ways to address them. It is not enough just to raise awareness. You have to give the people the information and tools to deal with it also.

Drawing from your experience and the work ActionAid Bangladesh has done, what do you think are the major hurdles in achieving climate justice?

The major hurdle is that the fossil fuel industry is very strong. They haven't worked or committed enough to realize the Paris Agreement. The emission level hasn't gone down. Then, the targets that have been set up speak of 2030 and 2050 but the world is already burning, already being flooded. We have seen wildfires burning from California to Australia, which is why we need serious commitment. We need to ensure that the \$100 billion per year proposal

actually materializes, and the money is used for adapting, mitigating and loss and damage. Infrastructures won't sustain in the face of constant disasters. How will the private sector's factories and infrastructure survive? So there has to be vulnerability assessment, risk planning and anticipatory action for all stakeholders involved.

Do you think COP26 can play a crucial role in climate justice going forward?

We are all putting our hopes on COP26 but we also have to be realistic. There have been some good initiatives and there have been encouraging statements from different parts of the world but at the end of the day seeing is believing. Once we see the action, the commitment, then next year I can tell you COP26 was a success. But for COP26 to be a success, they must have participation of women, young people and marginalized communities. Given the long history of government inaction and avoidance, it may be too ambitious to expect too much from COP26. We want global leaders to come forward and say these are our commitments, these are our actions and they should be target-bound, time-bound; and clear monetary figures should be mentioned. Having said that, this must be for the women, girls and young people because they are being affected the most, we all are being affected but their futures, in particular, are so uncertain. The planetary crisis has become an existential crisis.

URL: <https://www.dhakatribune.com/climate-change/2021/12/07/climate-change-actions-must-be-gender-sensitive-to-address-the-existing-inequality-in-the-society>

Bangladesh: Blue Economy and the opening of new horizons

The sea is called the lungs of the earth. The land beneath the sea is a world full of diversity and abundance of life. Professor Gunter Pauli, an Australian citizen, gave the first idea of ??the huge economic potential. In 2010, at the invitation of the United Nations, the idea of ??formulating an environmentally friendly sustainable economic framework was expressed in his speech. Blue economies are the water resources of the oceans, the resources of the oceans and the economies that surround the oceans. Blue Economy means the color of the sea is blue. That is why the sea-centric economy is called Blue Economy. The main components of Blue economy are mineral resources, water resources, transportation services, energy resources, tourism industry etc. The planned use and sustainable development of these will bring huge potential to the maritime economy. Like other countries in the world, Bangladesh will be able to use its marine resources for economic development. Bangladesh has already established absolute sovereignty and sovereignty over 1,17,173 square km of waters from the International Court of Justice (ICJ) on March 14, 2012 over the dispute over the Bay of Bengal with Bangladesh and Myanmar through historic sea conquest. The mineral resources of the Bay of Bengal in the south of our country are not found in any other sea or bay in the world and it is said that whoever controls the Bay of Bengal will control the whole of South Asia. That is why the superpowers are trying to occupy the Bay of Bengal.

Blue Economy is becoming more and more popular in the world at present. By 2050, the world's population will be about 950 million. We have to lean towards sea resources as we are forced to provide food to this huge population. The developed nations of the world are already harnessing

marine resources and increasing their economic growth. Ninety percent of Indonesia's national economy is dependent on the sea, and the government has already taken steps to ensure that, if implemented successfully, the value of resources extracted from the sea would be 10 times the budget. Australia currently earns 44 billion from their marine resources. Now the question is what are the future prospects of blue economy in the dark bay of maritime resources of Bangladesh, how will Bangladesh be able to create employment through blue economy and what will be the future economy of Bangladesh ?? There is a gulch like area in the Bay of Bengal in Bangladesh, which is about 6 km long and is known as a fish sanctuary. There are 450 species of fish, 337 species of snails and oysters, 6 species of turtles, 36 species of shrimps, 10 species of dolphins and 5 species of lobsters in the Bay of Bengal. These include the economic demand for snails, snails, shellfish, crabs, octopuses, and sharks, and are widely considered as food in many countries. There are also marine weeds, creepers, shrubs. Medicinal weeds from the Bay of Bengal are processed to make medicines for various diseases and among these weeds, *Espirulina* is the most valuable which is consumed as food in China, Japan and various European countries. It is possible to make different types of sauces, bitumen, etc. from marine fish with food, fish oil, which will result in employment and earn huge amount of foreign exchange. There is also a lot of demand for tuna fish in the Bay of Bengal. According to the Bangladesh Atomic Energy Commission, the total mineral reserves in the beach sand are 4.4 million tons. Of this, the actual stock is 16 lakh 44 thousand tons. Out of 16 types of minerals in the Bay of Bengal, there is a possibility of extraction of 1 million tons of mineral sand in 13 places. Molybdenum, manganese, crust, copper, lead, zinc, sulfide are found in the deep sea floor and raw material clays of cement industry have been found 30 to 60 km deep in the bottom of the sea.

Monazite is a very valuable substance in mineral sands and is used in atomic bombs and nuclear reactors. At the bottom of the Bay of Bengal there are ores called manganese edible, phosphorus deposits, polymetallic sulfide. These ores refine rare metals, including cobalt and lead, and can be used in shipbuilding and chemical plants. There are also gems, pearls, gold, silver, corals and other precious gems. Precious metals uranium and thorium have been found in the deep and shallow seas of the Bay of Bengal. It is expected that 1-5 metric tons of salt will be exported if advanced technology is used in the production of good commercial salt along the coast. Black gold is found in Maheshkhali, Teknaf, Nijhum Island, Kuakata in Cox's Bazar which is affecting our economy. There is darkness in the gas field in the Bay of Bengal. There are 200 trillion cubic feet of gas reserves in 23 blocks of the Bay of Bengal from which crores of rupees can be earned. There is potential tourism industry around the Bay of Bengal. Various industries will be formed around this industry and there will be huge employment. Millions of tourists will flock to enjoy the natural beauty of the Bay of Bengal. There is a possibility of increasing international trade through the Bay of Bengal. Bangladesh is already building international standard ships and exporting them abroad and at present Bangladesh is in the 3rd position in ship exports. The ship breaking industry is also gaining popularity in the world. Businesses can be expanded locally and internationally through the resources extracted from the sea. The demand for local products in Cox's Bazar and Kuakata markets is high among tourists. Demand for this specialty has grown significantly as a result of recent corporate scandals.

The Blue Economy is not only the expansion of the ocean economy, but also the opening up of eco-friendly new horizons by mitigating the risks of climate change. In addition, the role of the sea in poverty alleviation, increase in capital flows, investment-friendly environmentally friendly

infrastructure development, reduction of unemployment, job creation, elimination of regional and gender disparities and sustainable development is immense. About 80 percent of human food and livelihoods and world trade is handled by sea. It is possible to implement the Blue economy by making proper use of the resources of the Bay of Bengal in Bangladesh. The Bay of Bengal is considered as the “mine of gems” of Bangladesh. The Bay of Bengal, the heart of South Asia, is of great commercial importance as it is easy to communicate with different countries. The Government of Bangladesh has already set up an “Oceanographic Research Institute” in Cox’s Bazar district to take the Blue economy forward. Again, maritime economy has been given priority in the master plan of Bangladesh Delta Plan-2100. The Blue Economy Cell was formed in 2014. Therefore, with the proper utilization of the resources at the bottom of the Bay of Bengal, the wheel of Bangladesh’s economy will turn and the future has bright aspects.

URL: <https://moderndiplomacy.eu/2021/12/07/blue-economy-and-the-opening-of-new-horizons-in-bangladesh/>

Bangladesh: Chalan Beel’s dried fish producers worried over supply crunch

Fish is seen drying under the open sun at the Mohishluti warehouse in Tarash upazila of Sirajganj. Although dried fish has good export value, production has been halved this year due to high input costs. The photo was taken recently. PHOTO: Ahmed Humayun Kabir Topu Dried fish producers of Chalan Beel which spreads across Pabna, Sirajganj and Natore districts have been left frustrated this year as their production levels have been halved by high input costs amid a scanty supply of local fish varieties.

Around 47 rivers and other water bodies flow into Chalan Beel, the biggest static waterbody in Bangladesh’s northern region, making it a favourable location for fish processes and exporters. For all latest news, follow The Daily Star’s Google News channel.

“I used to dry about 1.5 tonnes to 2 tonnes of fish every day but now I am not getting more than 1 tonne daily,” said Md Shukur Ali, a wholesale trader based in Mohishluti market of Sirajganj’s Tarash upazila. Around 200 maunds to 250 maunds (one maund equals around 37 kilogrammes) of fish are processed each year for both the domestic and international markets at Mohishluti, one of the country’s biggest sources of dried fish.

“Last year, I produced 10 tonnes of dried fish which were sold in Indian markets but this year, I have no scope to produce even four tonnes or five tonnes of dried fish,” Ali told The Daily Star. Due to the lack of supply from Chalan Beel, dried fish producers are being forced to buy fish at high costs from other regions. “And as a result of the soaring production cost, we are failing to catch the international market,” Ali added. Dried fish producers mainly process local varieties of fish, with the smaller ones of the barb species of the family Cyprinidae, in Bangla called “puti maach”, having high demand in Indian markets.

“So, we mainly produced dried puti for supplying to Indian markets in the last few years but due to scanty supply from Chalan Beel, the buyers from Sayedpur are reluctant to purchase them at higher prices,” said Md Alom Ali Mollah, another dried fish wholesaler. Dried fish traders of Chalan Beel supply their products to the wholesale market in Sayedpur upazila as there are many

major merchants in the region who export it to India. But due to a scanty supply of the main raw material, most processors have cut their production. “After experiencing continuous loss, I am not producing dried fish anymore this year,” said Md Nasir Uddin, a dried fish trader.

Uddin went on to say that dried fish producers mostly conduct their business from October to December but the lack of rain in the monsoon season this year has led to poor fish farming. However, Md Abul Kalam Azad, the district fishery officer, told The Daily Star that it was not a lack of production, but rather extensive marketing that caused a shortage of fish. “Fish production in Chalan Beel has not faced any detrimental effect, rather fish farmers sell their produce in different markets across the country due to huge demand,” he said. “Besides there are many sheds established in different areas for making dried fish due to the international demand, so the fish market has grown,” Azad added. Not only at the commercial level, several thousand smaller fishermen in Chalan Beel and its adjoining areas produce dried fish in their households to sell the product in different districts during winter, said various sources.

URL: <https://www.thedailystar.net/business/economy/news/chalan-beels-dried-fish-producers-worried-over-supply-crunch-2909896>

Bangladesh: Satkhira’s Protapnagar where woes know no bounds: More than 5,000 people have moved elsewhere

“We had everything but river erosion has made us destitute. We could not do anything but watch it all and shed tears,” she added. Fatema is among 36,000 residents in the Pratapnagar union who have been waterlogged in saline water for the last 18 months. Consequently, the main source of income of the people – crops and fish production – has stopped. As many as 5,000 people have moved elsewhere and those who are still staying here run their families with their savings. Experts have said climate change is causing frequent floods and severe tidal surges, endangering the lives and livelihoods of millions of Bangladeshis. New areas are losing their fertility due to saltwater aggression on the coast. Cyclone Amphan on 20 May 2020 caused the collapse of the embankment on the River Kholpetua and washed away the agricultural lands and fishing grounds of Pratapnagar and adjoining Sriula union in saltwater. The affected people are yet to recover from the loss. On 26 May 2021, the embankment on the Kholpetua broke under the impact of the effect of Cyclone Yaas. Although 14 out of 15 erosion-affected points were repaired, the dam in the forest area of ??Pratapnagar has not been repaired to date. As a result, the saltwater of the river is flowing through the vast locality of Pratapnagar. Saddam Ghorami of Pratapnagar village used to live with his family about one kilometre away from Kholpetua. A month and a half ago, everything, including land owned by the family, was eroded by the river. At present, the family is staying in a roadside hut. Saddam said thousands of people like him have become homeless as the damaged dam in the Bonnotola area has not been repaired yet.

Faruk Hossain has been living in a rented house in Rupsha upazila with his family since he lost his house and around 1.5 bighas of land through river erosion. “I used to earn by transporting people on rented motorcycles but at present, I pull a van for a living. I have lost everything. If I ever get a chance to go back to the area, I will return,” he said. As a result of the waterlogging, fishing and farming, the two main professions of the locals, has come to a stop. A huge area of

agricultural land and shrimp and other fish enclosures have been devoured by the river. Reduced to a state of destitution after losing everything, many have sold their cattle and other belongings in order to maintain their families. Some people have changed their professions. Fish farmer Saidur Rahman said he had fish enclosures on 15 bighas of land which have gone underwater. “I have no income now. Many people have migrated to other places but I cannot do that as I do not have the kind of money required to settle somewhere else,” he said. Ashashuni Upazila Fisheries Officer Saikat Mollik said, “In Pratapnagar union, 1,300 farmers have 1,477 fish enclosures on 1,530 hectares of land, which have been completely damaged by Cyclones Amphan and Yaas. The farmers have incurred a loss of more than Tk15.30 crore in the last 1.5 years.” Rajibul Hasan, Agriculture Officer of Asashuni Upazila, said, “The agriculture sector in Asashuni has been devastated due to natural calamities. Protapnagar union has suffered the most.

No agricultural products have been produced in this union since Cyclone Yaas hit the area. Earlier, paddy was cultivated on 220 hectares of land in the union. The level of salinity has increased as river water enters the locality. There is no possibility of normal agricultural production being undertaken soon.” Protapnagar Union Parishad Chairman Zakir Hossain said, “Almost all of the 36,000 people in 8,118 families in the union have suffered from natural disasters. Some have lost their homes or agricultural land while others have lost fish farms or other businesses. It is not possible to solve this problem without sustainable embankments on the coast. People do not want food, they want sustainable dams.” “Farmers used to grow crops and vegetables on their land and sell them after meeting their family needs. At present, they can neither grow anything nor afford to buy produce from others. Having no employment and income, over 5,000 people have migrated to other areas,” he added.

URL: <https://www.tbsnews.net/bangladesh/districts/satkhiras-protapnagar-where-woes-know-no-bounds-335737>

Bangladesh: Call for easy policy to tap blue economy potentials

Untapped opportunities in blue economy:

So far, Bangladesh penetrated about 12% of the total fishing zone in deep sea.

Arranging trips for international cruise liners requires permissions from scores of government agencies

An integral approach to sustainable use of marine resources is needed

Business owners call for

Policies conducive to business

Abolition of laws that hinders public sector participation

Subsidy for fuel

Long term loan facility with reasonable interest

Rationalisation of corporate tax for local and foreign investors

“We have to make policies which are conducive to business. We have laws which dictate that goods bought with government funds must be carried by government vessels. I think this is contradictory to the policies of the incumbent government of Bangladesh. We need to amend such laws to ensure private sector’s participation along with public enterprises,” said Azam J Chowdhury, chairman of Bangladesh Ocean Going Ship Owners’ Association, at the session titled “Blue Economy: Discover the Future” in the International Investment Summit 2021 on Sunday. “The vast resources of blue economy have mostly remained untapped. We are benefitting ourselves from only a fraction of it. We will need an integral approach to ensure sustainable use of these resources in various industries,” said Foreign minister AK Abdul Momen, who was the chief guest at the programme organised by the Bangladesh Investment Development Authority (Bida) at hotel Radisson Blu Dhaka Water Garden. “The harsh reality is that Bangladesh is still far away from realising its potential in deep sea fishing. So far, we have only penetrated about 12% of the total fishing zone. That means 88% area is still untapped,” said Momen.

“The global shipbuilding market size is around \$600 billion, according to the World Trade Organisation (WTO). If only 1% of that market is captured by Bangladesh, it will be worth \$6 billion,” he continued. “In spite of the existing demand, Bangladesh shipbuilding industry has not flourished to the expected level,” he added. While presenting the keynote paper at the event, Maritime Affairs Unit Secretary Rear Admiral Md Khurshed Alam, said, “The blue economy can change the whole picture of the economy of Bangladesh – not only the part involving fish or mineral resources. By utilising marine resources, various industries, including tourism, shipbuilding, deep sea fishing, container, medicine, and cosmetic industries, can be developed.”

He said the marine economic zone of Bangladesh is equal to 81% of the mainland. Bangladesh was awarded an additional 19,467 square kilometres of area in the Bay of Bengal in 2014, but it has not been able to realise its full potential to develop a blue economy yet, said the experts. Tawfiq Rahman, general secretary of Pacific Asia Travel Association (Pata) Bangladesh Chapter, who arranged the first ever trip by an international cruise liner in Bangladesh in 2017, said, “We had to take permission from more than 40 government agencies and ministries to arrange the trip. It is very tough for an individual entrepreneur to obtain so many permissions.” He urged the authorities concerned to make a one-stop solution centre to facilitate arranging such tours, which will make maritime tourism stronger. The speakers at the seminar urged the government to eliminate obstacles in operating businesses to encourage private and foreign investments in various sub sectors of the blue economy, including shipping, ship-building, tourism and industrial fishing. Bangladesh Marine Fisheries Association President Nurul Qayyum Khan said it is vital to develop technology, skilled manpower, joint venture for fisheries survey, and public-private partnership projects for tuna fishing to attract local and foreign investment in fisheries resources of Bay of Bengal. Besides, subsidy for fuel, long term loan facility with reasonable interest and rationalisation of corporate tax for local and foreign investors is also necessary in this regard, he added.

URL: <https://www.tbsnews.net/economy/call-easy-policy-tap-blue-economy-potentials-336016>

Bangladesh: LDCs to demand continuation of fisheries subsidies

Bangladesh has joined other least-developed countries (LDCs) to demand the continuation of partial fisheries subsidies as nations are set to agree to new rules for the industry and limit state support contributing to unsustainable fishing and the depletion of global fish stocks. Talks on the fisheries subsidies at the World Trade Organisation (WTO) have remained stalled since 2001 for the overfishing and overcapacity by a number of countries. Fisheries subsidies need to be continued for the LDCs at least for capacity-building, technology upgrade, purchase of ships, training, and developing human resources, as the fisheries sector has become a major source of jobs and economic development, said Hafizur Rahman, director-general of the WTO Cell under the commerce ministry. “The LDCs have already agreed to place the demand for the continuation of fisheries subsidies at the 12th WTO Ministerial Conference.” The conference will take place in Geneva between November 30 and December 3.

Bangladesh’s mission in Geneva is negotiating with other LDCs in favour of the continuation of the fisheries subsidies, at least partially so that the livelihood of low-income people is secured as their lives are largely dependent on fishing, said Rahman. The commerce ministry has already sent Bangladesh’s position to the Geneva mission. The creation of fisheries subsidies disciplines has been the subject of work in the WTO’s Negotiating Group on Rules since the Doha Development Agenda was launched in 2001. That mandate was elaborated in 2005 at the Hong Kong Ministerial Conference, including with a call for prohibiting certain forms of fisheries subsidies that contribute to overcapacity and overfishing. At the 2017 Buenos Aires Ministerial Conference, ministers decided on a work programme to conclude the negotiations by aiming to adopt an agreement on fisheries subsidies at the next ministerial conference. Based on the mandate from the last ministerial conference and the UN Sustainable Development Goal Target 14.6, negotiators in the WTO were given the task of securing an agreement on disciplines to eliminate subsidies for illegal, unreported and unregulated fishing and to prohibit certain forms of fisheries subsidies that contribute to overcapacity and overfishing, with special and differential treatment for developing countries and LDCs integral to the negotiations. Declining fish stocks threaten to worsen poverty and endanger coastal communities that rely on fishing, the WTO says.

At a meeting of the negotiating group on November 8, the chair of the fisheries subsidies negotiations, Ambassador Santiago Wills of Colombia, introduced a second revision of the draft negotiating text to be used as the basis for discussions among members aimed at resolving remaining differences ahead of the upcoming ministerial meeting. Bangladesh, along with other LDCs, has also decided to seek zero-duty trade benefit for nine years, from 12 years initially thought about, for the countries that graduate from the group. For the last few years, the LDCs have been lobbying the WTO for a trade benefit for 12 years. But the developing and developed countries are not agreeing to the idea of extending duty benefit for 12 years. “So, we have changed our position. Now, we will demand it for nine years,” said Rahman. The LDCs also want the value-addition of manufactured goods to be fixed at 25 per cent for them to qualify for

the duty benefit under the Rules of Origin, down from 40 per cent demanded by the developed and developing countries. “This is also included in the main agenda of the WTO Summit,” Rahman said. Bangladesh is lobbying with other countries, multilateral platforms and regional trade blocs to attain duty-free trade benefits as the country is set to leave the LDC group in 2026. The European Union will continue the current duty privilege for three years after graduation.

URL: <https://www.thedailystar.net/business/economy/news/lcds-demand-continuation-fisheries-subsidies-2231021>

Bangladesh: Sundarbans fishers still tangled in web of oppression by local influentials

The anglers can finally move freely inside the forest now that the robbers are gone. And all this has been possible because of my contributions, Kamal Uddin Leader of the Sahebs. Reaching deep inside the Sundarbans, one will be taken aback to see mobile banking agents at such a remote place. But their set-ups inside the forest do a lot to help thousands of anglers, who build temporary houses there during fishing season. During November every year, at the onset of winter, the remote island of Dublar Char located at the southern border of the Sundarbans, facing the Bay of Bengal becomes vibrant with the footprint of around 30,000 deep-sea anglers and people engaged in fish drying. They stay in the island for five months, braving natural disasters and other hardships. Over the last three years, their numbers have only risen, thanks to the surrender of 32 robber gangs in 2018. On November 1 of the same year, the Sundarbans was declared “robber-free” by the government. During this time, the anglers’ and fish driers’ business have steadily increased. However, a new hurdle impedes further growth of their trade.

With the robbers gone, their place has been taken by a group of influential people, widely known as “Saheb”. Currently, the situation at the island is so grave that no one dares to sell a single fish or fishing boat without the Sahebs’ permission. When this correspondent visited Dublar Char early this month, locals claimed there are 15 Sahebs in the island, who mainly take permission from the forest department for fishing inside the forest for the season. After obtaining the permits, they’re handed over to the anglers, but there’s a catch. The permits are given only to those anglers who agree to take a loan from the Sahebs and sale their fish to them. Contacted, Divisional Forest Officer Mohammad Belayet Hossain said they give out permits this way to ensure discipline in the forest. “This year, Kamal [Kamal Uddin alias Kamal Mama, leader of the Sahebs] and his group got 985 permits from us,” he said. Each permit costs Tk 10,000, said forest department sources. Talking to this newspaper, Kamal Uddin refuted all allegations, saying he was not involved in any kind of irregularities. “The anglers can finally move freely inside the forest now that the robbers are gone. And all this has been possible because of my contributions,” he claimed. Despite this, the island’s fishing industry has seen a steady increase in revenues. According to forest department data, the government Tk 3.22 crore in revenue for the 2020-21 financial year. This was Tk 2.73 crore in 2019-20 and Tk 2.46 crore for the 2018-19 fiscal year. This is a sharp rise when compared to the stats of prior years. In 2015-16, the revenue was Tk 1.70 crore, while in 2016-17 it was Tk 2.28 crore.

Forest officer Belayet said this is mainly due to the surrender of the robber gangs, which has no only brought peace to the island but also attracting more people to it during fishing season. The

government collects Tk 500 for every quintal of dry shrimp, while for other types of fish, the rate goes up to Tk 2,000 or even Tk 2,500, said Belayet. Beside this, the forest department also charges Tk 50.52 for living in the island during this five months. However, it is free to build and live in a makeshift house in the island, or using open spaces to dry fish, the officials said. But even here the Sahebs barge in. Iqbal Sheikh, who set up a hotel in the island, claimed that they have to pay Tk 3,000 to Tk 4,000 to the Sahebs for each shop set up here, depending on size. “The Sahebs justify this by claiming they collect the amount to pay to the forest department,” Iqbal told this correspondent. However, forest officer Belayet said they are not aware of any such exchange. Over the years, Dublar Char has become a lively little island, especially during the fishing season. For a place so remote, its New Market boasts everything from kitchen items, mobile financial service providers, to electronic stores. Locals said life has been getting better here after the robbers’ headed out in 2018. But with the Sahebs posing a new kind of menace over the island, it seems like the good life is still a mile away for them, they said.

URL: <https://www.thedailystar.net/news/bangladesh/news/the-dominion-sahebs-2231096>

Bangladesh: The women on Bangladesh’s climate front lines

Battered by extreme weather and rising seas, coastal Bangladesh is on the front lines of the climate crisis. But even within inundated communities, not everyone feels the impacts in the same way.

The riverside and coastal communities of Khulna district in southwest Bangladesh are locked in a continuous rebuild. Each new storm brings lasting damage, breaking flood defences and allowing seawater to seep in during the twice-daily high tides.

Photographer Zakir Hossain Chowdhury returns to these communities frequently. His photo series below explores how women are withstanding the climate crisis, and the ways they experience its impacts differently – from an uneven hunger burden and longer treks for drinking water during lean months, to the hidden health risks from living on land increasingly flooded by seawater.

For Hosneara Begum, it is the hot, dry months of March, April, and May that are the hardest: Saline contamination – made worse by rising seas and storm surge – forces her to walk about two kilometres further to collect fresh water for her family.

“We wait for the rainy season, because at this time we can drink the rainwater,” she said.

Women are responsible for collecting water in Begum’s community. They also often eat less when food supplies are short – putting the needs of their children or husbands first.

“Women suffer more from climate implications in Bangladesh, due to their lesser social standings than men in the patriarchal societies,” said Raihanatul Jannat, a Bangladeshi researcher whose focus at the University of Eastern Finland includes gender and climate law.

Many coastal households say soil salinity has worsened, making it harder to grow crops. Some men, the traditional breadwinners in the family, are moving further away to search for jobs.

Saltier drinking water drives up health risks, especially for women: In Dacope, a riverside sub-district of Khulna, research from the Grantham Institute at Imperial College London found a link between contaminated drinking water and hypertension in pregnant women. Hypertension is a leading cause of maternal deaths.

Separate research from coastal Bangladesh suggests that women have less access to information and resources to help them adapt.

“Women are the ones who are left behind,” said Runa Khan, who heads Bangladesh’s Friendship NGO, which focuses on issues like healthcare and food security in riverine and coastal communities. “In times of greatest danger, they are the forgotten ones.”

The early damage: A storm’s barrage

A woman inspects her former home, which was destroyed after Cyclone Fani tore through parts of coastal Bangladesh and India in April and May 2019.

Better disaster preparedness – including rapid evacuations and networks of cyclone shelters – has significantly reduced casualties during powerful cyclones in South Asia. But the damage to infrastructure and livelihoods can be severe and long-lasting.

Anita Rani Mondol saw her home destroyed by Cyclone Amphan in May 2020. The 68-year-old couldn’t find another place to settle, so she set up a makeshift tin shelter on a narrow embankment in southwest Bangladesh’s Khulna district.

Hardships multiply: Searching for drinking water

A woman tries to bring her cattle to higher ground after Cyclone Yaas damaged nearby embankments on the Shibsa River in May 2021, allowing saltwater to flood her home and land.

Flooding after Cyclone Yaas forced Shilpi, 13, to travel longer distances to find drinking water. The storm damaged her area’s embankments. Daily saltwater floods now inundate the local freshwater pond, making it undrinkable.

Rebuilding: Mud embankments to hold back the sea

Women work to build mud embankments in Dacope, part of Khulna district. The embankments are meant to protect their homes and land from being flooded with saltwater during high tide. But the embankments are fragile, and are poor defences during powerful cyclones or storm surge.

Women and men work to repair damaged embankments after Cyclone Yaas struck Bangladesh in late May. The storm, which traced a similar path to previous cyclones such as 2019’s Fani and

2020's Amphan, caused only a handful of casualties. But there was extensive damage to land and livelihoods, including these embankments that usually keep high tides at bay.

Slow recovery: A shelter, then a home

Shondha Rani, 62, rests inside a primary school serving as a storm shelter in Khulna district, after Cyclone Yaas damaged her home in May. While sturdy emergency shelters are meant to protect communities, they sometimes become longer-term homes when families can't afford to rebuild.

Rani says continuous floods have damaged or shrunk her cropland from roughly three hectares to about a half. There's far less land for her animals and crops, and saline intrusion has made what remains less productive.

"We used to raise cows, ducks, and chickens," she said. "Now, we don't even grow grass year after year."

Repeat losses: A home destroyed four times

Meri Chitra, 37, sits with her niece in front of her submerged riverside home in Khulna district following May's Cyclone Yaas. It was the fourth time she has lost her home due to disasters like storms or erosion. Women work long hours fishing or doing chores in brackish water, which causes health problems like skin disease and uterine inflammation, said Chitra, who works for a local NGO. Men have to travel further away to find work as disasters multiply. She said the repeat damage makes it harder to earn a living, and child marriage has risen as families struggle to cope.

"Due to climate change, women suffer a lot here," she said.

URL: <https://www.thenewhumanitarian.org/photo-feature/2021/11/10/women-coastal-Bangladesh-climate-change-front-lines>

Bangladesh: MC12 and its implication for Bangladesh as a graduating LDC

The 12th Ministerial Conference of World Trade Organization (WTO), the highest tier of decision making organ of WTO, is going to be held on November 30-December 3, 2021 in Geneva, Switzerland. The MC12 was supposed to be held in June, 2020 at Kazakhstan's capital. It could not be held because of the Covid-19 situation. The 12th Ministerial Conference will be chaired by the Minister of Trade and Integration of Kazakhstan as per the decision of WTO members in 2019.

The agenda has been discussed and other preparations of the conference are about to be completed. The Ministerial Conference is set to give momentum in WTO activities which were almost at a standstill since the last few years. The Ministry of Commerce, Bangladesh as the lead Ministry is working in preparation for the conference as there are specific issues from which

graduating LDCs may derive some payback. This is the first Ministerial conference for Bangladesh where the country is going to join as an announced LDC graduated country — a situation both prestigious and challenging. Bangladesh now needs to play its cards very carefully as the state of affairs has been shifting very fast, with the emergence of Covid19. Now the 163 member countries of WTO are well aware and careful in attaining their benefits from the negotiating table of this high powered rule-based organisation.

One of the main important issues on the agenda is the elimination fisheries subsidies for illegal, unreported and unregulated fishing and prohibit those subsidies, while overfishing and over catching is evident causing major ecological, economic and social damage. Fisheries sector in Bangladesh contributes significantly to the Gross Domestic Product (about 4 per cent of GDP and 22 per cent of agricultural GDP) and creates employment for marginal people representing almost 7 per cent of the world's inland fish production. About 1.4 million people full-time and another 12 million part time marginal people are engaged in this sector. From several studies it is seen that marine fisheries currently account for about 20 per cent of the total fish production in Bangladesh, and the rest comprises inland capture and cultured fisheries. We consider the discussion of fishery subsidy as important for Bangladesh.

Another very important aspect is the LDC submission for smooth transition package in favour of members graduating from the LDC category, circulated on October 17, 2021 at the request of the delegation of Chad on behalf of the LDC group. Since the creation of LDC category, in 1971, only six countries have managed to leave the category. However, in recent years the trend has been accelerated.

Now 16 countries formally meet the graduation criterion, of them four countries scheduled to leave the LDC group are— Angola, Bhutan, Sao Tome & Principe, and Solomon Islands by 2024, these are small island countries with small population. Another Five including Bangladesh, Kiribati, Lao PDR, Nepal and Tuvalu have been recommended for graduation by the Committee for Development Policy (CDP) and endorsed by ECOSOC by 2026. The graduation of Myanmar and Timor-Leste have been deferred. Cambodia, Comoros, Djibouti, Senegal and Zambia have been graduated for the first time. Another ten countries have already met one graduation criterion at the 2021 triennial review. It means that graduation path of 26 LDC countries is on the way, of which 19 are WTO members. Only nine LDCs will be waiting for the next phase of graduation among WTO members. It is presumed that the number of graduating LDCs will increase in future. Thus participation of LDCs in the WTO needs to be more meaningful and effective.

In December 2020, the LDC group circulated a draft Ministerial decision. The topic was on trade-related challenges of the LDCs and way forward. The text proposed a formal smooth transition procedure in the WTO, by extending all support measures benefitting LDCs for a period of twelve years after their graduation. The submission requested for gradually phasing out their preferential market access scheme after graduation. It has received support from a wide range of WTO members. However, in the WTO process final consensus on such a package in a limited time is not possible. Given the critical importance of the topic and to achieve a concrete decision in the MC12, graduating LDC group is proposing an interim arrangement in the hope of gradually phasing out their preferential market access benefit over a period of six to nine years. In view of this, a draft decision proposes to instruct the sub-committee for LDC to prepare a

package of support measures in favour of LDCs after their graduation and report to the general council at its first meeting in 2023. It means, in principle, it has been agreed that any support package will apply unconditionally and equally to all graduated LDC. It may get further momentum in the UN LDC-V conference scheduled in January 2022. The decision on the agreement will definitely have a great contribution for graduating LDCs in view of the difficult situation they have come across.

Another important submission from developing countries is negotiation on Covid product patent waiver. The submission tried to establish the fact that there should not be any Covid monopolies, TRIPS waiver should be there. India and South Africa put forward the proposal to lift IPR barriers and ensure greater equity in access to any vaccines. This is an important issue that could serve the interest of the less developed nations for vaccinating their people.

Vaccine policy is the key to sustainable economic trade recovery. DG, WTO in the Covid-19 global summit on September 22 said that a sustainable economic and trade recovery can only be achieved with a policy that ensures rapid global access to vaccines. In her speech, she said that it is not acceptable that 58 per cent of the population in developed countries are fully vaccinated, while in the low-income countries barely 1.0 per cent people are vaccinated. It was also mentioned that mostly rich countries and some emerging markets have rebounded strongly, but other countries are being left behind. According to IMF, advanced economies will grow at 5.6 per cent this year, compared to only 3.9 per cent for low-income developing countries.

In order to combat Covid impact, especially to address the poor countries' situation, there is a strong need for withdrawing export restrictions and address raw material shortages. Transfer of know-how and technology as well as factors influencing decisions on licensing intellectual property are also critically important. In order to keep the supply chain open and predictable, there are provisions of waiver in the Trade-Related Intellectual Property Rights Agreement of WTO, pertaining to vaccines and other products. These provisions are needed to address the Covid impact. Bangladesh can join the discussion. Gifted with a strong pharmaceutical sector, it can utilise the capacities available in the country.

Another most discussed agenda supporting developed countries is the moratorium for electronic transmission. India and South Africa circulated a communication to the WTO General Council arguing that WTO moratorium on electronic transformation can have catastrophic impacts in developing countries. According to an estimate of UNCTAD in 2017, the potential tariff revenue loss to developing countries due to moratorium was USD 10 billion. Also there is a debate whether the moratorium would be applicable to electronically transmitted goods and services or only applicable to the transmission only.

Literally, electronic transmission means any form of communication not directly involving the physical transmission of paper that creates a record which may be retained, retrieved and reviewed by a recipient thereof and that may be directly reproduced in paper form by such a recipient through an automated process. If the scope of moratorium includes digitised and digitisable goods, a list identified, includes a wide range of goods such as– cinematographic goods, pamphlets, maps, newspapers, journals and periodicals, post cards, personal greetings message and announcement cards. Also in the list there could be video grams, computer soft

wares, musical records, tapes and other sound or similar recorders etc. Bangladesh needs to follow these issues carefully as the country has a huge manpower engaged in this sector and will increase further in the era of the fourth industrial revolution.

There are some reform submissions, plurilateral agreements and submission on MSME issues. A package has been developed to help small businesses globally. Some of these are— inclusion of MSME information in WTO trade policy review, global trade help desk for MSME, trade facilitation for MSMEs, consultation with MSMEs before new trade facilitation, integrated database access to finance and cross border payments. All these are much needed for MSMEs in Bangladesh. We need to contribute to the negotiation carefully. Strong public-private collaboration is a must to achieve results for the trade and business of the country.

URL: <https://thefinancialexpress.com.bd/views/views/mc12-and-its-implication-for-bangladesh-as-a-graduating-ldc-1636639006>

Bangladesh: Fishing in Bay: Stymied by poor catch, lengthy ban

For the past three years, the government has been imposing 65 days of fishing ban in the exclusive economic zone (EEZ) of Bangladesh at Bay of Bengal. Although the ban — imposed every year from May 20 till July 23 — is intended to protect and increase fish population, it has no significant impact on fish population in the Bay throughout the rest of the year, said fishers based in Pirojpur.

They said the ban in Bangladesh EEG alone cannot ensure an increase in fish population, as fishers in neighbouring EEZs of India and Myanmar continue to net fish during the ban period, right along the Bangladesh maritime boundaries. In addition to the 65-day ban, the local fishers also have to refrain from fishing in the sea for another 22 days, around October-November every year, to protect the breeding of hilsa — the most sought-after fish in Bangladesh and West Bengal of India. Both the fishing bans, amounting to almost three months, fall within the eight peak months of fishing season that usually runs from mid-April to mid-November.

But their catch in the remaining five months — when fishing trawlers are allowed to fish in the sea — has been lower than the usual over the past several years, said both fishers and trawler owners. Fishing trawler owners said they bear the expense of a voyage with money loaned from moneylenders, such as fish wholesalers, and the money to repay the loan and payment for the fishers comes from profit made from sale of fish netted in a particular voyage. But over the past several fishing seasons, most of their voyages have not been producing much profit due to poor catch, resulting in failure to pay their fishers, let alone repay the debt, they added.

“We get a cut of the profit only if the trawler owner makes profit after meeting all expenses,” said fisherman Sibul Das, from Tona village in Pirojpur Sadar upazila. Before heading out to the sea on a voyage, the fishers loan money, known as ‘dadon’, from trawler owners and leave the money with their family for their household expenses. That debt continues to pile up as they cannot repay the loan with the meagre income they have been making from fishing in the sea, said another fisher Ismail Hossain.

When the fishers' families struggle without cash during the periods of fishing bans, the only government assistance they get is in the form of rice, which is not enough for even a four-member family. Many of them tried changing their profession for survival, but it is difficult to learn a new trade when they spent most of their lives learning how to fish in the sea, Ismail lamented. Bimal Chandra, a fishing trawler owner, also from Tona village, said, "After spending over TK 1.5 lakh on a voyage to the sea, a fishing trawler oftentimes returns without expected fish." The threat of pirates has been eradicated — thanks to the authorities; but the volume of fish being netted is falling significantly due to multiple bans during the peak season, he added.

In the last couple of years, he had to count Tk 10 lakh in losses, said another trawler owner Mohammad Shahjahan, from the same area. A fishing trawler costs Tk 35 lakh, but banks do not provide any loan assistance for the sector, he also said. Local fish wholesaler Iqbal Hossain, who often lends money to trawler owners, said, "Many trawler owners flee the area after failing to repay the loan. But the money is hardly recovered if the matter is taken to the court." Instead of imposing the 65-day ban, fish population in the sea could be increased by prohibiting the use of fine nets on improvised seagoing fishing vessels and by confiscating illegal fishing nets such as 'Behundi' in both sea and rivers near the coastline, said, Pirojpur District Trawler Owners' Association President Kamal Das.

Asked whether the 65-day fishing ban in Bangladesh EEG alone is helping increase overall fish population, Prof Hossain Zamal of Department of Fisheries under Faculty of Marine Sciences and Fisheries at Chittagong University, said more research is needed to ascertain the benefits of the fixed 65-day ban, from May 20 to 23 July, and the dates can be modified based on the research. Aside from strict enforcement of laws prohibiting illegal fishing nets to increase fish population, which in the long run would benefit fishers in the country, the authorities in India and Myanmar could be convinced through diplomacy to observe the 65-day ban in the Bay of Bengal at the same time with Bangladesh, he also said. Contacted, Pirojpur District Fisheries Officer Abdul Bari said the government has been looking to better assist the fishers with food assistance under various programs during the periods of fishing ban.

URL: <https://www.thedailystar.net/news/bangladesh/news/fishing-bay-stymied-poor-catch-lengthy-ban-2227876>

Bangladesh: Lack of support, data leaves blue economy untapped

Despite several initiatives to tap into the blue economy, lack of authentic secondary data and overfishing mean that none of the plans have seen light, speakers said at a virtual webinar on Thursday. Emphasising on the need for sustainable fishing management, speakers at the webinar titled "Blue economy: Realising the potential of marine fishing sector", also said Bangladesh needs a marine special plan and proper research survey vessel to boost the blue economy. At the event organised by Chittagong Chamber of Commerce and Industry (CCCI), chief guest Planning Minister MA Mannan said the potential of the blue economy in Bangladesh remained underutilised because of lack of technical and financial support.

Stressing on the need for technological support by the ministry concerned and investors, Mannan said for the sector to flourish, the focus should be on investment and to help investors with data so they can get a return. The blue economy is not only for fish or mineral resources, but it is related to all ocean-based industries and it can change the economic picture of Bangladesh. For this, proper planning and execution is needed, he added. In a PowerPoint presentation, it was said that Bangladesh had sovereign rights over almost 118,813sq kilometres in the Bay of Bengal.

Marine fishing comprised 15% of national fishing production. For the industrial side, there were 37 shrimp trawlers and 218 fish trawlers. Furthermore, there were 32,859 mechanised boats, 34,810 non-mechanised boats. Of the total 6.71 lakh metric tonnes of marine catch, 17% came from industrial fishing and 83% were artisanal. The fisheries sector contributed 3.50% to the national gross domestic product. The programme, presided over by Mahbubul Alam, president of CCCI, was also addressed by KH Mahbubul Hoque, additional director general and project director, Sustainable Coastal & Marine Fisheries Project, Department of Fisheries. He said the ministry had already given permission regarding the marine and industrial fisheries plans. In this fiscal year, the country will register 10,000 fishing boats and buy three special vessels for the tuna fish, he added.

URL: <https://www.tbsnews.net/economy/lack-support-data-leaves-blue-economy-untapped-328396>

Bangladesh: Hilsa net looks to get bigger; 5.45 lakh mts output likely next year

Experts said the hilsa production may hit 5.45 lakh metric tonnes if the government takes effective measures for conserving jatka (Hilsa fry). Dr Mohammad Anisur Rahman, a hilsa researcher and chief scientific officer at the Bangladesh Fisheries Research Institute, said, “Hilsas lay eggs round the year but mother hilsas come to rivers from sea and lay eggs during the ban period and then go back to the sea. So, it’s very important to ensure the uninterrupted movement of mother hilsas from the sea to rivers.” “During the breeding period, a mother hilsa usually releases 10-12 lakh eggs and this year, the new moon on the lunar phase occurred on October 6 while the full moon appeared on October 20 which is believed to be the right time of laying eggs. So, we’re getting the results from the ban,” he said. Dr Anisur also suggested taking steps to ensure the uninterrupted movement of mother hilsas from the sea to rivers and their safe spawning during the peak breeding season, stopping sand lifting from rivers and restricting hilsa netting during the ban period. According to a survey, this year 51.7 percent of mother hilsas laid eggs, setting a new record as it is .5% more than the previous year, he said.

Around 39,000 crore hilsa fry are expected to be found during the next season if the government can successfully preserve the jatka, he hoped. The government will impose an eight-month ban from November 1 on jatka catching and there will be a campaign in this regard, officials said. The government imposed the 22-day ban on catching, selling, hoarding and transporting hilsa from October 4 midnight with a view to ensuring the safe spawning of the popular fish during its peak breeding time. The objective of the restriction on fishing from October 4 to October 25 is to save the mother hilsas as they lay eggs during the period. According to the Ministry of Fisheries

and Livestock, hilsa production jumped from 3 lakh mts in 2008-09 to 5 lakh mts in 2017-18 and its production touched 5.33 lakh mts in 2019 thanks to the government for its various steps taken to give a boost to its output. Bangladesh's over 12.0 per cent fish production comes from hilsa, posting the highest contribution to the country's fish output as a single fish species. Hilsa, the national fish of Bangladesh, is recognized as a certified patented product of Bangladesh. The marine fish flies to rivers in Bangladesh to lay eggs. The fish is very popular both in Bangladesh and West Bengal. About 75 percent of the world's hilsa is netted in Bangladesh. Chandpur is considered one of the largest trading hubs of hilsa in Bangladesh as the fish from the Padma River is much more popular than the ones that come from other rivers because of its extremely pleasing taste.

URL: <https://unb.com.bd/category/Special/bangladeshs-hilsa-net-looks-to-get-bigger-545-lakh-mts-output-likely-next-year/81910>

Bangladesh: Fishery: What implications from and for climate change?

In the past 50 years, the number of marine extreme warming events, are estimated to have already increased by more than 50%. Nowadays fisheries and aquaculture not only represent a pillar of the world's economy but are also recognized as fundamental for the food security of 12% of the world's population, a percentage that goes up to almost 36% if we consider how many people rely, as a source of protein, on food coming from the ocean (FAO, 2020). In that sense, the situation is alarming, if we think that fishery is an industry that is already suffering the impacts of climate change. Indeed, the processes of acidification, changes in currents, deoxygenation, rising temperatures and pollution of the ocean are all already affecting fisheries, and are expected to be increasing in the coming years. The growth and the reproduction of certain organisms are affected by these changes in the marine environment, with a resulting reduction in the available populations of many commercial species. In the past 50 years, the number of marine extreme warming events, are estimated to have already increased by more than 50% (Smale, DA, et al, 2019), and these heat-waves are not only much more frequent but also heavier as individual events. Furthermore, all around the world, ocean temperatures are predicted to increase, by the end of the century, even 4°C above the current average temperatures (Laffoley, D. et al, 2016).

The global levels of ocean productivity are expected to decrease rapidly in the tropical and inter-tropical areas, affecting the possibility to fish locally, with the local fishing operations that have already been reduced by up to 40% (FAO, 2018.) Significant repercussions are expected for small islands and countries highly dependent on fisheries, such as Bangladesh, India, Vietnam, Indonesia, Angola, and Peru. This is also increasing inequalities between states. The ocean's productivity could increase in the Polar regions, but an increase of the fishing activities in northern countries such as Norway, Iceland, Alaska, and Russia, as well as around the North Pole, could overheat and pollute the area, leading to much more rapid melting of permanent glaciers, and therefore to even more changes to the natural ecosystem. The state of world fisheries and aquaculture — Meeting the sustainable development goals It is not just fish stocks safety that is at risk, coral reefs are also at risk due to climate change and pollution effects on the ocean, with nearly all tropical coral ecosystems that are expected to disappear by 2050. At first

instance, one may think that coral reefs are not a part of the human food chain, and therefore do not affect our food security. However, by functioning as nurseries for many species, protecting coasts from erosion, absorbing carbon and nitrogen, they are vital to many ecosystems, economies and food systems in the world, especially – but not limited to — those of small islands.

Bacterial and phytoplankton communities, even though also not directly related to human food security, are fundamental for the maintenance of the marine ecosystem, and are another thing highly at risk due to climate change impacts on the marine ecosystems. Adaptation measures in fishery and aquaculture are very much needed but, in current times, due to a lack of a targeted analyses of the sector's vulnerabilities to climate change and of those that are the risks associated to the impact of climate change, not many responses options have been thoroughly studied and even less have been implemented. This article, of course, is not intended to fill in that gap, but just to shed a light on the current and future issues regarding fishery. Moreover, not only we are not implementing strategies to reduce the impacts of climate change on oceans, and therefore on the fishery, but in many parts of the world we are also supporting an irresponsible, intensive, unsustainable, and oftentimes illegal fishing industry, which is contributing to oceans' pollution and to the devastation of fish stocks, coral reefs, seabeds, and is bringing, or has already brought, species to extinction.

Globally, the total amount of fish caught is nearly three times larger than what the oceans can handle; the fish that remain are unable, with reproduction alone, to replace all the specimens caught. 53% of the world's fishing areas are fully exploited, and 32% are in many cases over-exploited (FAO, 2020), impoverished or unusable because they are in a period of recovery from previous exhaustion, even if it is not certain that this recovery is possible. Mitigation and adaptation strategies for climate change impacts on fishery are very much needed, but also a shift in our diets, away from unsustainable produce, is essential to combat climate change and environmental degradation at a personal level.

URL: <https://www.dhakatribune.com/tribune-supplements/tribune-climate/2021/11/07/fishery-what-implications-from-and-for-climate-change>

Bangladesh: What climate summit means for one woman

Storms keep wrecking their coastal defences, and rising sea levels are pushing salty seawater into their wells and fields. Bangladesh is one of the countries hit hardest by extreme weather, and this vulnerable community is enduring exactly the kind of future that the COP26 climate conference in Glasgow is trying to avoid. It's also experiencing the painful reality of a key issue at the talks – how a promise of financial help for the poorest nations remains unfulfilled after 12 long years. And the story of one woman, Shorbanu Khatun, represents all that's proved least effective about international efforts to tackle climate change so far. I met her in 2009 when Gabura was still reeling from the aftermath of a cyclone that had left the village totally exposed to the waves. She and her four children were living in a makeshift shelter perched on a high narrow ridge, the only safe ground for about 5,000 people. At every high tide, seawater poured through gaps in a series of earth embankments meant to hold back the sea. Whenever they could, the men of the village

formed human chains to pass along handfuls of mud to fill the holes – mud was all they had, and it never really did the job.

‘Hopenhagen’

To highlight the plight of the village – and the needs of all developing countries suffering from climate change – Oxfam offered Shorbanu the chance to make her case on a global stage. She made the long journey to Denmark in December 2009 to the COP15 climate conference, the equivalent of the meeting under way in Glasgow now. When I saw her there, I asked what she made of the giant event – it was given the optimistic billing of “Hopenhagen”. “It’s good to be with all these big people,” she told me, and she seemed upbeat about the chances of them listening. And as it happens, while Shorbanu was in Copenhagen, the richest nations made a promise to the poorest countries – that by 2020 they would give them \$100bn a year to deal with the impacts of climate change. At the time, this was seen as a breakthrough offer because it signalled to developing nations that their needs and losses were being taken seriously. But 12 years later, that target has not been met and, as things stand, it won’t be until 2023.

‘Water everywhere’

So what does this mean for Shorbanu and the people of Gabura? A trickle of aid has reached them, but not remotely on the scale promised in Copenhagen, and much of the assistance that has got through was raised within Bangladesh. It has paid for sandbags to reinforce some of the mud embankments, though the biggest storms still break through. A new school has been built and, when cyclones strike, the concrete structure serves as a storm shelter. But all the time the rise of the sea, millimetre by millimetre, fuelled by the melting of the distant polar ice, contaminates local wells and keeps reducing supplies of drinking water. “There is water everywhere around us,” Shorbanu says, “but it doesn’t have any use. We have a serious crisis.” The nearest safe source is more than a mile away, at a solar-powered desalination plant built by the charity Oxfam, but reaching it involves walking in punishing heat and then carrying a heavy container back again, every day. Many people try to rely on water that’s closer at hand, but find it causes skin diseases because of the high salt content and – for women in particular – washing in dirty water increases the likelihood of infections.

Researchers are also investigating whether an increase in the amount of salt that women are drinking could explain the relatively high number of miscarriages in the region. Shorbanu, now aged 44, sounds more worried and desperate than ever. “We have no idea what we can do,” she says. “If people help us, then something can change. “We don’t have the money to move to other places. I have nothing that I can give to my children.” One of her sons now has a job on a shrimp farm. It’s a growing industry as fields are turned into ponds, but it creates shortages of locally grown food, exacerbating problems of malnutrition. What does Shorbanu most want from anyone who might read her story, especially the leaders deciding the outcome of the talks in Glasgow? She wants a strong embankment, which will not be destroyed so easily, and easy access to drinking water. But most of all, she says, she wants action: “We have suffered a lot – we do not want our children and grandchildren to suffer more.”

URL: <https://www.bbc.com/news/science-environment-59114449>

Bangladesh: Food system transformation and policy implications for the country

According to the recently concluded United Nations Food System Summit 21 (UNFSS21), realignment of food system is needed to achieve the Sustainable Development Goals related to eliminating hunger and malnutrition in all forms, poverty reduction and sustainable management of natural resources. Food systems constitute all the activities and entities that are engaged in ensuring sustainable use and management of natural resources used in food production to post-harvest processes, storage, food markets, processing, food trade, consumption, nutrition, and health outcomes for all participating in the food system. In Bangladesh agriculture plays an important role for rural and economic development and structural transformation. Food system in Bangladesh is transforming rapidly but the direction and the pathways for investment are not clear. Since independence, Bangladesh agriculture has moved from a primarily agrarian and low productive agriculture to a food self-sufficient economy through the adoption of green revolution technologies. This process reduced hunger and malnutrition, yet measures of malnourishment and hunger remain at unacceptable levels. By increasing productivity of crops and livestock, agricultural sector freed its underemployed labour force for other sectors such as manufacturing and services. These changes further expedited structural transformation in Bangladesh economy.

Even today Bangladesh agriculture remains crucial to its development as agriculture and allied sectors contribute to livelihoods, employment and income for a large segment of rural population. About half of the population depends on agriculture but this agricultural sector's productivity and income are low compared to regional and global standards. As a result, about 20.5 per cent people still lived in poverty in 2019-20. So, raising productivity of agricultural sector further is essential to reducing poverty and advancing structural transformation in Bangladesh. Transformation of its food system can play a key role in this process. Why should Bangladesh transform its food system? Bangladesh must transform its food system to address three ongoing trends: i) Changing demand for food commodities – more and more people are consuming high value commodities, and demand for processed foods is also increasing; ii) Changing demographics – a large segment of the population are youths and their preferences are different from older population. Urbanisation is also increasing at rapidly resulting in changes in the consumption pattern and marketing of the food commodities. iii) Climate change and frequent natural disasters require that the participants of the food system to become more resilient and manage their risks more prudently.

In all the above three areas, innovation can help farmers increase productivity and meet rising demand for food. Food consumption in Bangladesh has been increasing along with dietary preferences due to rise in income and urbanisation. As population increases, the demand for food will increase and as income of the people increases, demand for non-caloric foods including fruits and vegetables, animal products, dairy products, and fish will increase. As the productivity of agriculture sector increases, excess labour will move out of agriculture to manufacturing and services sector. This results in urbanisation which is a serious problem for Bangladesh. In Bangladesh, mostly men migrate to cities for work. This leaves a large portion of women to find for themselves in rural areas completely depending on agriculture for their livelihoods. Innovative programmes can help in increasing labour shortage in agriculture due to male

migration to cities and reduce the burden of women in agriculture. For example, increasing the access to rental facilities for mechanical equipment can help without compromising the labour-intensive nature of agricultural operations. Food system changes resulting from climate related shocks such as drought, floods, and extreme weather conditions, for example, will affect women disproportionately. Such changes call for food system realignment through policies and strategies. Other areas of agriculture such as intensive use of chemical fertilisers and plant protection chemicals can also be altered through policy and programme choices. These issues have high resonance with the recently concluded UN food system summit.

Yet, the follow up actions to the UNFSS21 in Bangladesh need discussion to set priorities for investments. Helping farmers cope with climate change and its effects on agriculture and food systems is another area where urgent action is needed. Building resilience of the food system through early warning systems and reducing farmers' risk from natural shocks through innovative insurance programmes can help, given that food production system in Bangladesh is rapidly moving towards high value agriculture. Investments such as early warning systems for extreme weather can help government agencies and agricultural producers prepare for such climate change. According to FAO, in 2019, timely information on floods in northern Bangladesh saved vulnerable communities and facilitated government functionaries to mobilise needed resources and supplies preventing major losses. In this context providing farmers with timely information on production, storage, processing, marketing, and process related information also becomes crucial. Protecting vulnerable farmers and making food system transformation inclusive requires moving towards digitisation of agriculture. Finally, food system transformation requires appropriate evidence based policies that support adoption of innovations for climate smart research and development. Market-oriented development through research and innovation is key for next phase of agricultural growth in Bangladesh. Investing in innovation, strengthening the capacity of institutions and pursuing policies for sustainable food system transformation can not only achieve the SDGS related to hunger, poverty and malnutrition, but can also help in increasing the resilience to climate change, restoring environment and biodiversity, and making the development process inclusive of gender, youth and vulnerable populations.

URL: <https://thefinancialexpress.com.bd/views/views/food-system-transformation-and-policy-implications-for-bangladesh-1635780148>

Bangladesh: Cyclones and salty water are a threat. These women are finding solutions

Sufia Khatun says big cyclones used to hit her community of Morrelganj, in southwest Bangladesh, once every quarter-century or so. Now, she says, “we experience a big cyclone [every] two to three years, a smaller cyclone almost every year.” The community needs stronger defenses from the assault of wind and water, she says; otherwise the region could become uninhabitable. What’s especially galling is the fact that it’s an unnatural disaster. The storms are more intense, and the sea has risen, because richer countries far away have released enormous amounts of heat-trapping gases into the atmosphere by burning coal, oil and gas. “We [in Bangladesh] don’t contribute even 1% of global [greenhouse gas] emissions,” says Ashish Barua, a program manager for Helvetas, a Swiss development organization that works in

Morrelganj. “I’m not making the problem, but I’m suffering. [It’s] what we call climate injustice.” This part of Bangladesh is a river delta, formed by a web of waterways that wind their way toward the Bay of Bengal. When the cyclones hit, the storms carry huge volumes of saline water upriver from the sea. The surge of water erodes levee-like structures known as embankments, flooding rice paddies and contaminating ponds that people have traditionally relied on for drinking water. “That saline water is impacting our crops, livelihood, fishing, everything,” Khatun says through an interpreter on an early-morning Zoom call.

As a result, she says, rice paddies that once delivered three harvests annually now lie barren for most of the year. Household gardens also have been damaged, depriving people of home-grown food. Chronic illness is on the rise because of contaminated water. With farming crippled, about 60% of the men in this community have left to find work elsewhere, she says. “Mainly they go to Dhaka, the capital city, or Chattogram. People even migrate to India, to Bangalore or Kolkata.” Khatun helps lead an organization called Mothers Parliament, which is pushing for better water infrastructure in Bangladesh’s coastal region. And if she had a chance to speak to the international climate summit currently taking place in Glasgow, Scotland, she knows what she’d say. Her demands don’t focus on reducing greenhouse gas emissions; she wants help dealing with the consequences of climate change that already are underway. “There are two clear demands,” she says, and they’re directed both toward Bangladesh’s government and international governments and charities. She wants help rebuilding embankments that are supposed to hold back the surge of saline water, preventing it from flooding fields and homes. Failing embankments are the root cause of the problem, she says. “If [they are] repaired and rightly maintained, then all other problems will be solved.” In addition, she wants better infrastructure for providing safe drinking water.

Her recipe for survival isn’t universally accepted, at least for the long term. Water experts still debate the merits of embankments and whether they can be an enduring solution to the area’s water problems. What’s undisputed, though, is this region’s need to adapt to a changing climate. In many ways, Bangladesh has made remarkable progress in adaptation. There’s now a system that sends out warnings of impending cyclones, and a network of sturdy cyclone shelters where people can find shelter. “We have the most effective cyclone warning and shelter program in the world,” says Saleemul Huq, director of the International Centre for Climate Change and Development (ICCCAD) in Dhaka. “Tens of thousands of people lost their lives in previous years. Nowadays, we can give warnings and evacuate people in the millions.” Researchers have developed new varieties of crops that are more suited to growing during seasons of the year when there’s less risk of flooding, and some that can tolerate more saline water, although Khatun says that only a small minority of farmers have received these seeds so far. Some villagers are growing home vegetables in raised containers, rather than in saline-contaminated soil. During the monsoon season, many are capturing and using clean rainwater. In fact, Bangladesh’s entire economy is a recent success. It has been growing rapidly, fueled by a growing textile industry in the larger cities. Life expectancy is up, as are measures of educational opportunity, and child mortality is down. The World Bank reclassified the country from “low income” to “lower-middle-income.”

With that growth comes increased energy use and greenhouse emissions. In fact, Bangladesh recently told the United Nations that in a “business as usual scenario,” the country’s carbon

dioxide emissions from energy would triple over the next ten years. The country still contributes only a tiny amount to global carbon emissions, but its share is growing. As climate change accelerates, though, the fate of its coastal regions remains deeply uncertain. “If we cannot repair the embankments, in the future the Morrelganj area will be completely off the map,” Sufia Khatun says.

URL: <https://www.npr.org/sections/goatsandsoda/2021/10/31/1049752700/they-call-it-climate-injustice-heres-how-sufia-khatun-of-bangladesh-is-fighting->

Bangladesh: Creating hilsa-friendly reserves

This year’s 22-day ban on catching and selling hilsa yielded more fruitful results compared to the previous years’. Beginning on October 4, the ban ended on October 25. Since its start in 2008-09, the countrywide ban on catching and marketing the national fish has been proving progressively effectual. In the beginning period 12 -13 years ago, the government ban enforced in a few hilsa producing districts was met with large-scale non-compliance. The fishermen, on instigation by a section of businesses and middlemen, vehemently protested the government directive. During the initial bans of varying lengths, the hilsa became a centre of agitation and wild speculations, which later proved baseless. Thanks to the relentless stance taken by the authorities concerned the ban started taking hold finally. The prohibition on catching mother hilsas, which swim upstream from the Bay of Bengal, and the country’s southern rivers, resulted in the continued increase in the full-grown fish populations. It is true the Fisheries and Livestock Ministry couldn’t promptly provide the hilsa catchers with their promised emergency food and monetary reliefs; but they eventually became a part of the system.

Years into the ban slapped on 38 hilsa-dominant areas and several others linked to the fish’s supply, the yearly ban could now be termed well in place. However, allegations of clandestine catching and hoarding are still there. So are the reports of raids by the law enforcers and seizure of fishing nets as well as arrests of those who defy the ban. It was after the detection of a drastic decline in the hilsa population that the government had decided to go tough on indiscriminate netting of the mother hilsa. The period the authorities chose for putting the ban into effect was the fish’s prime time of spawning. The period comprises the late monsoon months — from August to October. The three-month period is regarded as the peak hilsa season. Besides the prohibition on catching hilsa, the ban also covers a broad area of activities. It includes selling and transporting the most popular fish in the country. Apart from Bangladesh, hilsa is equally popular in the Bangla-speaking belts in the Indian states of West Bengal and Tripura. The fish enjoys a great demand among Bangladeshis and Bangla-speaking Indians living in North America, Europe and the Gulf countries. In tandem with its rising export potential, observers feel that the government ought to broaden its spotlight on the still-untapped prospects for hilsa export. According to the fisheries ministry, hilsa production jumped from 0.3 million tonnes in 2008-09 to 0.5 million tonnes in 2017-18. In 2019, the volume shot to 0.53 million tonnes. The hilsa zone comprises a vast swathe of the Indian Ocean.

According to marine biologists, hilsa (*Tenualosa Ilisha*) or shad is an adromous fish species widely distributed in the North Indian Ocean, mainly in the Bay of Bengal. Hilsa comprises 10

per cent of the total fish production of Bangladesh, with a market value of \$1.74 billion. Compared to other fishes, hilsa is still quite expensive for the low-income people. Even during the peak season, the fish enters the kitchen of the urban middle class people at long intervals. The scene was strikingly different 30 to 40 years ago. The reasons vary from overfishing, mindless netting of spawning hilsas and the fishermen's swoops on the hilsa reserves at the Meghna estuaries. Hostile activities have compelled the highly sensitive hilsa to desert their age-old spots of spawning. A ban has been in place. But a more effective one and awareness among the hilsa fishing community can stop the fish's migration permanently.

URL: <https://thefinancialexpress.com.bd/editorial/creating-hilsa-friendly-reserves-1635697247>

Bangladesh: Homestead fish ponds help meet nutrition needs: Study

Homestead fish ponds are playing an important role in catering to the country's nutritional needs while also developing its rural economy, according to a study by the Bangladesh Institute of Development Studies (BIDS). BIDS announced these findings during a seminar, styled "The Role of Homestead Fish Ponds for Household Nutrition Security in Bangladesh, held yesterday. The seminar was held both in-person and via digital platforms. Fish is a major source of nutrients for people in Bangladesh, where more than 60 per cent of the population's protein and calorie intake comes from aquatic animals, the study said. Homestead fish ponds contribute to more than 43 per cent of the country's total fish production each year. With a steady growth in demand, fish consumption in Bangladesh has increased by 58 per cent per capita in the past 15 years. So, the fisheries department should give more recognition to homestead production and help expand their capacities.

This includes improving the infrastructure to minimise transaction costs, and ensuring better market access to ensure that they gradually develop into semi-commercial or fully-commercial production systems, it added. In this study, researchers analysed the link between homestead fish production and its nutritional values using primary data collected from 518 households engaged in fish farming. Binayak Sen, director general of BIDS, said the study shows that fish farming in homesteads is playing a very important role for the rural economy. However, more research is needed on what the government's policies should be in this regard. "So, these studies may discuss the type of owner of these ponds, the size of the ponds and the type of fish farming," Sen added. Badrun Nessa Ahmed, a research fellow of BIDS, said women get the opportunity to engage in aquaculture due to homestead fish ponds. "After meeting their own nutritional needs, the surplus amount of fish is sold as well," she added. Ahmed went on to say that fish is a major source of animal protein for local consumers, providing about half of the country's calorie and protein requirement. "To meet the growing demand, aquaculture production is booming in Bangladesh and homestead ponds are one of the more prominent technologies," she said. MA Sattar Mandal, emeritus professor at Bangladesh Agricultural University, said commercially farmed fish meet about 70 per cent of the country's demand. "It would be good to know the contribution of homestead fish ponds there in addition to the type of ponds and what kind of fishes are being farmed," Mandal said. Shykh Seraj, director and head of news at Channel i, said most of the data in this study are prior 2016. As a result, the situation is no longer the same.

“Many changes have taken place in pond fish farming and now many people here think that cultivating vegetables is more profitable than cultivating fish,” he added.

URL: <https://www.thedailystar.net/business/economy/news/homestead-fish-ponds-help-meet-nutrition-needs-study-2203521>

Bangladesh: Industrial modelling emphasised to harness blue economy

Bangladesh can overcome many of post-LDC graduation challenges by harnessing huge resources hidden in its bay-based blue economy, experts say and suggest urgent industrial modelling based on the riches. Experts and businesspeople eye huge jobs, foreign investments and exports in multifaceted industries that can be built using the marine resources in 19,467-square-kilometre resource-rich bay area Bangladesh got through dispute settlement with India and Myanmar in international arbitration. Huge offshore oil and gas reserves are yet beyond reach, they said at a meet, striking a note of optimism that the potential ocean economy may change the whole ecosystem of Bangladesh’s economy. Marine resources-based industries in tourism, shipbuilding, deep-sea fishing, container, medicine, cosmetics and the like can be developed. They noted that the fast-growing economy of nearly 170- million-strong population would require more employment opportunities, diversified exports and foreign investment after its complete graduation from LDCs (least-developed countries), due in 2026. And the ocean-based economy, which is projected to be leading the global economic growth in the years to come, will give enough impetus to sectors like ship-breaking, ship-making, container handling and logistics, marine fisheries, tourism and mineral resources that are labour-intensive, high-value exports and attractive for global investors. To use the opportunities in a sustainable way, businesspeople and economists suggest the government facilitate businesses in harnessing the potential of the blue economy by delivering all the required services under one umbrella.

The suggestions and observations came at a workshop titled ‘Prospects of Blue Economy of Bangladesh and Course of Action’. The Federation of Bangladesh Chambers of Commerce and Industry (FBCCI) and Bangladesh Investment Development Authority (BIDA) jointly arranged the event where Prime Minister’s private industry and investment adviser Salman F Rahman was present as the chief guest. Presenting a keynote paper, secretary of maritime affairs unit at the Ministry of Foreign Affairs Md. Khurshid Alam said Bangladesh got a 19,467-square-kilometre highly resourceful area in the Bay of Bengal after winning maritime-boundary disputes with Myanmar and India. He said that the ocean-economic zone of Bangladesh is equal to 81 per cent of the mainland and there are 150,000 ships transporting goods through the ocean all over the world, which is worth 9.0 billion dollars. “But Bangladesh owns only 70 ships although some 74 per cent of containers are used in Asia, which opens another wing of investment opportunity for Bangladesh as the total trade is growing at a rate of 15 per cent every year, meaning the demand for container will keep going up,” he told the meet. Although there are several seaports in Bangladesh, they are not suitable for mother vessels. In such a situation, the completion of Matarbari deep-sea port will help exploit the potential of blue economy, he added. Mr Alam, also a retired rear admiral of Bangladesh’s naval force, thus having firsthand experiences of the sea, said the total sea area of Bangladesh is 664 kilometres, but fish is harvested in only 60-kilometre waters. Therefore, Bangladesh’s share in global fish production is limited to only 2.6 per cent

whereas China alone supplies 61 per cent of the world's fish. "This is another highly potential area for investors," he said. Talking about mineral resources, he said despite having a sea frontier, there is still a huge amount of offshore oil and gas beyond reach.

"Although several plans have been taken in this regard, it has not come into light. In contrast, Myanmar has already started extracting mineral resources from near the sea block of Bangladesh," he added. Not only fish or mineral resources, rather Ocean Economy may change the whole picture of the economy of Bangladesh. By utilizing the marine resources, various industries, including tourism, shipbuilding, deep-sea fishing, container, medicine, and cosmetics industry, can be developed, according to him. Speaking as chief guest, the prime ministerial adviser on private industry and investment, Salman F. Rahman MP, said blue economy is a new potential sector for investment in Bangladesh. "It is possible to export billion dollars from this sector in the next few years." The adviser to the head of government advised the apex-chamber FBCCI and the BIDA to work together to find out why the progress of the once-emerging sector like shipbuilding industry is struggling, in order to fix the fit policy strategy. Mr Rahman said deep-sea-fishing trawlers or ships can be built under the joint ownership of domestic and foreign firms. In this case, it is necessary to amend the policy of the Ministry of Fisheries and Livestock. Md Sirajul Islam, Executive Chairman of BIDA, who was the special guest at the workshop, said that an international investment conference is going to be held on November 26-29. The blue economy will be discussed separately at that conference. He said the World Bank suspended publication of its key report 'Ease of Doing Business' but they decided to continue bringing reforms in various sectors to ensure business-friendly climate here. Research director of the Centre for Policy Dialogue Dr Khondakar Golam Moazzem told the meet the authorities need to transform the potential opportunities of the blue economy into a business model to attract investors. He said there are 29 sectors in the ocean-based economy. "I think the government should prioritise the low-hanging fruits and make a quick plan accordingly."

The policy researcher adds: "There are also doubts about who is the guardian of this sector. Instead of different ministries working separately, if BIDA takes over the charge, quick benefits can be obtained." Presiding over the workshop, FBCCI President Md Jashim Uddin said the maritime economy could play an effective role in attracting foreign investment and creating employment in the post-LDC era. The FBCCI will submit recommendations to the government to determine the strategy for the sector based on the issues discussed at the workshop. East-West University professor and FBCCI panel adviser Dr AK Enamul Haque said the growth of the world economy in the next 10 to 20 years will be blue economy-centric. He called for investment in tourism, shipbuilding, shipbreaking, fishing, ports and maritime equipment to harness the blue economy. Deputy Minister in the Ministry of Water Resources AKM Enamul Hoque Shameem and general secretary of Pacific Asia Travel Association Taufiq Rahman also spoke on the possibilities hidden in Bangladesh's vast waters connecting numerous littoral pockets of opportunities.

URL: <https://thefinancialexpress.com.bd/economy/industrial-modelling-emphasised-to-harness-blue-economy-1635130024>

Bangladesh: Cyclone no longer deadliest disaster, but floods and lightning causing more damage

More than a hundred lives were lost when a devastating cyclonic storm hit Bangladesh two decades ago. Though a few more cyclones have swept through the country in the following years, they have caused little damage to lives and assets. A better forecast system teamed with shelter centres in the affected areas and an enhanced disaster management system has helped reduce the damage. The cyclones that followed Ayla were also weaker. Bangladesh, however, is facing more damage from other natural phenomena, like floods and lightning. At least 250 people have been killed by lightning between March and September this year, reports bdnews24.com. “We used to depend on animation and still images based on satellite data, but now we use mathematical models to predict cyclone routes,” said Dr Samrendra Karmakar, the chairman of the National Oceanographic and Maritime Institute. “After 1991, the cyclonic storms that hit Bangladesh were not so intense. Most of them had a wind speed of 100 to 150 kmph,” he said. The cyclone that swept through Bangladesh in 1970 had a wind speed of 224 kmph and the one in 1991 had a wind speed of 220 kmph. Sidr, the cyclone in 2007, had a wind speed of 223 kmph. Cyclone Mora made landfall in Bangladesh with a wind speed of 146 kmph and Roanu with 128 kmph. For Komen, the wind speed was 65 kmph, while for Mahasen, it was 100 kmph.

More lightning deaths

There has been a sudden rise in the number of deaths due to lightning, said Dr Samrendra, former director of the Bangladesh Meteorological Department. A combined effort may bring down the death toll, he believes. “We need to create awareness in villages and take precautions. ‘Nowcasting forecast’ and radar stations should be working all the time. The forecast should be made at least half an hour before a storm,” he said. From March to August, 231 people died from lightning strikes and 64 people were injured, said Abdul Aleem, chief executive of Save the Society and Thunderstorm Awareness Forum. Among the dead, 146 died while working in farms and fields during a storm, and 33 died in lightning strikes while fishing or travelling on a boat, he said. In August, 17 people died from lightning while they were travelling by boat to attend a wedding ceremony. This was the first incident where so many were killed in a single lightning strike.

Floods and river erosion

For the past six years, except for 2018, floods have been a regular disaster in the country and their effects have persisted for 10 to 40 days, said Prof AKM Saiful Islam of BUET’s Institute of Water and Flood Management. Floods caused a lot of damage in the last two years. Annual rainfall has increased and it will only increase further, he said. Highlighting Bangladesh’s vulnerability to natural disasters, Prof Saiful said, lightning incidents and flash floods have increased in the haor areas. “Many places are suffering from urban floods due to heavy rain. Rangpur and Chattogram experienced landslides. On the other hand, the southern part of the country suffered from a drought in November. Heatwaves and heat shock in agriculture have become common. There’s a risk of earthquakes. Lives and livelihoods are affected, and even the Sundarbans is vulnerable to natural disasters.” Prof Saiful blamed local and global man-made reasons, including carbon emission, indiscriminate embankment construction, and deforestation and losing water bodies for the escalating number of natural disasters. The government spends a

lot for immediate relief distribution, shifting people and livestock to flood shelters and reconstructing embankments, but they should plan for permanent measures to prevent the damage, he said. “Houses should be designed in a way that they could survive floods. Planning is needed for the agriculture sector. Strengthening the flood warning system and flood management is also needed. The government should focus on rehabilitation and prevention of salinity in water in the coastal areas.”

Multidimensional preparation needed

The Cyclone Preparedness Programme (CPP) was founded in 1972. As many as 75,000 volunteers of the organisations work to prevent disasters in the country. Highlighting their capacity enhancement in confronting a cyclone, CPP Director Ahmadul Haque said the current death tolls from cyclones have dropped to single digits or even zero, while it used to be thousands before 1991. CPP is expanding to three new units, enabling it to work to prevent other disasters in addition to cyclones. These will include an immediate response unit, a special unit to rescue people from shallow water and a high tide or tidal surge monitoring unit. In addition, the CPP will provide training in schools to educate students on saving themselves and others from disasters like earthquakes and lightning strikes, Haque said. In the past, it was hard to rescue flood-affected people, but now there are rescue boats, said Md Mohsin, secretary in the Ministry of Disaster Management and Relief, when asked about the government’s initiative to prevent natural disasters. “We’re continuing our efforts to reduce the damage from all types of natural disasters, and ensure relief and rehabilitation.”

URL: <https://thefinancialexpress.com.bd/national/cyclone-no-longer-deadliest-disaster-but-floods-and-lightning-causing-more-damage-1634037178>

Bangladesh: Dried fish has huge export potential: CCCI president

“Dried fishes are now losing the traditional taste and quality due to flaws in the drying process,” he told a seminar on “Safe and Healthy Dried Fish Processing Technology and Assistance in Industrial Establishment” in Chattogram on Saturday. Speaking as the chief guest at the event, he said, “Flaws in the drying process, especially the use of several chemicals, is decreasing the taste of dried fish.” “This is leading to an increase in the import of the popular food item.” The CCCI president added, “If we can produce dried fish with their nutritional values and taste intact, we can export our local production after meeting local demand.” The potential for dried fish export has also risen due to an increase in the opportunities for fish breeding and fishing in Bangladesh following the acquisition of huge sea boundaries in the Bay of Bengal and the implementation of various government policies, said Mahbubul. Referring to a recent invention by the Bangladesh Council of Scientific and Industrial Research (BCSIR) to ease the process of drying fish during monsoon, Mahbubul said dried fish processing technologies invented by such science research institutions will create golden opportunities for traders.

The seminar was jointly organised by CCCI and the Bangladesh Council of Scientific and Industrial Research (BCSIR) Speaking about the invention at the event, BCSIR Chairman Prof Md Aftab Ali Sheikh said “In our country, even though the dried fish is processed naturally in

the dry seasons, many fish gets rotten in the monsoon season.” There is a great demand for dried fish in different countries of the world. Therefore, BCSIR has taken up the project to produce nutritious chemical-free dried fish to meet the domestic demand and create export opportunities, he added.

URL: <https://www.tbsnews.net/dropped/trade/potential-dry-fish-export-if-nutritional-values-are-unspoiled-ccci-president-316789>

Bangladesh: Inadequate aid forces Barishal fishermen to ignore ban

Extreme poverty is forcing fishermen in Barishal division to violate the ongoing 22-day fishing ban as the assistance they get falls far short of their need. The rice given to them as assistance for 20 days during the ban beginning 4 October is not enough for a family, complained the fishermen. “Is only 20kg rice enough for a family of five to seven members to survive for 22 days? We have other daily needs, which we cannot meet with this aid,” said Hasib Ahmed, a young fisherman from Rajapur in Jhalakathi.

The division also has around 60,000 to 70,000 unregistered fishermen who are still out of the food assistance programme, according to the fishermen community. The fishermen have no strong organisation to press for their demands and rights, said Hasib Ahmed. He said, “Fishermen who are below 18 years cannot register as a voter identity card is mandatory for the registration. Being registered is the prime condition for getting any kind of aid from the government. Many young fishermen in the division have no voter identity card and they cannot enlist themselves for the aid.” Till Friday last, 96 fishermen were arrested for fishing during the ban, according to Barishal fisheries department office.

The reporter talked to around 20 fishermen of four districts under the division. They said they bought nets and boats borrowing money on high interests from local lenders. Most of them have to pay weekly instalments for repaying the loan. “If we have no daily income, how can we pay the instalment regularly?” asked a fisherman. There are 3,64,689 registered fishermen under six districts in Barishal division, said Nazmus Salehin, additional divisional director of Fisheries Department. “Among them, 3,60,124 have been given the rice while 4,365 registered fishermen did not get any aid,” he claimed. “We have started some projects under which the fishermen will be offered work opportunities during the ban,” he added.

“We give Tk1-2 lakh loan in the Bangla month of Boishakh for buying nets or repairing the fishing boat. We provide the loan on the condition that they would sell their fishes to us,” said Tipu, a wholesale fish buyer of Port Road in Barishal, adding that they provide the loan to the owner of a fishing trawler, who hires the fishermen. Abdus Salam, a fishing trawler owner from Dhalchar under Charfashion in Bhola, said that the fishing trawler owners have to spend a handsome amount every year for repairing the net and trawler. Often they are forced to borrow money from different sources if their fishing trawlers face any kind of accident. “We try our best to support the fishermen during the ban, but we cannot afford to support them all,” he added. Fishermen from different districts of Barishal division said it would be possible for them to abide

by the government ban if they are provided with an adequate amount of food assistance during the ban.

URL: <https://www.tbsnews.net/bangladesh/inadequate-aid-forces-barishal-fishermen-ignore-ban-315595>

Bangladesh: The net that poses threat to local fish

At a time when local fish varieties have been depleting fast, the use of what is known as Gill or Current net has only expedited the process. To add to the danger, another fishing net called China net or Darki net has come to the scene. Although illegal and the authorities at times burn down seized Current nets, these small-mesh nets made of monofilament synthetic nylon fibre are too ubiquitously in use all over the country to be brought under control. Cheaper and highly effective to catch mother fish and fish fries alike, the net is naturally very popular among fishermen. Now comes the China or Darki net to make a clean sweep of water bodies by trapping indigenous fish of all varieties with the tiniest of those not spared. Drum-shaped and made with quadrangular iron pieces in between circular iron frames this net is one to one and a half feet wide and 40-50 feet long. Its origin is in China where the Chinese farmers use these nets for killing different species of insects on their farms in order to save their crops. But people in this country found its use, better say abuse, for catching fish in a most destructive manner. If fish fries are caught so rampantly along with mother fish, the species will disappear soon. As it happened in case of Gill or Current net, the drives launched occasionally against fishermen using it proved futile. Clearly, the sources had to be plugged. According to reports published earlier, in Munshiganj alone there are 500 factories, 200 of those large units, producing this pernicious net. If the factories — wherever they exist — were destroyed once and for all in the interest of protecting fish resources, no raids were required against the net at the field level. One cannot be blamed for sensing rat in the campaign against Current nets.

China net has already made an inroad into fishing of local varieties all across the country, threatening their existence. No reports on their sources are available as yet. But there have been a number of reports expressing concern about the disappearance of local fish as the net spares neither the young nor the grown-up fish. Unscrupulous fishermen are little aware that the wholesale fishing will destroy the local stock sooner than later. Once again, the district and upazila administrations in some areas are taking actions against the use of this killer net. But these are isolated incidents and do not address the problem at its roots. The International Union for Conservation of Nature (IUCN) published its Red List of Threatened Animals in Bangladesh for the first time in 200. At that time 54 freshwater and brackish fish species were in the list of the 'threatened'. Of them 12 were listed as critically endangered, 28 endangered and 14 vulnerable. In its updated list it prepared in 2015, the threatened fish species rose to 64, nine of which were found to be critically endangered, 30 endangered and 25 vulnerable. By this time, Bangladesh Fisheries Research Institute (BFRI) and the Department of Fisheries (DoF) have made possible the breeding of some local varieties of fish in hatcheries for their successful production in natural habitats. This has been a highly celebratory achievement on the part of our local scientists. But such efforts will go in vain if the use of Current net and China net cannot be

done away with. A concerted and serious effort is needed to bring an end to the supply sources — both local production and import — of the illegal nets. The factories will have to be done away with in order to save local fish species from extinction.

URL: <https://thefinancialexpress.com.bd/views/the-net-that-poses-threat-to-local-fish-1633880926>

Bangladesh: Why should St Martin's be declared as a marine protected area

Bangladesh's Exclusive Economic Zone (EEZ) covers 118,813 km² of the Bay of Bengal's large marine ecosystem, located in the southeast corner of the country. With a 710 km coastline and three major coastal zones, Bangladesh possesses a unique coastal and marine habitat. This marine ecosystem is rich in biodiversity that encompasses a large number of fish, mollusk, mangrove, coral, plankton, seagrass and seaweed species. However, the ecosystem and biodiversity are under threat due to anthropogenic pressure, overexploitation, environmental change, and lack of awareness. Because of this, conservation initiatives are urgently needed for Bangladesh. Most initiatives for marine ecosystem conservation in Bangladesh focus mainly on fisheries management, specifically temporary bans as well as gear and size restrictions. However, to conserve the overall biodiversity of the marine ecosystem, a holistic approach is required. Declaration of a Marine Protected Area (MPA) is one of the modern concepts to conserve natural biodiversity. MPAs are dedicated spaces in the ocean for protecting and maintaining biological diversity as well as associated cultural resources.

Taking this into account, the government of Bangladesh has already declared two MPAs. In 2014, Swatch of No Ground was declared as the country's first MPA, covering an area of 1,738 km². In 2019, the government declared another 3,188 km² around the Nijuhm Dwip Island as the second MPA/marine reserve, which increased the country's MPA coverage to 2.8 per cent of its EEZ. Although a number of management options are available, most are focused on fisheries, such as fishing ban periods and restrictions on mesh size. Since this area is a hotspot for a wide range of species, from primary producers to top predators, a holistic approach is required to conserve biodiversity, so declaring a new MPA here would be a good option for conserving the rich biodiversity in this area. Taking the above into account, Funded by USAID Bangladesh, WorldFish's Enhanced Coastal Fisheries in Bangladesh II (ECOFISH II) Activity, in collaboration with Shahjalal University of Science and Technology (SUST), conducted a thorough study from January 2020 to June 2021 to evaluate the potential of declaring the Teknaf–St Martin's peninsula an MPA. During this study, data was collected on the environment, biodiversity, ecological habitats, fishing and fishers' socioeconomic conditions. Based on all the studies, community consultations and other relevant available socio-ecological information, the interdisciplinary team developed recommendations for establishing a new MPA in the waterscapes around the Teknaf–St. Martin's Island peninsula covering an area of 2,845 km².

With Bangladesh's aim to have 10 per cent of its EEZ declared as MPAs, this new MPA if declared would add another 2.4 per cent towards this overall target, reaching 6.5 per cent altogether. Considering the responsible restrictions necessary for proper management and

monitoring, the proposed MPA is divided into four zones with four levels of restrictions. Zone 1 (41 km²) would be like a red zone, where no fishing or any activities destructive to the habitat would be allowed. In Zone 2 (886 km²), no fishing activities would be allowed, but sailing, mooring and diving activities would be permitted, subject to specific limitations. Zone 3 (1,341 km²) would generally be a buffer zone that lies between the exterior of the water area and the restricted protected zone, with recreational navigations, research and fishing activities being allowed. Zone 4 (577 km²) would be like a green zone, where low-impact tourism activities could be allowed as well as educational and research activities. As such, the proposed MPA is an important timely initiative to sustainably manage the unique coral habitat and its rich biodiversity, especially the colourful reef fish as well as megafaunas, such as sharks, skates, rays, turtles and dolphins. Through sustainable biodiversity conservation and management, fish production would increase and the socio-ecological resilience of fishers' communities would improve.

Taken together, these actions would protect and restore this unique coral habitat. Finally, by declaring this 2,845 km² an MPA, the country would add another 2.4 per cent toward its target of having 10 per cent of its EEZ declared as MPAs. For the successful implementation of the proposed MPA, it's important to ensure stakeholder engagement, focusing on the Department of Fisheries, Ministry of Fisheries and Livestock; Ministry of Environment, Forest and Climate Change, law enforcement agencies, local administration, local leaders and fishers. It is also important to the proposed MPA area for declaration under the Marine Fisheries Act 2020 (Clause 3) with emphasis on regulating the number of tourists and tourist activities, in such a way that ensures having no significant impacts on resources and habitats, stop the extraction of coral completely, and regulate and minimise seaweed collection. A greater emphasis should be given to promote Alternate Income Generating Activities (AIGAs) for the fishing communities, dependent on these resources, through government supports and the introduction of Payment for Ecosystem Services.

URL: <https://thefinancialexpress.com.bd/views/why-should-st-martins-be-declared-as-a-marine-protected-area-1634101019>

Bangladesh: Dry fish port on Teesta bank: Once a regional hub, now a mere memory

The dry fish port on the banks of Teesta river in Rangpur was once a bustling hub with regular trade with Kolkata, Jalpaiguri, Cooch Behar and Assam. This hundred-year-old port used to provide livelihood to thousands of families, but now it merely nurtures the reminiscence of a glorious history.

Full video is available at: <https://www.youtube.com/watch?v=GYI73KhTxaU&t=23s>

URL: <https://www.thedailystar.net/star-multimedia/news-multimedia/news/dry-fish-port-teesta-bank-once-regional-hub-now-mere-memory-2175606>

Bangladesh: Biodiversity, livelihood under threat at Tanguar Haor

The Tanguar haor (wetland ecosystem) in Sunamganj continues to suffer a catastrophic loss of livelihoods and biodiversity, threatening not just the extinction of numerous species and irreplaceable genetic variety, but also food supply, health, security, and tourism. Located at the foothills of India's Meghalaya state, the ecological balance in the district's Tahirpur upazila is being disrupted over time as homesteads, croplands and waterbodies keep getting buried under sand and gravel with every sudden landslide in the upper catchment areas. And as a result of the adverse impact on biodiversity, farmers are failing to grow crops on hundreds of acres of sand-covered arable land and aquatic creatures in the local reservoirs are either dying out or changing habitat. Over the years, more than two hundred families in Chanpur, Rajaniline and Rajai villages under the upazila have become destitute. The last major landslide occurred on August 16 on the other side of the border. Faridul Hasan, deputy director of the Department of Agricultural Extension in Sunamganj, said arable land in three villages of Tahirpur upazila and 350 hectares of land in a beel there have become unsuitable for cultivation due to the sand cover. According to unofficial data, around 500 hectares of land have become unfit for cultivation in the upazila after being buried under sand and gravel. Residents of Chanpur village said regular mining of coal and stones on the hills of Meghalaya puts them, the foothill dwellers, in danger. They said they still remember the monsoon of 2007, when a sudden landslide buried a vast tract of land under the sand. Many families moved elsewhere due to scarcity of food.

A resident, Akhter Banu, said: "I have lost my home to the landslides. Now I have no choice but to leave this place, like many before me, including many indigenous families." Meanwhile, environmental groups claim that some unscrupulous people are illegally fishing, logging trees, and shooting migratory birds, putting the biodiversity of Tanguar Haor in jeopardy. In recent years, the number of birds in the haor has declined. Furthermore, fish production has decreased, and the lives of aquatic organisms are in grave danger as a result of deliberate contamination. Nihar Ranjan Talukder, a schoolteacher living on the banks of the haor, said, "When I was a child, I used to see a lot of big fish in the Tanguar haor. I would also wake up to the fascinating sounds of birds chirping early in the morning. Now we don't see any of this." Tahirpur Upazila Nirbahi Officer (UNO) Raihan Kabir told Dhaka Tribune that the environment and biodiversity of the Tanguar haor were being damaged due to multifarious reasons. "An action plan is being worked out with the stakeholders on the Ramsar site policy and prevention of deforestation." Speaking on the issue, Sunamganj Deputy Commissioner Jahangir Hossain said the sands and gravels carried downstream by the current will be removed soon. He said: "We will auction off the minerals to the highest bidder." He hoped to remove the mineral within a month so that local farmers could begin to cultivate their lands in November. Meanwhile, Adv Shah Shaheda Akhter, Sylhet divisional coordinator of Bangladesh Environmental Lawyers Association (Bela), urged the authorities to assess the total damage caused by the sands and rocks from the hills of Meghalaya and rehabilitate the affected families and restore the damaged agricultural land.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/10/05/biodiversity-livelihood-under-threat-at-tanguar-haor>

Bangladesh: Rising tides of suffering

Two-thirds of Bangladesh is less than five metres above sea level. It is part of the world's largest active delta that discharges the mighty Ganges and Brahmaputra river systems into the Bay of Bengal. The vital role it played in historical British trade routes and its inclusion in China's Belt and Road Initiative reflect its importance to the global economy. This role is now under threat as the effects of climate change combine with the building of a number of coal-fired power stations on ecologically sensitive coastal land to cause environmental damage with the potential to affect global supply chains. Along the coast, Cox's Bazar, the fishing port and Bangladesh's tourism centre, boasts the world's longest natural sea beach, a biodiversity hotspot that is home to the spoon-billed sandpiper. The southern part of this densely populated country is protected by the mangrove forest of the Sundarbans from the extreme weather patterns that are becoming more frequent and intense from the Indian Ocean towards the Bay of Bengal due to climate change. These 10,000 square kilometres of mangrove, a Unesco World Heritage Site, is shared, with 60 per cent in Bangladesh and 40 per cent in India. The Sundarbans, the last habitat of the Bengal tiger, supports the livelihoods of millions of people. The mangrove forest acts as a vast carbon sink but its future is being put at risk by two large 1,320 MW coal-based power plants in Rampal and Payra. Due to the construction of the coal plants, the migration routes for hilsa, the national fish, have changed.

In a positive move, the Bangladesh government cancelled ten proposed coal-based power plants in June 2021, a fitting gesture as it currently heads the Climate Vulnerable Forum (CVF), an association of 48 developing countries disproportionately affected by climate change. To ensure this move has a lasting impact, Shankar Kayal, who lives on the Sundarbans, stands on what's left of his land which has been washed away by rising tides these cancelled power plants must not be revived as gas-based plants, and the government must aim to close down all coal-based plants. An energy plan to move away from fossil fuels would meet Bangladesh's commitment as a CVF nation and encourage overseas financial help to mitigate the costs to the Bangladesh economy of such changes. Due to the rapid industrialization and changes in livelihoods, people from the coastal areas are being displaced as the degradation to the coastal forests, wetlands and air continues apace. The upstream changes in the Ganges and Brahmaputra river systems make it worse when the erosion in the coastal region is hit by the surges from the sea. It is estimated that about 700,000 people have been migrating each year from Bangladesh's coast because of the damage wrought by climate change. Of these, about 400,000 arrive in Dhaka. The densely populated capital suffers from high air pollution, flooding, traffic congestion and a shortage of fresh ground water. There are about 50,000 people living in each square kilometre of Dhaka. In the slums, this figure rises to about 150,000. It is to these slums that coastal migrants head, working in the city's garment and leather factories.

Dhaka occupies a unique setting, surrounded by four rivers: the Buriganga, Turag, Balu and Shitalakshya. The city depends on these rivers for its water supply, sanitation, transportation, communication and recreation. But the rivers are badly polluted due to the unplanned and unregulated industrialization. According to the World Bank, as much as 60 per cent of river pollution comes from industry. The textile and tannery industries are the biggest polluters. Both are export-oriented industries making products for western markets. When climate change and environmental pollution affect a densely populated nation, it brings humanitarian catastrophe. Sheikh Hasina, prime minister for the past 12 years, has called on the global community to help Bangladesh recover from the Covid pandemic by investing and helping in the development of its

renewable energy sector. Manufacturers and retailers need to build in a pollution cost to their garments and goods. Would not consumers in the West be willing to pay an extra 10 cents to help prevent the pollution of our rivers and alleviate the suffering of our people from climate change? A change in the mindset of the policymakers at both the national and international level is all it would take to enforce a comprehensive set of plans to secure a safer and more prosperous future for Bangladesh.

URL: <https://www.chathamhouse.org/publications/the-world-today/2021-10/bangladesh-rising-tides-suffering>

Bangladesh: Needs a separate ministry to unlock full potentials of blue economy

Bangladesh should urgently create a new ministry to lead and oversee coordinated efforts in unlocking the full potentials of the blue economy ranging from the sustainable development of marine fisheries to sea and coastal tourism, experts working on this field said. They suggested the formation of a separate ministry on blue economy noting that the existing Blue Economy Cell under the Energy and Mineral Resources Division has failed to make any breakthrough to exploit the potentials in the Bay of Bengal. In interviews with UNB over the past week, the experts observed that the government has taken various measures aimed at exploiting the vast marine resources since settling the maritime boundary disputes with neighbouring India and Myanmar nearly a decade ago.

But these have mostly been related to fishing, establishing disciplines in different universities, marine institutes and academies and formulating different laws in this field, according to experts from different universities. There is still no adequate allocation for research, no attention to developing the value chain and market of seaweed, no visible initiative to assess the stocks of non-living marine resources including mineral resources, they said. Dr Md Kawser Ahmed, Professor of Oceanography Department in Dhaka University, said a number of ministries and government agencies are currently related to the blue economy, but they are working in scattered ways. “A coordinated initiative is needed to tap the full potentials of the blue economy. So, it is essential to form a separate ministry like the Ministry of Ocean Affairs,” he suggested. “We can add 3-4% to our existing GDP growth if we are able to ensure the optimum exploitation of the blue economy,” he estimates. Referring to the establishment of marine-related disciplines in different universities, Prof Kawser said there is not enough fund and technology for research which are the main barriers to create skilled manpower in this sector. Alongside the traditional fishing, Bangladesh needs to pay attention to commercial production of tuna, other high-valued fish and seaweed, he mentions. “We’ve to take effective measures immediately to unlock the potentials of blue economy as we’re already so much late,” said the oceanography professor. Prof Sayedur Rahman Chowdhury of the Institute of Marine Sciences and Fisheries at Chittagong University said 9-10 ministries are related to the blue economy. The fisheries and education ministries have worked much in this regard. The government has also enacted blue economy-related laws. “But no visible progress is seen in other sectors,” he said.

He said a strong body instead of the existing blue economy cell is needed to design and execute plans for sustainable fishing, creating skilled manpower, developing shipping industry, coastal

and sea tourism, assess non-living resources particularly mineral resources, assess the feasibility of renewable energy. Noting that Bangladesh can largely be benefitted from sustainable fishing, he said empirical evidences indicate that large fish species like Lakkha and Coral, which were available in past years, are not found as frequently anymore. Other valuable fishes are also in decline, and relatively low-value fishes are taking up their place, he said. Prof Chowdhury said Bangladesh can also focus on producing highly skilled maritime human resources, including marine engineers, navigators and in other highly technical trades, targeted for the international employment market to boost foreign currency remittance. Besides, a lot of foreign currency goes outside the country against container transports as most of the carriers used in this sector are owned by foreign companies. About energy and mineral resources, Prof Chowdhury said he is not much optimistic about any huge reserves in the Bay of Bengal. Dr Subrata Sarker, Chair of Oceanography Department at Shahjalal University of Science and Technology, said the government should concentrate on research and survey not only on fisheries but also other marine resources. “We’ve to focus on commercially important species,” he said adding that the government has put much attention to fisheries and promoting the related education. Noting that there is a huge potential of seaweed, Dr Sarker said, “But its value chain is now missing, though it can contribute to our economy.” He said there are multipurpose uses of seaweeds as these are used as food, raw materials of pharmaceutical and beverage items. Now seaweeds are served in restaurants in Cox’s Bazar.

Dr Sarker said there is a huge prospect of coastal tourism. So, it should develop ecotourism not harming nature in the coastal areas, he added. Bangladesh won a total of 131,098 square kilometres of sea areas –111,631sq km against Myanmar in 2012 and 19,467sq km against India in 2014 — following the disposal of longstanding disputes between the two neighbouring countries — India and Myanmar — by two international courts. In 2016, Bangladesh procured a research vessel, equipped with the latest technology for fisheries and other oceanographic research, from Malaysia to assess the country’s marine living resources. The 37.8-meter-long multipurpose research vessel titled ‘RV Meen Sandhani’ started its assessment in the Bay in November 2016 and it has so far detected 457 species of marine fish and animals by conducting 31 survey cruises in the Bay of Bengal.

URL: <https://www.dhakatribune.com/business/2021/10/03/experts-bangladesh-needs-a-separate-ministry-to-unlock-full-potentials-of-blue-economy>

Bangladesh: Once exporter, dried fish market now depends on imports

Now 70% of the dried fish market is dependent on imports, according to industry insiders, who said demand for and price of dried fish are increasing simultaneously every year in the country, but its production is falling day by day. Traders at the country’s largest dried fish markets at Asadganj and Chaktai of Chattogram said the dried fish industry is largely dependent on marine fish, but its production is declining year by year due to various reasons, including natural disaster and climate change. Moreover, fishermen have been changing their profession due to the increasing costs of processing dried fish. Pirate attacks on the sea have been another factor. As a result, the price of dried fish is increasing every year as its production has not increased in proportion to growing demand. Osman Haider Rana, general secretary of Asadganj dried Fish

Traders Association, said there are 40 dried fish warehouses and 268 wholesale shops in Asadganj wholesale market. The average daily sales of warehouses and shops together is more than 150 tonnes, which is worth Tk55 crore. Dried fishes come to the wholesale market from different coastal areas of the country. According to the traders' association, at present annual demand for dried fish is 55,500 tonnes in the country. Around 20,000 tonnes are supplied locally while the remaining 35,500 tonnes, which is 70% of the total demand, are imported from Myanmar, India and Pakistan.

Asadganj Shutki Aratdar Samity Convener Idris Alam said, "The quality of the dried fish produced in the country is comparatively better than the imported one. Dried fish of Chattogram has a good demand in England and different Middle Eastern countries. At present, 20% of the locally produced dried fish is exported to these countries." Meanwhile, the price of dried fish is increasing by 20% every year because of short supply. As such, the price of dried fish is doubling every five years. Rupchanda is the most expensive dried fish in the market. At present, per kg of Rupachanda is being sold at Tk2,900-Tk4,000 depending on quality. Five years ago, it used to be sold at Tk1,800-Tk2,000. Similarly, shrimp dried fish is now being sold at Tk1,600-Tk1,700. The price was Tk700-Tk800 five years ago. According to the traders, one of the main reasons behind the increase in dried fish prices is attacks by pirates at sea. Fishermen from different parts of the country no longer want to go out to the sea to catch fish due to increasing attacks by pirates day after day. They are moving away from this profession to others. Milton Barua, a wholesale dried fish trader from Asadganj, said the supply of dried fish in the market is declining every year. In the last season, its supply was much higher in Asadganj dried fish market. "At the time, I did not have sufficient space to store dried fish in my shop. But this year, the supply is not that much," he added. Traders claim that with the help of modern technology and loan assistance from the government, the dried fish industry will be able to turn around. Exports of dried fish will then increase after local demand is met.

URL: <https://www.tbsnews.net/economy/bazaar/once-exporter-dried-fish-market-now-depends-imports-310204>

Bangladesh: Restoring rivers is a continuous struggle

The 2021 theme of World Rivers Day, observed on 26 September, was 'waterways in our community'. At the online meeting organised for the occasion, SM Mizanur Rahman spoke for two minutes and then stopped. The man famed for his efforts in restoring rivers in Bangladesh could not see any point in continuing. For decades, Rahman – known as Mizan Bhai (Brother Mizan) to civil society in Bangladesh – has worked to restore the Boral River, which connects the Ganga and Jamuna (as the Brahmaputra is called in Bangladesh) and flows through the country's largest wetland. In the past, Mizan Bhai has successfully opposed ill-planned development projects on this river that flows through four districts of northwest Bangladesh – Rajshahi, Natore, Pabna and Sirajganj. He has tirelessly done the rounds of policymakers, speaking against encroachments, sand mining, pollution, dams, sluice gates, everything that was killing the 220-kilometre-long Boral. Mizan Bhai persuaded the government to run projects that restored water flow on several stretches of the river. Three dams and thousands of encroachments were removed. At least eight projects were run to dredge the filled-up portions of

the river. Many activists in Bangladesh see the movement as a model. But now all the work of the Borai River restoration movement may be in vain. Since the start of the Covid-19 pandemic, Mizan Bhai has found offices closed. He cannot speak with officials and politicians. Meanwhile, encroachments have resumed. Pollution has multiplied unchecked. He does not know what to do. He could not see any reason to celebrate World Rivers Day.

Killing a river through reclassification

In Satkhira district, in the southwestern corner of Bangladesh, there is a small river called Adi Jamuna, a branch of the Ichamati River that marks the border with India in this region. Adi Jamuna is so close to the Bay of Bengal that its water turns brackish every high tide. Around the beginning of this century, the Bangladesh Water Development Board built a small dam on the river to control the upstream movement of saline water. It also built a culvert to help residents move from one place to another. Then, the residents discovered that the river had been officially reclassified as a 'khal' (canal). The reclassification enabled the government to lease out the waterway for fish farming, which is not allowed on rivers but is allowed on canals. The residents also found their access to the river blocked. They went to court in 2003. A decade-long saga of demonstrations, rallies and court cases followed. Many community leaders and activists had criminal cases registered against them, with allegations of breaching the peace and more. A court ordered the cancellation of the fish farm lease in 2013. Most of the criminal cases were withdrawn. The dam and the culvert were removed. Civil society celebrated. Still, Ashek-E-Elahi, leader of the Adi Jamuna Banchao Andolon (Save Adi Jamuna Campaign) was not present at the online meeting to observe World Rivers Day. I called and asked him why. E-Elahi said he was tired. Not all police cases against the community leaders have been withdrawn. Some leaders still must keep going to court when the cases are being heard. And now the government's Roads and Highways Department has routed a highway across the river. Adi Jamuna is sliced and stagnant all around the highway.

From success to failure in restoring rivers

These are just two examples of how success stories in community-led river restoration movements are dying out like the rivers the people fought to restore. Rivers shape the civilisation, culture, communication, cuisine, economy, ecology, heritage and history of this delta country. But now all that is in jeopardy from dams, diversions, pollution, encroachment, ecologically insensitive projects and indiscriminate sand mining of the riverbeds. The scale and speed of river degradation in Bangladesh is huge. Success stories are important to inspire others. But given ill-planned projects as well as the political, social and economic clout wielded by polluters, encroachers and miners, successes are being turned into failures. This is despite dozens of laws and many court verdicts aimed at protecting rivers. The new regulations and institutions set up to protect rivers are unable to control the depredations in those places where the rivers flow and people depend on the rivers. The laws are only as strong as the state's willingness to enforce them, and that is not happening. This is why we observe rather than celebrate World Rivers Day in 2021.

URL: <https://www.thethirdpole.net/en/culture/restoring-rivers-in-bangladesh-never-ending-struggle/>

Bangladesh: Mega project in the offing to boost Hilsa production

The government has planned to implement a mega project worth Tk247 crore to increase availability of ilish or Hilsa, which will eventually help reduce its price. Bangladesh produces the highest number of ilish in the world – more than 80%. “The contribution of Hilsa in the country’s GDP is over 1% and around 2 million people are now involved in Hilsa netting, processing and marketing,” Mahbubur Rahman, deputy director of Hilsa Resource Development Project, said on Tuesday, reports BSS. He added that the government had taken a plan to implement 134 projects in country’s 29 districts at a cost of Tk247 crore. According to the Ministry of Fisheries and Livestock, ilish production jumped from 300,000 tons in 2008-09 to 500,000 tons in 2017-18. In the last financial year, 550,000 tons of ilish were caught in the country, 66% of which was from the districts under Barisal division. Mahbubur Rahman made the remarks as keynote speaker at a seminar, titled “Hilsa Resource Development Management Project”, held at the conference room of Fish Fries Development Farm at Gallyamary in Khulna.

Department of District Fisheries organized the seminar with Deputy Commissioner and District Magistrate Md Moniruzzaman Talukder in the chair. Khulna City Corporation Mayor Talukder Abdul Khaleque addressed the seminar as the chief guest. Director of Hilsa Resource Development Project Md Zia Haider Chowdhury was present as the special guest. Ilish contributes to more than 12.09% of the country’s fish production, the government says. The government imposes ban on hilsa netting two times a year – for two months in March-April and for three weeks in October to increase production. October is the peak period when the marine fish swims against the tide to spawn in rivers. On the other hand, the hilsa fries go to the sea in March-April. Meanwhile, Bangladesh has started exporting around 4,600 tons of ilish to India through 115 firms after temporarily relaxing the ban on its export, on the occasion of Durga Puja – the biggest religious festival of the Hindu community. Last year, some 1,475 tons of ilish were exported to India ahead of the Durga Puja.

URL: <https://www.dhakatribune.com/bangladesh/2021/09/28/mega-project-in-the-offing-to-boost-hilsa-production>

Bangladesh: Govt allocates 11,119 tons VGF rice for fishermen

The government has allocated a total of 11,119 tons of VGF rice for fishermen during the upcoming hilsa fishing ban from October 4 to 25. The food aid is being provided under the government’s Humanitarian Food Assistance Program, said a handout. Altogether, 555,944 families in 151 upazilas of 37 districts will get 20kg rice each before the start of the main breeding season of hilsa. During this 22-day period, catching, selling and transporting of hilsa is prohibited. This season, food aid is being provided to an additional 27,602 families. The Ministry of Fisheries and Livestock has given the allocation in favour deputy commissioners concerned who have been directed to withdraw and complete the distribution of VGF rice by October 25. Instructions have been issued to ensure distribution of VGF rice among registered and actual fishermen who are refraining from catching hilsa during the main breeding season.

URL: <https://www.dhakatribune.com/bangladesh/2021/09/27/govt-allocates-11-119-tons-vgf-rice-for-fishermen>

Bangladesh: Pollution in Ctg rivers pushes 17 native fish species to extinction

At least 17 species of native fish have been on the verge of extinction in five major rivers of Chattogram over the last one decade because of industrial wastes polluting rivers and sluice gates damaging breeding grounds, finds a study. The study, conducted from May 2000 to February 2020 on the rivers Karnaphuli, Halda, Sangu, Shikalbaha and Chandkhali in Chattogram, finds eel, alua, river magur, guilsa tengra, bagha aair, corop mohal, nak kata rui, dhela, horned rui, chepchela, kala bata, ghora chela under threat of extinction in the rivers.

The study found 112 fish species and 18 species of shrimp and crabs in these five rivers, Dr Muhammad Ali Azadi, who headed the research, told The Business Standard. In the Karnaphuli river, 110 species of fish and 18 species of shrimp and crabs have been found. Besides, 111 species of fish and 18 species of shrimp-crabs have been found in the Sangu river, 74 species of fish and 11 species of shrimp-crabs in the Shikalbaha river, and 72 species of fish and 11 species of shrimp-crabs in the Chandkhali river. In addition, 83 species of fish and 10 species of shrimp-crabs were found in the Halda river.

According to the study, sponsored by the Ministry of Education, 11 species of fish are no longer found in the Karnaphuli river, while 10 species are endangered. In the Sangu river, eight species of fish have vanished in recent years and 12 are endangered. And in the Halda river, six species of fish are in endangered conditions.

Professor Azadi said, “The Shikalbaha and Chandkhali are two important tributaries which connect the Sangu and Halda rivers with the Karnaphuli river. These two connected rivers facilitate the migration of fish. During the breeding season, carp fishes migrate from the Sangu to the Halda to lay eggs.” To protect the Halda, he suggested, seasonal fishing should be banned in the other four rivers as per Bangladesh Gazette 2007 and 2010. The study found 18 species of shrimp and crab in Chattogram. However, bagda shrimp is in an endangered state in the Karnaphuli and Sangu rivers.

Professor Azadi said different species of foreign fish are also endangered, including nilotica, bighead, silver carp, croaking gourami, etc. “These fishes, except the croaking gourami, have not been able to breed in a riverine environment. That’s why the number of these fishes is very small in the rivers. Besides, the reproductive capacity of foreign fishes in the rivers of Bangladesh is harmful to the environment,” he said.

According to Professor Azadi, the International Union for Conservation of Nature (IUCN) in 2000 identified 54 species of fish in the country as being endangered. Again, in 2015, 64 more species were declared endangered. Notably, the research conducted by Dr Azadi in the five main rivers of Chattogram came up with different results. “Many of the fishes identified as endangered

in the IUCN report can be found in the rivers of Chattogram in sufficient numbers. They labelled these fishes as endangered for a lack of information on their part,” said Dr Azadi.

“The survival and number of species of fish depend mainly on the size, length, width, depth, water flow and environment of the river. From that perspective, the fish that are still available in the Karnaphuli and Sangu rivers are not available in the Shikalbaha and Chandkhali rivers because these two rivers are smaller in size, length and depth,” he added. “On the other hand, fish that are not in these rivers, such as ghora chela, gang magur or guilsa tengra, are still found in the Remakri area upstream of the Sangu river,” he noted. Professor Ainun Nishat, a pioneer in water resource management and climate change in Bangladesh, said, “Although the reservoirs outside the five main rivers in Chattogram are known as canals, they are actually rivers. At the end of the Bangla month of Chaitra when it rains accompanied by thunder, many fishes move upstream through these rivers.”

“Later, when the weather is favorable, the female fish lays eggs and the male fish their sperm. But these breeding grounds are being damaged due to sluice gates and industrial wastes. As a result, many fishes are facing an existential crisis,” he added. Dr Mohammad Ali Azadi, river researcher and former professor of the Department of Zoology, Chattogram University, and former pro-vice chancellor of International Islamic University Chattogram, headed the research assisted by Mohammad Arshad-ul-Alam, river researcher and associate professor of the Department of Zoology, Chattogram City College.

URL: <https://www.tbsnews.net/bangladesh/salinity-pollution-ctg-rivers-push-17-native-fish-species-extinction-307525>

Bangladesh: Hope high on vannamei for shrimp export boom

The government likes to go for further trial of vannamei shrimp culture to understand its prospect in Bangladesh before permitting commercial production while exporters look eager to tap a prospective export boom. They say Bangladesh’ black-tiger species of shrimp has lost competitiveness in key western markets like the United States and the European Union. Meanwhile, the Department of Fisheries (DoF) allowed two pilot projects in 2019 on vannamei-variety shrimp culture. One project was run by M.U. Sea Foods Ltd at the saline water centre of Bangladesh Fisheries Research Institute (BFRI) in the coastal Paikgachha upazila of Khulna. It launched cultivation on March 31 and harvested its first crop in July this year. The other one, Agribusiness Enterprise Development and Services, could not so far start its piloting in Cox’s Bazar coastal area. Azizul Haque, director (inland) of aquaculture at the DoF, said only one trial had been done, which was not enough to make sure the prospect of such a new variety of fish in the country. Besides, it is also necessary to make sure that the local variety and the environment would not be harmed by this species, he mentioned. “So, we would go for at least 2 to 3 more pilot projects before the commercial production,” the DoF director said and added that a technical committee was working for that. They have received four applications, and they would select viable farms among them for piloting. When asked, he said they were examining the report of the first crop of M.U. Sea Foods Ltd. “But the company needs to culture two more crops to get final result.” However, frozen-foods exporters sought commercial cultivation of the white-leg

prawn as soon as possible, as they claimed that the pilot project of M.U. Sea Foods Ltd successfully completed. At the same time, they also requested allowing vannamei Specific Pathogen Free (SPF) hatchery for production of vannamei fry.

To this end, the Bangladesh Frozen Foods Exporters' Association (BFFEA) formally requested the government to allow farming of the hybrid shrimp. The association said in its letter that the project of Paikgachha made a good success. It produced 8.62 tonnes of vannamei shrimp per hectare. It also said they had sent a report to the DoF, in this regard. The inspection committee of the DoF also visited the project and submitted their report. Talking to the FE, BFFEA president Amin Ullah said vannamei shrimp was produced in a semi-intensive method through maintaining bio-security. So, there was nothing to worry about environmental damage or harmfulness for local species. On the other hand, the whole farming process had been monitored by the DoF, he added. "We didn't know why the authorities concerned were lingering the issues," the BFFEA chief said, adding that the sector was facing an acute crisis of exportable fishes. Shyamal Das, managing director of M.U Sea Foods Ltd, said they had succeeded in production. "If the government now delays giving permission for commercial production, the sector will face further uncertainty." He said currently, vannamei is a leading item on the world shrimp market because of its affordable price and the country's shrimp exporters have been demanding for long inclusion of the hybrid variety of edible crustaceans in their export basket. More than 60 countries are producing vannamei, which meets about 80 per cent of total shrimp demand in the globe, he mentioned. Bangladesh exports only 2.0 per cent of the international demand for frozen shrimp, according to the Bangladesh Shrimp and Fish Foundation (BSFF).

Exporters say they incurred huge losses as Bangladesh's black-tiger species lost its competitiveness in key global markets like the United States and the European Union (EU). If they want competitiveness, vannamei production is indispensable. The country once boasted 110 frozen-fish factories occupying the second position among the total export-oriented sectors even a decade ago. But the number has come down to as low as 30 to 40 at present. Unavailability of exportable fish, especially shrimp, on the local market is the key reason behind this worst situation in the industry, insiders said. Data available with the Export Promotion Bureau (EPB) show a climb-down in the trade as the country earned from shrimp export US\$361 million in fiscal year (FY) 2018-19, \$332 million in FY 2019-20, and \$320 million in FY 2020-21.

URL: <https://thefinancialexpress.com.bd/trade/hope-high-on-vannamei-for-shrimp-export-boom-1632625529>

Bangladesh: BTTC seeks commercial production approval for Vannamei shrimps

The Bangladesh Trade and Tariff Commission has recently made a suggestion that the country should approve commercial production of Vannamei shrimp, a non-native species of shrimp, as it had become difficult to stay competitive on the global market through export of the local variety. The BTTC in a letter on August 19 suggested that the commerce ministry should request the fisheries and livestock ministry to allow commercial production of Vannamei shrimps in the country within short time so that it could be exported at competitive prices on the global market. The commerce ministry on September 13 informed the finance ministry about the

recommendation made by the BTTC about Vannamei cultivation. The BTTC in its suggestion said that the consumption pattern of shrimps had changed on the global market and 70 per cent of the total demand for the item had now been grabbed by the Vannamei variety due to its lower production cost. Demanding immediate approval for commercial production of Vannamei from the government, shrimp exporters said that they had completed the first phase of a pilot project on commercial production of the variety. Referring to the result of the pilot project, they said that 5,000-8,000 kilograms of the Vannamei variety could be produced on per hectare, which was 20 times higher than the production rate of the local Black Tiger shrimp and freshwater prawn. In 2020, the government allowed Shushilan, a non-government organisation in Khulna, and Agri Business Enterprise in Chattogram to launch two separate pilot projects for introducing the Vannamei variety under the supervision of the Department of Fisheries and the Bangladesh Fish Research Institute.

The Bangladesh Frozen Foods Exporters Association in a letter sent on September 1 requested fisheries and livestock minister SM Rezaul Karim to approve commercial production of the Vannamei variety on the basis of the pilot project report prepared by a team of the Department of Fisheries. The letter said that the result of the pilot project was satisfactory as the production rate was found to be 8.62 tonnes per hectare. To increase export earnings from shrimp, the government should allow the commercial production of the Vannamei variety immediately, the letter said. It also said that out of 15 shrimp producing countries in Asia, all others for except Bangladesh are producing the Vannamei variety. ‘The fisheries and livestock ministry is delaying the approval process for commercial production of Vannamei in the country without any reason,’ BFFEA president Md Amin Ullah told New Age on Monday. After completion of the first phase of the pilot project, the Department of Fisheries in a letter issued on September 19 asked Shushilan to provide information on the next phase of piloting. ‘We are already late in undertaking initiatives to remain competitive on the export market and there is no logic for further delays by fulfilling the DoF’s requirement for additional phases of piloting,’ Amin Ullah said. People from the sector said that there were a total of 76 shrimp processing factories across the country and only 30 of them were in production. According to the Export promotion Bureau, export earnings from shrimps in the financial year 2020-21 declined by 1.15 per cent to \$328.84 million from \$332.65 in FY2019-20.

URL: <https://www.newagebd.net/article/149850/bttc-seeks-commercial-production-approval-for-vannamei-shrimps>

Bangladesh: Kaptai Lake’s beauty and navigability clogged by water hyacinth

A journey by boat on the country’s largest Kaptai Lake is no longer fun. Boats carrying tourists on a joy ride get stuck up in the middle of the lake, surrounded by hills. Locals commuting by boats complain of wasting productive hours as the journey gets terribly slow. For all their sufferings they blame an unusual culprit: water hyacinths. The ambience of the man-made lake is under threat as it has been covered with prolific weeds. The unabated growth of the invasive aquatic plants is not only hampering the operation of water transports (such as launches, speed boats and engine boats) but also threatening fish and marine resources and polluting its water. According to experts and locals, the water of Kaptai Lake has been severely polluted with water

hyacinths. Local residents are getting infected with various diseases by using the water of the lake, they said. Recently, a large swathe of the lake was seen was clogged by water hyacinths. Seen from a distance, it looks like a playground full of small green grass. But no, it's not a playground, it's water hyacinth, he found. The communication with seven of the 10 upazilas of the district is done mainly by this lake. Kaptai Lake with an area of 730 sq km surrounds the district like a net. Life in Rangamati city is also being disrupted due to the water hyacinth accumulated in the lake. Snakes and mosquitoes have also settled here. The menace of insects has also increased. Especially, the place where water hyacinth spread the most is the Subalang Channel. Surrounded by hills, one has to visit the beautiful Subalang waterfall after crossing this place which is a must-see destination for tourists visiting Rangamati. According to the locals, every year during the monsoon, water hyacinths grow because of the onrush of water from the hills along the border and create garbage in the lake.

These water hyacinths also gather in the town's lakeshore market places when the water level of Kaptai Lake rises. As a result, farmers from far and wide suffer a lot to sell their products. A large number of small and big engine-driven boats from Rangamati Sadar to Kaptai Upazila Jetighat, Bilaichhari, Jurachhari, Langdu, Borokol, Baghaichhari, Farua, Horinchhara and other places every day. Besides, cargo boats ply on this route during the weekly market day. Moreover, a large number of tourists cross this route to visit Rangamati's Subalang Waterfall and Bilaichhari Upazila's various springs during this season. For instance, on September 10, police rescued seven tourists as they got stuck in an engine boat in the Kaptai Lake after they had made a distress call to the national emergency service number 999. The boat got stuck in a swarm of water hyacinths near Balukhali and the propeller of the boat's engine broke as the boatman repeatedly tried to restart it. Boatman Monoranjan Chakma said these water hyacinths will remain stuck in the lake until winter. "So, we cannot operate the boats at normal speed. Normally it takes 1 hour 20 minutes to an hour and a half to go by engine boat from Rangamati Sadar and Kaptai Jetty to Bilaichhari. But now, it takes 2 hours to two and a half hours due to this water garbage. This is a waste of time besides causing untold sufferings."

The locals complained that despite the serious situation, the concerned administration did not take any initiative. Thus fishermen and boat people continue to suffer. The water of Kaptai Lake is largely used for drinking by a sizeable number of the hill people. As a result, the residents are forced to use polluted water as there is no water purification system. Therefore, the locals have demanded that authorities take immediate steps to remove the water hyacinths from the lake and clean it. However, Lt Commander M Touhidul Islam, manager of Bangladesh Fisheries Development Corporation (BFDC) in Rangamati, said there is obstruction only in areas where the water hyacinths have massed. In particular, the Kaindar Point of Kaptai Lake was covered with water hyacinths for about 10 days. Under the direction of Rangamati Deputy Commissioner Mohammad Mizanur Rahman, the Rangamati Launch Owners-Workers Association and BFDC are removing water hyacinth from Kaptai Lake using three launches. "Hopefully, in a few days, people will not have to suffer due to water hyacinths while boat-riding on the lake," said Touhidul Islam. Md Ashraful Islam, the chief executive officer of Rangamati Hill District Council, said that a permanent is required to eradicate the notorious plants from the lake. He said the matter would be discussed with the chairman of Rangamati Hill District Council. Moin Uddin Selim, president of the Rangamati Launch Owners' Association, said there were problems in navigating to various places including Subalang, Borokol, Jurachhari and Bilaichhari for water

hyacinths in Kaptai Lake. Water hyacinths also affect the transportation of passengers and essential goods. He sought the immediate intervention of the relevant authorities. Ramzan Ali, who is in charge of managing the tourist boat operators at the Rangamati tourist wharf, said as tourists have started coming after a long Covid-19-induced lockdown, water hyacinths are coming in the way of smooth travelling. “If this problem is not addressed permanently, we will suffer huge losses,” he said.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/09/18/kaptai-lake-s-beauty-and-navigability-clogged-by-water-hyacinth>

Bangladesh: Govt to provide houses for all climate change affected people: Environment Minister

“The present government under the leadership of Prime Minister Sheikh Hasina is sincerely working to address various risks related to climate change. So far, 800 projects have been undertaken at a cost of Tk 3,800 crore with the funding of the Climate Change Trust Fund to this end,” he said. The environment minister made the remarks while exchanging views with officials of the Bangladesh Climate Change Trust at Mohakhali in the city, said a press release. About 30 million people in the coastal areas have benefited from these projects, Shahab Uddin said, adding that the government will take further steps to build more houses in future for those rendered homeless due to climate change. He said all necessary steps will be taken to amend the law, set up field offices and recruit adequate manpower so that the Climate Change Trust can function independently.

The minister directed the concerned officials to construct the Cyclone Shelter cum Primary School on a four-storey foundation and to set up lightning forecast system across the country. Chaired by Managing Director of the Climate Change Trust Masud Ahmed, it’s Secretary Nasir-ud-Daulah and Director Md Khairuzzaman, Conservator of Forest Department SM Munirul Islam, and Assistant Director of the Trust Shakila Yasmin spoke at the meeting, among others. Before the view exchange meeting, the minister visited a photo exhibition displaying various activities implemented with the funding of Climate Change Trust Fund and gave instructions to the concerned officials on various issues.

URL: <https://www.thedailystar.net/environment/climate-crisis/news/govt-provide-houses-all-climate-change-affected-people-environment-minister-2175836>

Bangladesh: Fish production increased by 400pc in 20-yrs

Fish production in Bangladesh has increased dramatically almost 400 percent in the past two decades, starting from 1.781 million metric tonnes in 2000-2001 and reaching 4.134 million metric tonnes in 2019-2020. Employment opportunities in the sector are a boon as well – official statistics show that the fisheries and aquaculture sectors (directly and indirectly) support more than 18 million people. It also showed that Bangladesh is becoming less reliant on capture fisheries and is embracing aquaculture to meet domestic and export demand. Bangladesh can

boost economy by tapping sea resources and can boost its ‘blue economy’ contribution to the national GDP, said Global Economist Forum (GEF), President of the GEF Dr Enayet Karim told Daily Industry that the blue economy of Bangladesh is posing high potentials to encash from the Bay of Bengal. A recent review in Aquaculture and Fisheries has tracked two decades of expansion in Bangladesh’s fishery and aquaculture industries and linked it to the country’s overall economic growth, suggesting that additional investment could boost Bangladesh’s economy by fish production. The researchers reviewed data from Bangladesh’s Ministry of Fisheries and Livestock and the Bangladesh Bureau of Statistics to quantify the country’s fish production and import and export volumes for the last 20 years. The data suggests that the industry has been a runaway success, there are some obstacles Bangladesh must overcome to maintain its position as a top aquaculture producer.

Fish and shrimp quality, as well as low food and worker safety standards, remain pressing concerns for the aquaculture sector. If these concerns aren’t addressed, the industry’s growth could quickly stagnate. The researchers suggest that policymakers prioritise product safety and sustainability as part of Bangladesh’s wider ‘blue growth’ plan for aquaculture. This will allow the current growth trajectory to continue, while improving the quality of farmed fish and shellfish. Though Bangladesh is largely agrarian, analysts have identified the fish and seafood sector as a core component of the country’s economic development. The fishery and aquaculture industries play a decisive role in the economy, supporting millions of jobs and providing reliable foreign export earnings. In 2018, Bangladesh was the fifth largest global aquaculture producer and the sector is expected to continue growing in the coming years. Economists expect Bangladesh to come out of the low-income country category and move into the lower-middle income category within the next three years – aquaculture exports will play an instrumental role in the transition. The country already had vast and diverse stocks of fish at the start of the millennium. Fish is also the primary source of animal protein for Bangladesh, so generating domestic demand for cultured fish and shrimp wasn’t an issue. Official data shows that aquaculture production has increased threefold since the year 2000, largely thanks to technological innovations and regulations that are producer friendly. The researchers highlighted the general growth trend of the aquaculture sector but explained that the 20 years of growth reflects the rapid changes in fish farming.

Over the course of the study, Bangladesh became self-sufficient in fish production (utilising both fishery and aquaculture resources) and gained global recognition as a leading fish producer. The country’s aquaculture industry has shown sustained growth and has become a key part of its macroeconomic framework. In terms of aquaculture exports, frozen shrimp has emerged as Bangladesh’s main commodity. Much of the frozen shrimp produced in Bangladesh heads to the European Union – making the country one of the few low-income nations to export food products to the trading bloc. The official data indicates that total aquaculture exports are mixed. Though they have grown in volume and earnings, the researchers could not identify any reliable trends. In the last years of the study, 2019-2020, the Bureau of Statistics logged a decline in aquaculture exports. The researchers believe that the dip can be attributed to poor quality and safety standards in fish and shrimp – something that could threaten the long-term growth of export commodities. The researchers stress that the industry must boost its production standards to achieve the benchmarks imposed by its trading partners. This is the only way Bangladesh’s exports will remain competitive and viable. The data indicate that the industry has plenty of scope

for development and is well-positioned for growth. Fish farming plays a pivotal role in the nation's food security and generates significant employment and foreign exchange earnings. Policymakers need to harness this potential to strengthen the national economy. The researchers stress that the government's blue growth agenda should continue. The eco-friendly programmes that stimulate production could be modified to include improved safety and quality standards for farmed shrimp and fish. This will not only keep Bangladesh's exports competitive but will also keep the country on its current growth trajectory.

URL: <https://dailyindustry.news/fish-production-increased-by-400pc-in-20-yrs-in-bangladesh/>

Bangladesh: How Jashore's fisheries output grew in the midst of a pandemic

In the midst of the most significant economic slowdown in decades, the fisheries sector in coastal district Jashore proved a mainstay for the economy in the 2020-21 fiscal, that helped Bangladesh avoid recession or even contraction. Bangladesh's GDP growth fell from 8.2% in the 2019-20 fiscal to just 3.8% in 2020-21 – the lowest annual growth in the country's GDP in 30 years. That represents a slump in economic activity that would have been unacceptable in normal times. But in a year blighted by the virus where we saw most countries experience contraction in their economies (negative growth), Bangladesh's 3.8% was the fifth-highest GDP growth rate in the world. The economic downturn brought on by the pandemic affected almost every sector in the country. The impact was pervasive yet uneven. This was the general picture reflected in most economies around the world. For the record, the world economy did fall into recession in 2020, with the IMF's final assessment estimating it shrank 3.3%. The fisheries sector emerged as one of the major pillars holding up the economy and helping Bangladesh to avoid a recession. Technically, a country's economy enters recession once it experiences two successive quarters of negative growth, or contraction. To get out of a recession then requires two successive quarters of growth back.

Apart from the recession, Bangladesh also managed to avoid potentially disruptive events such as a shortage in food stocks, to which fisheries had a direct contribution. The sector in Jashore especially enjoyed a highly productive period recently, with the 2020-21 output exceeding the target against which they all worked by over 300%. This allowed for not only the local demand in the district to be met – it also left a very decent amount to be transported and sold in some of the more lucrative domestic markets such as capital Dhaka, and even to be exported abroad. According to the district Fisheries Department, in the unit-wise breakdown of targets for the 2020-21 fiscal, the authorities had set a target of producing 65,589 metric tonnes of fish in the district. But already some 224,858 metric tonnes of fish have been produced, which is three times higher than the target. A look at past production figures reveals that over the last five fiscals, the total output from Jashore has ranged from 179,998 MT of fish that was produced in the fiscal year 2014-15, to the 205,811 MT in the 2015-16 fiscal; 220,643 MT in 2016-17; 221,358 MT in the 2017-18 fiscal; 222,168 MT in 2018-19 and 223,792 MT in 2019-20. In fact, not only did production in Jashore smash the authorities' drastically reduced target, it even grew slightly (just 0.5%) over the amount produced in FY20 – a quite remarkable achievement considering the pandemic was present throughout the year. Use of modern technology, ensuring

sanctuary for fishes and the entry of a new band of entrepreneurs hungry for success, have led the charge from day one.

Of the produced fish, 29,072 MT of fish have been produced in Sadar upazila of Jashore, 38,340 MT in Manirampur upazila, 33,999 MT in Keshabpur upazila, 31,105 MT in Jhikargacha upazila, 29,791 MT in Abhaynagar upazila, 25,838 MT in Sharsha, 17,931 MT in Chougachcha and 8,783 MT in Bagherpara upazila of the district. Besides, the authorities concerned have estimated that the production has increased by about 45,000 metric tonnes in the past six years in the district. District fisheries officer Anisur Rahman, said currently just over 72,155 hectares of waterbody has been brought under fish cultivation and different varieties of fish including Rui, Katla, Mrigel, Bagda, Galda shrimp, Pangas, Sing, Magur and Koi fish are being produced in the water bodies. The fish of the district have been supplied to different countries after meeting the demand of local people, he said. Besides, some 9,301.89 metric tonnes of fish have been exported from India and Middle East countries and the government has earned Tk 3,67,70,155 US dollars (approximately Tk 294 crore) from it as revenue income, he added. Following the demand of the exporters, new demands have been created in the market including fish producing, packaging and transporting, said Aminur. As a result, a new employment status and revenue sector has been created which has played an important role in the economy of the country, he said. “Now our main focus is to draw the attention of Middle East and Europe markets,” he added. Referring to the steps taken for increasing fish production in the district, Aminur said “We have taken so many plans in phases. We especially focused on the production and marketing sectors and inspired many young men to become involved in fish farming. Besides, a new variety of fish was also introduced during the process that has boosted the production.”

URL: <https://unb.com.bd/category/Special/how-jashores-fisheries-output-grew-in-the-midst-of-a-pandemic/78712>

Bangladesh: The national fish and silver pride

Hilsa has become the king of fish due to its incomparable taste, smell, and nutritious oil. The most interesting thing is that Hilsa does not have a permanent address. Hilsa fish is locally called ‘Ilish’ and its scientific name is ‘Tenualosa Ilisha’. These are migratory fish, sometimes also called international fish. Hilsa roams the oceans of the world under various names. But Bangladesh produces around 86% of the world’s Hilsa. And Padma’s Hilsa, the universally tasty Ilish is our pride. Bangladesh has given the status of national fish to Hilsa. Furthermore, the recognition as Geographical Indication (GI) product of Bangladesh, Hilsa is now on the menu in different countries as Bangladeshi food.

History of Hilsa Ilisha

The exact history of Hilsa is unknown. Even though there are much bigger fish than hilsa, it is the king of fish. It is said that hilsa has been roaming freely in the ocean since ancient times. Hilsa’s wandering is also quite interesting, from the saltwater of the sea to the freshwater of the river. From there, back to the saltwater of the sea. During the breeding season or during the egg-laying season, the male and female hilsa flock out to sea for a favorable environment. Eggs are

laid in the freshwater of the river. The baby hilsa grows in fresh water and gradually gets ready to go to the ocean. Hilsa swims in the Bay of Bengal, Indian Ocean, Mediterranean Sea, Persian Gulf, Java Sea, South China Sea, Tonkin Bay, West, and Central Pacific Ocean. The British researcher Hamilton Buchanan named it Hilsa in 1882 while researching fish in the Bay of Bengal. Later, two researchers named Fischer and Bionio classified Hilsa as 'Tenulosa.' Tenulosa is found in five species in the world. Of which three species match in Bangladesh. Hilsa (T-Isha), Chandana Hilsa (T-Tolly), and Gupta Hilsa (H-Ki-Li). Among them, Hilsa found in the Padma is worldfamous.

What is special in Hilsa Fish?

This fish is excellent in taste and smell. Also rich in food quality. It contains high levels of carbs, fats, and minerals as well as omega-three fatty acids, amino acids, calcium, phosphorus, iron, vitamins A, D, B. Hilsa is characterized by a silver torpedo-shaped fish. There is a slight blackness on the back. Baby hilsa has lined spots on the body. Hilsa takes eight months to a year to mature after hatching from eggs. Mature hilsa can grow to a maximum length of 63 cm or more than two feet and weigh a maximum of three / three and a half kg. However, usually, the fish is caught in the net before it reaches 2 kg. At present Hilsa is found in about 100 rivers of Bangladesh. In particular, the main rivers of the Padma and Meghna basins, its tributaries, bays, and coastal areas of the Bay of Bengal are home to Hilsa.

Prospect of Hilsa Fish for Bangladesh

Hilsa is found all year round in the lower reaches of the Meghna River at Kalabadar, Tertulia, Arial Kha, as well as at Bishkhali, Payra, Rupsha, Shiba, Pashur, Lohadia, Andharamanik rivers, bays, and seashores. In addition, the availability of hilsa in the Padma has increased due to the establishment of a hilsa sanctuary in the lower reaches of the Padma and the ban on netting hilsa on certain days of the year. Over the years, hilsa production has increased significantly. Hence it contributes to the country's economy greatly. Hilsa contributes 1% to the gross domestic product (GDP). About 5 lakh people are directly involved in hilsa, and 20 to 25 lakh people are directly or indirectly involved, according to the Fisheries Department. In 2016, Hilsa of Bangladesh had been recognized as a GI (Geographical Indication) product. It is difficult to get accurate information about the quantity of hilsa export. According to the Department of Fisheries, out of 75,000 tons of fish and fish products exported from Bangladesh every year and among those 24,000 tons are frozen fish. It can be assumed that most of these frozen fish are hilsa fish.

Hilsa Ban Period in Bangladesh

The government has a ban on catching hilsa in the river for most of the year. 22-day spawning period, 240 days to allow the jatka to grow, and 65 days to protect the fishery resources in the sea, a total of 327 days in these three phases. In addition, the Ministry of Fisheries and Livestock has issued a special ban on fishing for hilsa in hilsa sanctuaries in the country. In the first phase, the Ministry of Fisheries has banned fishing for hilsa in all the rivers of the country for 22 days every year in October (Ashwin's second part and Kartik's first part). Ashwin's full moon is the time for laying hilsa eggs. Mature hilsa comes to the freshwater river from the sea to lay eggs at this time. In order to make the spawning time uninterrupted, the government imposed a ban on

all kinds of fishing at that time. Ministry sources also said that the date was changed due to the importance of Ashwin's full moon. Earlier, this time was 7 days, but later it was reduced to 14 days, and now it is 22 days.

In the second phase, known as Jatka (25 cm long hilsa), the government imposed restrictions on catching hilsa in the river or sea at a large time of the year to allow the jatka to grow. This is done from 1 November to 30 June of the following year for these 8 months or 240 days. For eight months, fishing Jatka has been banned. But, during these eight-month, there is no restriction on catching large Hilsa. In the third phase of the year, all types of fishing have to be closed in the Bay of Bengal for 65 days from May 20 to July 23 every year to develop marine fisheries resources. The ban applies to commercial fishing boats as well as all types of vessels. The breeding season of different marine animals, including different types of fish in the Bay of Bengal, is from late May to July of the year. That is why the Ministry of Fisheries has imposed a ban on fishing in the Bay of Bengal for 65 days to protect the sea's animal resources as well as increase the government's fish stock.

Hilsa production in Bangladesh

According to the Ministry of Fisheries and Livestock, Hilsa production in the country has increased by about 79% in the last 10 years. In 2008-09 fiscal year, hilsa production was 2 lakh 98 thousand tons. In the last fiscal year 2018-19, the production of hilsa was 5 lakh 33 thousand tons. At this time, the production has increased to 2 lakh 35 thousand tons. At the same time, the average growth of hilsa production in 10 years is about 6.20%. According to World Fish, an international research organization on fisheries, 86% of the world's hilsa is now being produced in Bangladesh. However, a few years ago, 65% of the world's total hilsa production came from Bangladesh. Hilsa contributes the most to the total fish production of the country. About 12% of the total fish produced in the country comes from hilsa.

Health Benefits of Hilsa Fish

Hilsa has a lot of calories. In addition, potassium, iron, phosphorus, sodium, zinc, and calcium. It also contains plenty of omega-three fatty acids. We can meet the demand for omega-three fatty acids in the body by eating hilsa. Omega-three fatty acids are beneficial for the brain and eyes. The omega-three fatty acids also help reduce depression. This fish contains a lot of oil, which strengthens the nervous system and increases blood circulation. The bad cholesterol in the heart can get rid of the fat found in the hilsa. Further, it is a good source of vitamin D, which helps to keep the skin and hair good. Hilsa fish regulates blood cholesterol. In addition, it reduces various pains in the body.

Popular Hilsa Ilisha Curries in Bangladesh

More or less, everyone likes hilsa fish. Depending on the family, there are many differences in the cooking of hilsa fish. But there are some recipes that are universal in terms of taste, nutrition value, and presentation. Among all the Hilsa curries, Shorshe Ilish is the most popular one. Mustard and hilsa are the two main ingredients to cook Shorshe Ilish. Besides, other regular ingredients are also needed. It can be cooked easily by heating the oil in a pot and boiling the

kalizira in it. After that, add mustard paste and raw chilies in it with all the spices one by one and add the pieces of hilsa in it, then mix the whole fish well with the spices and cover it with one / two cups of hot water for five minutes.

Next, Ilish Polao is another popular item in Bangladesh. The cooking procedure is similar to the other items eaten with pulao. It tastes really good when served warm. Ilish paturi is also a popular hilsa item. One special ingredient, bottle gourd leaves, is needed to cook Ilish paturi. To make this, you will need to wash the fish and wipe it with a kitchen towel. After that, spread all the fish with spices. Wrap the whole fish or pieces in gourd leaves and deep fry it in oil. Serve hot. All the hilsa recipes are easy and delicious, but Ilish malaikari is an exception. It is cooked with coconut milk; hence you can understand how tasty it will be! Apart from these delicious curries, Hilsa fish fry and Hilsa egg fry are also very popular food.

URL: <https://unb.com.bd/category/Bangladesh/hilsa-ilisha-the-national-fish-and-silver-pride-of-bangladesh/78473>

Bangladesh: Scarcity of ilish in the mighty Padma but the river is not disappointing local fishermen

This season has seen a scarcity of ilish in the mighty Padma but the river is not disappointing local fishermen. When Kalidas Halder threw his net into the mighty waters of Padma on Sunday night near Daulatdia ferry terminal No 7 at Rajbari's Goalanda, he did not know what the dawn would bring. After a night of disappointment, as the local fisherman reeled his net in at daybreak net to the boat, he found a massive 16kg catla in the mesh to his surprise.

Ecstatic with the catch, Halder hustled to the wholesale fish market near Daulatdia ferry terminal No 5. There, the catla or carp fish — scientific name *Catla catla* — was weighed to be 16kg and bought by a local fish depot owner through an auction at Tk28,000 (Tk1,750 per kg). As a happy Halder went home, Shahjahan Sheikh, the highest bidder and the proprietor of Shakil-Sohan Fish Depot, went on to sell the fish to a Dhaka-based industrialist at Tk30,400.

“It felt good making a profit by selling this fish,” said Sheikh, who made another such profitable deal a week ago. Last Saturday, he had sold a 22kg Boal fish for Tk61,000 to another industrialist in Dhaka. This catfish was also caught similarly at dawn but in the estuary of Padma and Jamuna at Harirampur, Manikganj. The man behind the net at that time was one Kaiyum Halder. This season has seen a scarcity of ilish in the mighty Padma but the river is not disappointing its fishermen.

Over the past few months, local fishermen have been netting large fishes of different kinds, said Goalanda upazila Fisheries Officer Md Rezaul Sharif. These freshwater fishes included Rui (another type of Carp), Bagarh, Chital (a type of knifefish), Boal (Helicopter Catfish) and Pangash (Yellowtail Catfish), he said. Sharif said the fishermen generally use many varieties of locally-made fishing nets, including “Fashion,” “Dashan,” “Kouna,” “Kochal” and fence nets, to catch them. Fishermen who live in districts on both sides of Padma River have netted these massive fishes whose prices ranged from Tk20,000 to Tk200,000 over the past few weeks.

Such large fleshy delicacies have been satiating the Bengali taste buds with their fulfilling umami flavour for decades. All these fishes are widely consumed around the country, regardless of the season. Thus, the fishermen and all those involved in the fishing industry return home with a smile after a big catch such as the 16kg Catla — also known as the major South Asian carp.

URL: <https://www.dhakatribune.com/bangladesh/2021/09/07/the-tk30-000-catla>

Bangladesh: Flood damages croplands in northern, central districts

Flood caused by flashy rivers across the border in India has started to recede after damaging crop lands and fisheries in many northern and central districts in the past two weeks. In Gaibandha, standing crops, including T-Aman paddy, Aman seed beds and summer vegetables on 1,157 hectares of land have been damaged due to the flood caused by water from hilly areas in India. A total of 19 unions of Sundarganj, Sadar, Fulchhari and Saghata upazilas remained flooded in the past two weeks, New Age Gaibandha correspondent reported. More than 85,000 people have been facing a shortage of pure drinking water and food. Officials of the Department of Agricultural Extension said that floodwater submerged crop fields on over 30,000 hectares of land in low-lying areas of the Rangpur agriculture region alone.

Agriculture minister Mohammad Abdur Razzaque on Monday informed the cabinet that the flood would not hamper Aman cultivation in the current crop season. 'We have already planted Aman on 57 lakh acres of land against a target of 60 lakh acres. In case of any problem, T-Aman would be planted,' cabinet secretary Khandker Anwarul Islam at a briefing at the secretariat quoted the agriculture minister as saying. Presiding over the meeting virtually from her residence Ganabhaban, prime minister Sheikh Hasina asked the authorities concerned for ensuring relief goods for the flood-affected people, the cabinet secretary said. Flood-hit people in the affected districts said that they were facing a shortage of pure drinking water and food amid the inadequate supply of reliefs. They are facing risks of river erosion with the water receding in the Brahmaputra river system in Kurigram, Lalmonirhat, Rangpur and Gaibandha. Our Tangail correspondent said that the flood situation in the districts was mixed.

Flood improved in some places and it remained unchanged in others places. People in Basail and Mirzapur predicted deterioration of flood there with water rising in the River Bangshi. Flood in the affected districts is expected to recede quickly as the water level in major rivers will continue to fall in the next seven days, according to a government report. The Brahmaputra-Jamuna river system water level will continue to fall in the next one week as flood in Jamalpur, Sirajganj, Bogura, Tangail, Manikganj will improve quickly. The flood situation in Munshiganj and Shariatpur will also improve as the water level in the Ganges-Padma will fall during the same period, said the report of the Flood Forecasting and Warning Centre under the Bangladesh Water Development Board.

The forecast of the report valid for 10 days was released on Monday. The FFWC daily report on Monday said that nine rivers at 17 points were still flowing above their respective danger levels. The rivers are Dharla, Brahmaputra, Jamuna, Turag, Kaliganga, Padma, Atrai, Dhaleswari and

Muhuri. The state-owned news agency, BSS, reported that the overall flood situation in Jamalpur further improved in the past 24 hours. District relief and rehabilitation officer Md Nayeb Ali said that about 1 lakh people of 169 villages in six upazilas of the district were affected by the flood. Bangladesh Water Development Board officials said that the water levels of all major rivers marked further sharp falls at all points following the continuous recession in the rate of onrushing water from the upstream during the period.

URL: <https://www.newagebd.net/article/148409/flood-damages-croplands-in-northern-central-districts>

Bangladesh: Syedpur's dried puti fish sees high demand in India

Sheikh Md Delwar Hossain, general secretary of Syedpur Dried Fish Traders Welfare Association, said although other dried fishes are imported from different countries including India, dried puti fish worth around Tk50 crore is exported from the wholesale market in Syedpur. There are 13 wholesale shops and more than 50 shops involved in the dried fish (commonly known as shutki) business beside the Rangpur-Nilphamari highway. Over 500 workers are directly involved in this sector there. At the wholesale shops in Syedpur, loitta shutki is currently being sold at Tk700, faisha shutki at Tk500, chala at Tk400, churi shutki at Tk400 and puti shutki at Tk200-250 per kilogram. Aside from these, dried fish of more than a hundred species are sold at that market. The business leaders said Chattogram has the biggest dried fish market in the country, while Syedpur has the second largest. Traders in Syedpur collect marine and native dried fish from Chattogram, Khulna, Pabna, Barishal, Barguna, Satkhira and other places and sell those to traders across the country. Several crore taka is transacted in the dried fish business in Syedpur every month. The traders do not have information on the total amount of dried fish sold in Syedpur, but they said their business surges significantly during Kartik to Chaitra (mid-October to mid-April). During this period, they sell dried fish worth several lakhs of taka in this market every day. At other times, traders usually buy dried fish and store them to sell later. Especially in the monsoon season, people are eager to buy dried puti fish. Bismillah Market is the most notable wholesaler in Syedpur that exports dried fish to India. Along with it, Lucky Enterprise, Sheikh Enterprise, and Masud Ali also export dried fish to India.

Owner of Bismillah Market Md Shahabuddin Mia has achieved special honor as the third highest taxpayer in the district. He also became the top taxpayer at the Akhaura land port in Brahmanbaria last year. He exports dried puti fish to several states of India through this port. The veteran trader said the price of fish in the Indian market is comparatively lower than in Bangladesh. So, India usually exports dried fish to different countries. Bangladesh imports different species of dried fish including tengra, shing, pabda, chala shutki through the Hili land port from them. But, Bismillah Market has been exporting about 100 trucks of dried puti fish to the Seven Sister States (Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Nagaland and Tripura) of India every year. The demand for Bangladeshi dried puti fish there is constantly increasing day by day. Bijan Kumar Mahanta, manager of Bismillah Market, said they exported dried fish to India at Tk45 lakh per truck. According to him, the market exports dried fish worth around Tk45 crore to India every year. Milton Hossain, owner of Munshi Market, said Syedpur has gained a great reputation in the dried fish business all over the country, but there are also

problems here. For example, insects sometimes attack the stored dried fish and ruin them. Many times these fish are powdered and sold as animal feed, which incurs losses for the traders. To overcome this situation, a dry fish cold storage is needed in the area. Basid Ali, president of Niamatpur Dried Fish Traders Cooperative Society Limited, said, “The dried fish business was flourishing here, but traders have lost lakhs of taka due to the Covid-19 pandemic. The government should give incentives to these traders considering these issues.”

Syedpur Upazila Senior Fisheries Officer Sunny Khan Majlish said, “At least 4,500 tonne fish is sold annually at the largest dried fish market in the country’s northern region. The good news is that in the import-dependent fish market, dried puti fish worth crores of taka is also exported from Syedpur.” “However, the traders have suffered a bit due to the Covid-19 pandemic. The government is making arrangements to provide them loans at 4% interest,” he added. Asked if there is any initiative from the administration to preserve dried fish, Syedpur Upazila Nirbahi Officer Md Shamim Hossain said, “There is no government cold storage facility in the country for fish conservation. For this reason, there is no scope of setting a government cold storage facility here. However, if anyone wants to do it privately, we will assist him.”

URL: <https://www.tbsnews.net/economy/bazaar/syedpurs-dried-puti-fish-sees-high-demand-india-297859>

Bangladesh: Native fishes’ extinction

Amid the media furore over the fast extinction of the age-old native fishes, there is also news people feel upbeat about. Fishing communities in a few places of the country are putting in their best of efforts in culturing these vanishing fishes. The south-western district of Naogaon is one of them. According to a FE report, people involved in fishing in the district have had a yield of about 83,609 tonnes of these endangered fishes this year. The production volume last year was 80,600 tonnes. It points to an increase in the demand. In the freshwater aquaculture, farmers mostly turned to the district’s ponds and different types of water bodies. According to an estimate, there are a total of 47,326 ponds for pisciculture on 12, 895 hectares of land in 11 upazilas of Naogaon. The wetland also includes natural water bodies on nearly 34, 900 hectares of land in the district. The boom in the native fish cultivation, largely expedited by the District Fisheries Office, is, undoubtedly, set to emerge as an instance for other districts. Researchers involved with bringing back the native fish species believe the Naogaon case would be widely replicated in the country’s many fish-scarce regions. Bangladesh has for ages been a fertile fish-producing country.

Rice and fish comprise the people’s staple diet. A land known for growing hundreds of types of both large and small indigenous fish, it cannot let these aquatic protein sources decline further. Already over dozens of fish species have gone extinct in the last few decades. Many jobless fishermen in Naogaon and other districts have found a new lease of life by picking this new profession: cultivation of native fish. After having worked hard in the initial years, they eventually began to reap financial benefits. At present thousands of small-scale rural entrepreneurs are found to have embarked on fish cultivation ventures. People in the regions lacking sufficient wetlands, and nearby rivers, have dug ponds. The local District Fisheries

Office has provided farmers with fish fry and fingerlings. They come up with advice and tips on non-traditional fish farming methods. In the whole process, enthusiastic farmers, at one phase or the other, face different types of hurdles. The frequently common of them have to do with marketing the fishes in urban areas and rise in the price of fish feed. Production of fish fry and their occasional fall in demand lead to a slump in fish price. It causes losses to the profit-focused entrepreneurs. However, the scene is different in many parts of the country including the Naogaon district.

The District Fisheries Officer says after meeting the local demand for over 61,000 tonnes of fish in Naogaon, the fish farming community passes on the rest to other parts of the country. In the meantime, there occurred a major development — cut in import duty on raw materials for fish feed. It is set to result in a significant drop in the price of this essential item required for fish cultivation. This in turn will benefit fish farmers. Also, it may boost production of native fishes. Time to stem extinction of the native fish has not run out. In this critical phase, government patronage is viewed as a prerequisite.

URL: <https://thefinancialexpress.com.bd/editorial/native-fishes-extinction-1630856397>

Bangladesh: Hilsha fish goes online

The ‘Live from Hilsha Bari’ campaign has been launched to bring the hilsha fish caught by the fishermen of the Chandpur river area to the buyers, focusing on the current hilsha season. Through this campaign, various e-commerce companies will collect hilsha from about 1000 fishermen of Chandpur district and deliver it to the buyers of Dhaka. Consumers in Dhaka will be able to buy hilsha through the shop’s website and app. Apart from one shop, private-sector e-commerce sites Chaldal.com, Evaly, Parmida, Khas Foods will also be available for the campaign. The campaign partners include e-Cab and the Women and Entrepreneurs Platform. On Saturday, A2i’s shop and Chandpur district administration organized an introductory meeting on the campaign. The meeting was attended by NM Ziaul Alam, Senior Secretary, ICT Department, Abdul Mannan, Project Director, A2i, Joint-Project Director, A2i and Joint Secretary (e-Governance Branch), Cabinet Department.

Dewan Muhammad Humayun Kabir. Chandpur District Deputy Commissioner and District Magistrate Anjana Khan Majlish presided over the meeting. It was informed at the meeting that several strides have been taken to conserve hilsha and protect mother hilsha to increase the production of hilsha in Chandpur, the home of hilsha. About 70 km area of Meghna river has been declared as a sanctuary. In these areas, in March and April, a program was observed to stop the killing of Jatka. The speakers said regular raids were conducted in collaboration with the district magistrate, district police, and coastguard members to protect the mother of his fish. The district fisheries department of Chandpur is conducting various researches to increase the production of hilsha fish. There is also a branding museum in the deputy commissioner’s office on district branding. They are getting to know about the district by visiting this museum which is open for visitors.

URL: <https://techobserver.in/2021/09/02/bangladesh-hilsha-fish-goes-online/>

Bangladesh: Hustle, bustle returns to factories as crab, eel exports to China resume

After a pause of months due to the COVID-19 pandemic, Bangladesh has restarted the export of aquatic animals, including live crab and eel fish, to China, one of its biggest overseas markets. Thereby, the usual hustle and bustle returned to factories in capital Dhaka's downtown Uttara areas, including Nolvog, where workers start the process of sorting and packing crabs and eels into baskets before the sun rises every morning. Factory owners told Xinhua on Wednesday that China has recently updated its list of sourcing countries paving the way for export resumption for Bangladesh. They said the General Administration of Customs of China (GACC) has enlisted five Bangladeshi companies for doing business with their Chinese partners. Ujjwal Kumar Roy, owner of the Roy Trade International, said their business with Chinese traders was affected due to COVID-19. "Five companies have recently been allowed to send products from Bangladesh to China. My company, Roy Trade International, is one of these five companies," said Roy. "One big thing is that Chinese people like eating Bangladeshi crabs very much. We are also happy to export crabs to China," he said.

Bhojan Kumar Saha, owner of the Nayan International, said he has been doing business with traders from different provinces of China over the past 30 years. "We have been given guidelines from the GACC. We are sending products to China following that guidelines," he said. He said farmers from whom they collect crabs and eels also follow the Chinese guidelines. Bangladesh exports thousands of tons of crabs worth tens of millions of U.S. dollars each year, as foodies in East and Southeast Asian countries, mainly in China, have a special penchant for the tasty crustacean. Exporters here collect crabs from mainly coastal zones in Bangladesh as they are fatter and heavier than those in other countries. The country's weather, soil and water quality is particularly favorable for crabs, and exporters say they are in great demand in parts of Asia. Until last year, industry insiders said about 35 to 40 tons of crabs were exported to China from Bangladesh every day.

But the country's eel and crab export boom to China reportedly suffered a setback last year after Chinese authorities stopped taking crabs from Bangladesh due to the lack of laboratory tests demanded during the COVID-19 pandemic, and the use of false certificates by certain exporters. Niaz Uddin, a deputy director at Bangladesh's Department of Fisheries, told reporters in Dhaka recently that there is no problem now to export eel fish and crabs to China as Bangladesh has already met the requirements concerning quality control and against the use of false certificates.

URL: http://www.china.org.cn/world/Off_the_Wire/2021-09/02/content_77730178.htm

Bangladesh: Theme of this year's National Fisheries Week is "Culture more fish, reduce unemployment"

Bangladesh has been observing 'National Fisheries Week 2021' from August 28, which is set to conclude on September 3. The theme of this year's National Fisheries Week is "Culture more fish, reduce unemployment." On the proceeding of National Fisheries Week, the achievements

and significant constraints in fisheries and aquaculture production of Bangladesh demand a brief discourse.

Status of total fisheries production

Globally, Bangladesh ranked third in open water fisheries production, fifth for aquaculture, and fourth for tilapia, according to the UN's Food and Agriculture Organization. In the 2018-19 fiscal year, the fisheries sector contributed 3.50% to the national GDP. Fish production in Bangladesh has increased six-fold in the last three decades. From open water capture fisheries in the 2018-19 fiscal year, Bangladesh produced 12,35,709 tons of fish; 24,88,601 tons of fish were raised in culture setting, and 6,59,911 tons were caught from the marine fisheries.

Aquaculture

Aquaculture in Bangladesh consists of inland and coastal aquaculture. Pond farming is often seen in freshwater aquaculture, while the 'gher' culture is practiced in coastal aquaculture. Aquaculture farming systems are vastly extensive and improved extensive. However, bio-floc fish farming, which relies on intensive methods, is becoming more popular these days. In order to maintain an effective aquaculture industry, it is critical to have quality seeds and feeds readily available. The aquaculture extension service of the Department of Fisheries is quite satisfactory. However, quality seeds can only be obtained via top-notch hatchery management.

Fisheries management and biodiversity

The Ministry of Fisheries and Livestock is in charge of several governmental entities, including the Department of Fisheries, Bangladesh Fisheries Research Institute, and Bangladesh Fisheries Development Corporation, in charge of management, extension, research, project implementation, marketing, training, and human resource development, quality control, biodiversity conservation, and law and regulation enforcement. In addition, the Consultative Group on International Agricultural Research (CGIAR), the International Union for Conservation of Nature (IUCN), and other non-governmental organizations are assisting the government with fisheries management. However, Bangladesh's fisheries management strategies are still in the early stages. A large number of Bangladesh's native fishes are now on the verge of extinction due to a lack in management strategies.

Coastal and marine fisheries

Swatch of No Ground, Middle Ground, South Patches, and South of South Patches are the major commercial fishing zones in the Bay of Bengal. The government has designated the Swatch of No Ground as the country's first marine protected area to protect spawning and hatching grounds for several endangered marine species. Bangladesh has newly achieved sovereign rights on more than 118,813 km² territorial sea area and 200 nautical miles (NM) of Exclusive Economic Zone (EEZ). Fishing in the Bay of Bengal is carried out by traditional fishing boats, mid-water and long-liner trawlers. There is no current or comprehensive knowledge on fish stocks, systematics, and biological-ecological features of coastal and marine fisheries in Bangladesh, according to a study by researchers from Sylhet Agricultural University. Special attention is needed on coastal

and marine fisheries research and studies to progress the blue economy and exploit Bangladesh's large sea area. This is one of twenty-six possible blue economy sectors.

Ilish- the geographical indicator of Bangladesh

As a single species, the national fish Ilish (*Tenualosa ilisha*) has contributed the most (12.15 percent) to the country's total fish production. Our national fish Ilish, known as 'Bangladesh ilish,' has also received the Geographical Indication Registration Certificate. The Bangladeshi government makes specific efforts to enhance Ilish production. There are a lot of things involved here, including a fishing prohibition during the spawning season, restrictions on fishing equipment, controls on fishing vessels, incentives for fishers, and more. This certainly seems relevant, and the country is taking note of the benefits. The fisheries sector of Bangladesh has copious prospects for development to boost the country's economy. Thus the government of Bangladesh set a goal in its Vision 2021 to achieve food self-sufficiency and has placed a bunch of emphasis on continuing to increase food security, which encompasses a clear long-term policy to achieve self-reliance in fish production. Inter-government departmental cooperation, the collaboration between governmental and non-governmental organizations, and arousal of public response are all crucial in the composition of fisheries policy and for the further development of this sector.

URL: <https://www.dhakatribune.com/business/2021/09/01/op-ed-future-in-fisheries>

Bangladesh: Bamboo fencing in Laghata, Palak rivers wreaks havoc on indigenous fish species

When the government is observing National Fisheries Week countrywide, a section of unscrupulous fishers continues to catch native fish and aquatic lives erecting bamboo fences across the Laghata and Palak rivers in Kamalganj upazila of Moulvibazar. According to the Protection and Conservation of Fish Act, 1950, setting up impediments to the flow of a river is prohibited and a punishable offense. Although such a method of fishing is banned by law, it is going on flouting rules hampering the breeding and supply of native fish in the rivers. According to the Fisheries Department, the Laghata river flows through the haors of Adampur, Alinagar, Shamshernagar and Patanushar unions in Kamalganj upazila and falls into the Manu river in Rajnagar upazila. This river plays a vital role in the increased production of native fish in haors, beels and reservoirs and has facilitated irrigation. Sahadat Hossain, a resident of Adampur area, said the re-excavation work was completed last year as per the demand of the locals. As soon as the excavation work was completed, a section of unscrupulous fishers has erected bamboo fences in Srirampur and Gopinagar areas of the river. Visiting the area, it was found that two bamboo fences have been installed in Srirampur and Gopinagar areas of Patanushar union of Laghata river and a few bamboo fences have also been installed in Palak river. As a result, the free flow of water is being disrupted harming the reproduction of fish. Various species of aquatic lives including fish, frogs, snakes and kuchia are dying in the cages kept inside the net.

Residents of the area, including local teacher Ferdous Khan, said several bamboo fences are planted in the small rivers every year hampering drainage and fish breeding. Farmer Akhter Mia said, "Even a few years ago, there were a number of varieties of indigenous fish in Laghata river

and Keola haor, but those have disappeared now. They have been setting up bamboo fences and catching fish in flagrant violation of law, but no action is being taken against them.” Social worker Toabur Rahman said that if the illegal fishing by the influential sector could be stopped, the Laghata river would be full of fish in the current season. Because of the bamboo fences, fish are not able to move upstream. Many species particularly the small ones are on the verge of extinction because of the shrinking of feeding and breeding ground. Locals alleged, Alta Mia erected a bamboo fence in Gopinagor area, Wahid Mia did it in Srirampur area and Jubair Ahmed, Sufian Khan, Anwar Khan, Arob Ali and Ismail Khan have installed the illegal bamboo fence in Polki river area. Kamalganj Upazila Fisheries Officer (acting) Siddiquir Rahman said, “I have heard about illegal bamboo fences in Laghata and Palak rivers. However, during the National Fisheries Week, the bamboo fences will be removed and action will be taken against the accused.” Nurul Mohaimin Milton, general secretary of the Bangladesh Environmental Journalists’ Association, said there are many small rivers, canals and beels in the region, which now become green paddy fields every dry season due to massive siltation.

The huge number of water bodies could be one of the effective means of large-scale fish farming alongside protecting the endangered fish species, he added. Contacted, Alta Mia and Wahid Mia said, “False allegations are raised against us to tarnish the image of the locality.” Sultan Mahmud, assistant project director, Hilsa Development and Management Project, Department of Fisheries in Dhaka highlighted the importance of the open water bodies in conserving the native fish species and said the open water bodies are also important for generating employment in the fish farming sector. In addition to nutritional aspects, the open water fisheries have been contributing a lot to maintain ecological balance and wetland habitats along with aquatic biodiversity, he added. He said excessive use of modern technologies in both agriculture and fish culture has contributed to the decline of the feeding and breeding grounds of the indigenous fish varieties. He opined that frequent and indiscriminate use of pesticides and chemical fertilisers in agricultural land has directly or indirectly been destroying the open and cultured water fishery resources and fish food organisms of the wetland and floodplains.

URL: <https://www.thedailystar.net/news/bangladesh/agriculture/news/bamboo-fencing-laghata-palak-rivers-wreaks-havoc-indigenous-fish-species-2167506>

Bangladesh: New technique helps farm more fish, minimize waste

Fish farming, usually done in large ponds, has now moved indoors and is taking up less space as Bangladeshi aquaculture tries its luck at using biofloc technology (BFT). Biofloc technology was developed in the 1990s as a way for fish and shrimp farmers to conserve feed inputs and utilize wastewater during production by piggybacking off the nitrogen cycle and letting beneficial bacterial colonies proliferate in culture water. According to some experts, this method uses only 3.3% of the water and land required by ponds, making it very sustainable. For instance, the use of BFT has enabled Aarsh Agro Limited — a company located in Jalalabad Housing Society, Chittagong — to produce nearly 30 times more fish compared to conventional pond farming. The company started its operations in April last year and is run by four people: Md Wais Hossain, the chairman; Shafeen Sana Chowdhury, managing director; Mizanur Rahman, executive director, and Md Awsaf Hossain. Aarsh Agro is also in the process of expanding

through another project in Mawna, Sreepur upazila, which will help boost production facilities from 200,000 litres to 2 million litres. In recent years, there have been a lot of fisheries that have adopted this method but not everyone has been able to make it sustainable due to various reasons such as not being able to procure accessories for the system and a lack of experienced people in the sector. After observing that there is a growing demand for low-cost protein sources, the founders of the company decided to cater to that market. “In a country like Bangladesh where millions were facing hardships especially during the pandemic, we looked for ways to solve that issue. Given that we had limited knowledge in the field when we started, we spent a month on feasibility studies, researching case studies, research papers and YouTube tutorials, after which in mid-April last year, we arrived at the biofloc solution with a pilot project of a 10,000-litre-capacity,” said Shafeen Sana Chowdhury. However, they did face obstacles, such as not finding reliable sources for good quality fry. Transportation of the fry was a big challenge, according to the team, especially for their Chittagong project as it had to be transported long distances from Mymensingh and Bogura.

“High feed costs are another issue, as due to the pandemic, fish prices are also low in the market. We are educating and training ourselves and are currently working with consultants to mitigate the issues we have,” Chowdhury added. When it comes to food, there are certain chemicals and nutrients that have to be added in the tanks from time to time from which the fish sustain. Even though these nutrients are often available, there are various low-quality alternatives that these farmers have to be careful of. Aarsh Agro currently employs five people who are in charge of maintaining the process. Apart from that, the owners also contribute their time to the fishery. “Using only an acre of land, we can now achieve the same output as a 30-acre pond. It is a simple technology, which is purely organic,” said Wais. He added: “The difference lies in the science of combining probiotic and fish waste into floc which becomes food and balance for the aquaculture — oxygen, nitrogen, and ammonia. The final result is the high-density growth for fish within a calculated time frame.” According to the owners, if there were grants from the government or even soft loans available, then many more would also join in and develop the sector further. They had to make an investment of Tk50 lakh to start the project. “We fixed a target that by 2030, we will expand in sustainable ways to meet Bangladesh’s protein deficit. For this, we plan to scale up our capacity with quality fish while updating the technology from time to time,” Wais added. But producing fish using this method is not a cakewalk. According to a research paper published in *Biotica Research Today*, the technology requires active management to be successful. The system requires a start-up period and yields are not always consistent between seasons. Since producers must constantly mix and aerate culture water, energy costs could be higher than expected. In addition to these factors, producers must actively manage the biofloc ponds to prevent nitrite accumulation and to keep alkalinity levels remaining within a healthy range. Monitoring fish health and welfare is also key as bioflocs can increase the levels of suspended solids in the water, leaving fish and shrimp susceptible to environmental stress.

URL: <https://www.dhakatribune.com/business/2021/08/31/new-technique-helps-farm-more-fish-minimize-waste>

Bangladesh: Salt and pollution hit crucial fish breeding grounds

Sixty-year-old Sunil Das has spent his entire life on the Halda, a river in southeast Bangladesh known as a key breeding place for carp. Until 2010, Das and around 2,000 others worked as fishers along the 98-kilometre-long river. After overfishing forced the government to declare the river a permanent sanctuary in 2020, the fishers were still allowed to collect roe (fish eggs) for fish farms. But now climate change, lack of freshwater and pollution have turned the river so saline and polluted that neither fish nor roe are to be found. Flowing close by Bangladesh's second-largest city Chattogram, the Halda has been devastated by a rising sea, cyclones, irregular rainfall, building of dams upstream, sand dredging and pollution. According to the Halda River Research Laboratory (HRRL) at the University of Chittagong, fishers collected more than 47,000 kilogrammes of fish roe in 2001, but barely 8,000 kg was harvested this year. Sunil Das told The Third Pole that two decades ago he would collect 5 kg of roe in a season. But this year, he only managed 250 grams, despite using two boats to search as hard as he could. "I'm forced to change my profession now. I earn my livelihood working as either a day labourer or by pedalling a cycle rickshaw," said Das.

Salinity jumps with every cyclone

Cyclone Yaas, the most recent cyclone in the Bay of Bengal, made landfall around 500 kilometres west of the Halda, but surging waves brought so much seawater into the river that salinity jumped from 0.5 to 36.9 parts per thousand (ppt), according to HRRL scientists. The increasing frequency and severity of tropical storms contributes significantly to rising salinity in the Halda, scientists say. In May 2021, researchers who analysed water salinity in the Halda River found the salt concentration to be 80 times higher than the conventional definition for freshwater of 0.5 ppt, leading to poor egg yields in the river's fish. In the nearby town of Hathazari, fisher Parimol Das said: "Due to climate change the freshwater river has turned into a saline water river. This has made the river unliveable for freshwater fishes and destroyed their breeding grounds." Hathazari administrator Mohammad Ruhul Amin told The Third Pole that the cyclone ruined the government's effort to create "a congenial atmosphere" for fish broods. "All our endeavours went in vain." Fish farms across Bangladesh depend on roe and fry (young fish) as well as water from the Halda, but water salinity has hit production. "We have been using Halda water for generations in our scoop to produce fries. This year, the water was so saline that it killed all the fries," collector Rakhil Das said.

Recommended Researchers also blame rising temperatures for poor spawning. "The suitable temperature for spawning is 25-28 degrees Celsius but now it has increased to over 30 degrees. Plus, irregular rainfall is leading to less freshwater inflow," said Abdur Rahman Rana, director of the Center for People and Environ, a local climate research institute. The Chattogram Water Supply and Sewerage Authority (WASA) supplies Halda water to residents. It now checks water salinity daily. According to WASA, in 2004 the highest salinity recorded in Halda was 400 parts per million (ppm). In the first five months of 2021 the highest record stood at 4,000 ppm. Salinity also increases during cyclones. In 2007 after Cyclone Sidr hit the coast, recorded salinity reached 11,500 ppm. In a recent study, researchers concluded that "salinity increased dramatically during dry seasons (January to March) and plunged with the wet seasons (April to July) and it is undeniably rising each year." Saleemul Huq, climate change expert and director of the International Centre for Climate Change and Development at Independent University

Bangladesh, told The Third Pole that these impacts may increase in future. “We have to take steps to mitigate the impacts of climate change to save the river.”

Human interference worsens situation

The Halda used to be a safe spawning ground for freshwater fish, partly due to its many U-shaped bends (also known as oxbow bends), where fry would be safe from surges in the water flow. But residents have been trimming the bends for ease of navigation. The length of the river has shrunk by over 25 km, leaving fewer places for the young fish to hide. Sluice gates and dams built on the hill streams and canals that feed the Halda now block at least 35% of upstream water flow, according to Manzoorul Kibria, coordinator of the HRRL at the University of Chittagong. “When the river doesn’t get enough upstream water, it fills the deficit by pulling up saline water from the Bay of Bengal,” he explained. Kibria also blamed unplanned building of embankments. Experts say that paper mills, tobacco processing and other industries established on the riverbank are contributing to the “destruction” of the river by polluting its water with their discharge. Kibria added that WASA extracts nearly 180 million litres (MLD) of water per day, while 250 MLD is taken for irrigation under the Halda Parallel Irrigation Project. This extraction continues at the same pace even in the dry season, when the river already suffers from a shortage of water, Kibria added. Meanwhile, sewage produced in Chattogram city drains into the Halda River through the Brahman Shai, Khondokia, Krishnakhal and Koaish canals. Home to six million people, Chattogram has no sewerage systems, leading to millions of tonnes of solid waste being discharged every day into the Karnaphuli and Halda rivers.

Crucial fish breeding ground lost

Kibria explained that fish would choose the Halda to spawn because the river has physical, chemical and biological features that make it the perfect breeding ground. “The combination of the features creates a conducive environment, encouraging the carp fishes to lay eggs during the monsoon.” Seventy-six finfish species from 24 families have been recorded in the Halda, according to HRRL. Of these, five species have been lost from the river: the humped featherback, barred baril, sucker head, Gian river catfish and mud perch. Researchers said that 21 more fish species are currently missing, but further studies are required to determine whether they too have gone extinct. These missing species include the herring, scaly hairfin anchovy, teli phasa, dhela, depalee, silver hatchet, butter catfish and Silond catfish. The Bangladesh government declared the Halda a fishery heritage zone in 2020 and banned 12 types of activities including sand dredging, water withdrawal, fishing, mechanised boat plying, dam construction or dumping of any waste. The country’s river police installed CCTV cameras along the banks to monitor activities in the river. “We have conducted 177 judicial raids since 2018, prosecuting people and confiscating boats and dredgers to keep the river safe,” administrator Amin said. The authorities are also trying to conserve the remaining oxbow bends to allow fish to breed. In 2015, the Ministry of Fisheries and Animal Resources decided to restore the Garduara oxbow bend of the Halda, and maintain the other bends intact. Experts such as Kibria and Ainun Nishat, a professor emeritus at Brac University in Bangladesh, also recommend removing sluice gates and dams to restore the natural flow of the river.

Fishing ban has critics

According to Kibria, a total fishing ban on the Halda River has created an imbalance in the fish populations. The conservation plan is targeted at only four carp fish species: *Cirrhinus cirrhosus*, *Labeo calbasu*, *Catla catla* and *Labeo rohita*. Fishers collect fertilised eggs from these four species, which are then hatched into fry to supply aquaculture across the country. The government imposed a total ban on fishing in the river to save breeding populations of these species. However, Kibria said that since fishers are prevented from catching other species, which spawn multiple times a year, these species end up multiplying in greater numbers and competing for food with the species that breed only once a year. He suggests adopting community-based fishing management instead of a blanket ban, allowing fishers to catch the more frequently breeding species for the balance of the ecosystem. Recommended Farhana Lovely, Chattogram district fisheries officer, told The Third Pole that “the government banned fishing in the Halda River to save the brood fishes of the carp species in the river. If the absence of catching other fish creates an imbalance and impact on the food chain, there needs to be further study of the fishing ban to determine whether it has caused any imbalance.” However for the time being, “if we allow the fishermen to catch any fish, they will catch all kinds of fish, including brood fish,” she said. “Monitoring whether the fishermen are catching only non-targeted fish or the brood fish of the four carp species would be difficult.” Sunil Das says that he dreams of returning to the profession of his ancestors rather than having to leave and compete for work in cities. “If we were allowed, I would return to Halda with my net; it has provided for my family for generations.” He still hopes everything will return to “normal” soon.

URL: <https://www.thethirdpole.net/en/livelihoods/salt-pollution-hit-fish-breeding-grounds-halda-river/>

Bangladesh: Resumes crab exports to China after 9-month pandemic hiatus

Exports resumed on Jun 2 after the country fulfilled some conditions set by China over quality control and the use of false certificates, said Niaz Uddin, deputy director of the Department of Fisheries. China enlisted five new companies for trade and already 34 consignments of crab and Asian swamp eels have been exported, he said. In June 2020, China laid out a set of conditions after some of the exported crabs and eels were found to contain lead and cadmium in them. Exports continued as the Department of Fisheries issued certificates after testing the products in its laboratory. However, they were halted again in September when an exporter was caught sending products using a false certificate. The exporter, BM Traders, has since been blacklisted for the fraudulent act. “At present, the export certificate is issued only after the products undergo 12 or 13 tests at three fisheries department laboratories in Savar, Chattogram and Khulna,” said Niaz.

Earlier, anyone could export crab and eel to China as no test or certificate was required. “Certificate is issued now in English and Mandarin as per China’s requirement.” Crab exports collapsed in early 2020, when the coronavirus pandemic hit the global economy. According to the Export Promotion Bureau, Bangladesh exported crabs worth \$35 million in fiscal 2019-2020, which dropped to \$12 million a year later. Although Bangladeshi crabs are imported by a host of countries, including Hong Kong, Myanmar, Vietnam, Japan and Malaysia, China is its main

market. A slump in the crab export to China pushed down the overall crab export to 50 percent of its usual amount. Last year, China stopped taking crabs from Bangladesh due to the lack of laboratory tests it demanded, and the use of false certificates by some exporters, according to Bangladesh Frozen Fish Exporters Association Vice President S Humayun Kabir. Consequently, farmers in Satkhira, Bagerhat, Chandpur and some others parts of Bangladesh counted severe financial losses. Some of them even left the trade.

Crab prices took a nosedive after the Chinese market was shut, said Biplob Kumar, who used to buy crabs from farmers in Bagerhat and supply those to the exporters in Dhaka. The price was around Tk 800 a kg for crabs weighing 500 grams each, he said. Now it has dropped to Tk 550. “Crab collection and farming got disrupted too,” Kumar said. “The business has really shrunk because of the COVID-19 outbreak and the closure of the Chinese market,” said Kartik Roy, manager of Nayon Enterprise, a crab export company in Uttara. Now, there are no more obstacles to the export of crabs as the certificates required by China have been arranged in coordination with the Ministry of Fisheries and Livestock, said Additional Secretary Hafizur Rahman of the commerce ministry. “Any company can export crabs to China in compliance with the new rule. Those who ceased crab farming can resume production.”

URL: <https://bdnews24.com/business/2021/07/31/bangladesh-resumes-crab-exports-to-china-after-9-month-pandemic-hiatus>

Bangladesh: Natural disasters: Bagerhat fish farmers incur Tk55cr loss in 1.5 years

The district’s fisheries department officials unveiled the information during a view exchange meeting with the journalists held at the Bagerhat Press Club on Saturday as the National Fisheries Week 2021 began countrywide on the same day. The government agency also revealed data presenting an optimistic picture that 21,601 tonnes of fish were produced in the district, accounting for 17% of total production in the Khulna division. At the event, the fisheries officials said cyclone Amphan that hit the country in May 2020 had damaged the district’s fish enclaves worth Tk5.71 crore. Later, heavy rains caused Tk5.39 crore losses in October of the same year. The fish farmers in Bagerhat suffered more severely as cyclone Yaas caused them Tk10 crore losses in May 2021. However, the largest blow came in July-August of this year as the district’s fish enclaves were severely damaged by floods during that time, incurring losses amounting to Tk34.16 crore. In the meeting, the speakers discussed several issues to address the prevailing problems associated with fish farming in the district.

URL: <https://www.tbsnews.net/bangladesh/natural-disasters-bagerhat-fish-farmers-incur-tk55cr-loss-15-years-294466>

Bangladesh: Govt has taken comprehensive measures to develop fish sector: JS Speaker

The government has taken comprehensive measures to develop the fish sector of the country, said speaker Shirin Sharmin Chaudhury. “Meeting nutrition demand, building a meritorious nation, resolving unemployment problem, in other words, overall socio-economic development

of the country is related to the fish sector,” she said adding that is why the government is emphasising the sector. She said this while virtually inaugurating National Fish Week 2021 Ministry of Fisheries and Livestock organised the inaugural ceremony at Osmani Smriti Auditorium. This year, 18 persons are honoured with gold and bronze medals for their contribution to fisheries.

URL: <https://www.thedailystar.net/news/bangladesh/agriculture/news/govt-has-taken-comprehensive-measures-develop-fish-sector-js-speaker-2163626>

Bangladesh: Fishermen not getting their aid

Explaining the hurdles that fishermen have to face, Agriculture Minister Dr Muhammad Abdur Razzaque said on top of other miseries, they do not even get the aid meant for them during fishing bans. “I’ve information. Please don’t mind. Fishermen do not get the 40-kg rice properly. Anomalies take place,” he said at the inaugural session of “National Fish Week 2021” yesterday. The National Fish Week 2021 began on Saturday and will continue till September 3. Speaking to SM Rezaul Karim, minister of the Ministry of Fisheries and Livestock (MoFL), who was present at the programme, Razzaque requested a special programme and monitor so that aid reaches actual fishermen. In three phases, the MoFL provided VGF rice to fishermen. A total of 16,721 tonnes of rice were distributed to 2,98,595 fishermen during the 65-day ban on catching fish in the sea. About 56,228 tonnes of rice was distributed among 3,73,996 fishermen during the ban on catching Jatka (fish fry) and about 10,566 tonnes to 5,28,342 fishermen during the 22-day ban on catching brood Hilsa. Razzaque called upon the MoFL to increase the amount of aid.

“We have to feel the struggles and [consider the] conditions of fishermen who live in remote areas of Barguna and Patuakhali. Their living standard is declining due to the rise in sea levels and many other reasons... It is our duty to look after them. As a part of the government, I’ll help you in this regard.” Contacted, Zia Haider Chowdhury, project director (Hilsa) of the Department of Fisheries (DoF), said local administrations and public representatives are involved in aid distribution. “We have to strengthen our monitoring this year to ensure that the aid reaches actual beneficiaries,” he said. Jatiya Sangsad Speaker Shirin Sharmin Chaudhury at the programme said the government has taken comprehensive measures to develop the fish sector of the country. “Meeting nutrition demands, building a meritorious nation, resolving the unemployment problem, in other words, the overall socio-economic development of the country is related to the fish sector. That is why the government is giving emphasis on it,” she said. Fisheries Minister Rezaul Karim said Bangladesh was internationally recognised for its success in fish production. The country came in third in catching fish from inland water bodies and fifth in fish farming in closed water bodies.

Bangladesh ranked first in the production of Hilsa and fourth in Tilapia, he said, adding that they have successfully revived 31 native fish. Underscoring the need to catch fish from the sea in a well-planned manner, he said if fish is caught following scientific methods, marine life will not go extinct. Twenty-one individual and organisations were handed gold and bronze medals for their outstanding contribution in the fish sector. Dharendra Debnath Shambhu, president,

parliamentary standing committee on fisheries and livestock, Rawnak Mahmud, secretary at the MoFL, and Quazi Shams Afroz, director general of DoF were present, among others.

URL: <https://www.thedailystar.net/news/bangladesh/news/fishermen-not-getting-their-aid-2164066>

Bangladesh: A geopolitical juncture with promises of blue economy: Analysts

In the potential hotspot of great power rivalry and amid threats of civil war in the neighbourhood, Bangladesh needs to formulate a package of policies for pursuing economic interests utilising its sea outlet, suggests a panel of foreign policy analysis. They emphasise ‘preservation of peace’ in the Indo-Pacific region as a prerequisite for uninterrupted inter-state trading activities and consistent economic growth, saying Bangladesh is now an active player, which should maintain a balance in external relations. “The countries (including Bangladesh) need to focus on wise diplomacy and own capability... We’ve to do our best to pursue a rule-based maritime order,” Tanaka Akihiko, President of Japan’s National Graduate Institute for Policy Studies, said at a virtual discussion on Saturday. He pointed out that Bangladesh should strengthen its manufacturing base for trade competitiveness and a deep sea port being constructed at Matarbari, Cox’s Bazar, would help increase its advantages. In a lecture on ‘Connectivity in the Bay of Bengal Area: Challenges and Options for Bangladesh’, Professor Tanaka reiterated Japan’s support to free and open Indo-Pacific region and expressed concern at the rise of China as an economic and military global power that has taken Belt and Road Initiative to widen its spheres of influence.

Former foreign secretary of Bangladesh Shahidul Haque underlined the importance of non-confrontational status in the Indo-Pacific region, now considered the heart of geopolitics and global economic activities. He mentioned that Bangladesh and other countries are also in a critical geostrategic position in view of the volatile situation in Afghanistan and Myanmar with potential ramifications for others. Addressing Bangladesh’s concern at the Rohingya issue, the Japanese Ambassador in Dhaka Ito Naoki stated that Tokyo supports the repatriation of Myanmar as the solution to the crisis. However, Mr Shahidul Haquq, added, unlike the pre-colonial era, the countries of the region including Bangladesh have a different kind of maturity and capability to face the challenges at hand. Rivalry between the US and China in the Indo-Pacific region has become a strategic headache for the countries in South Asia and Southeast Asia in particular, the discussant said. In the ‘post-US’ Indo-Pacific, Mr Shahidul Haque said, there would be more than one power that would matter. “Bangladesh, at its 50, is also a player and an active player.” Professor Tanaka explained that for Bangladesh’s imports, China, India, Japan and ASEAN countries would remain important and for exports, the European Union and the US are still important. “It must be careful so that it does not fall into debt trap,” he said referring to growing economic engagement with China.

Real Admiral (retired) Mohammad Khorshed Alam, who played a crucial role in Bangladesh’s maritime delimitation victory, said that Bangladesh is yet to fully exploit the potential of the blue economy in terms of trade, extraction of mineral resources and fishing in the Bay of Bengal. “It (blue economy) could be at least half the size of the garment export (value). We need to prepare

a package (of policies and steps) to utilise the potential,” he expressed his views. He further shared his concern over drug, piracy, pollution and dumping of dead fish in the sea, apart from rivalry, and insisted that there is no alternative to rule-based maritime order. South Asian Institute of Policy at North South University and the Embassy of Japan in Bangladesh jointly organised the discussion which was moderated by Dr M Jashim Uddin of the university.

URL: <https://thefinancialexpress.com.bd/economy/bangladesh-in-a-geopolitical-juncture-with-promises-of-blue-economy-analysts-1630158025>

Bangladesh: 83% Sundarbans’ mangrove landscape changed for Cyclone Amphan

Cyclone Amphan hit the coastal area of Sundarbans, stretching towards both Bangladesh and India in May 2020. It was the strongest tropical cyclone since the Sidr in 2007. Despite its disastrous meteorological caution, Amphan made a more boisterous impact on the Indian side than in Bangladesh. The Bangladesh government has estimated that the cyclone has cost the economy a loss of nearly \$130 million (Tk 1,100 crore). The Sundarbans is considered as the main safeguard which protects lives and properties in times of natural disasters again and again. Yet, little attention is paid to prevent the destruction of the mangrove forest itself, as this time Amphan has defaced 83% of the forest landscape, according to the information of National Environmental Satellite, Data, and Information Service of USA. This change includes decrease in mangrove vegetation, croplands, erosion of embankments, increasing salinity in soil and water. Around 63% of shorelines along with the Sundarbans in Bangladesh were eroded and on average, the shoreline moved 30.66m towards land. The findings came out from a combined research of a group of researchers from India, Brazil and Bangladesh which were published in the “Estuarine, Coastal and Shelf Science” journal of Elsevier Publication. Erosion went on destroying many districts in the coastal region along with 63.82% in Satkhira range, 49.15% in Khulna range, 52.86% in Sarankhola range, and 56.19% in Barisal subdivision, the report stated.

The research titled “Geo-ecological impact assessment of severe cyclonic storm Amphan on Sundarbans mangrove forest using geospatial technology” was done through image analysis collected from United States Geological Survey (USGS). The two ecological indicators Normalized Difference Vegetation Index (NDVI) and Enhanced Vegetation Index (EVI) which were used to calculate the damage of greenery, demonstrate that almost all parts of the Sundarbans mangrove forest experienced degradation and fragmentation due to severe category cyclonic storm Amphan, the researchers found. On the Bangladesh side, the degradation is primarily seen in the central and western sections of the Sundarbans forest. “Whenever we calculate the destruction in the aftermath of a super cyclone such as Amphan, our focus usually remains on the people and properties. The ecological destruction and imbalance it creates –we often forget to calculate that,” said Dr Manoranjan Mishra, associate prof of Department of Natural Resource Management & Geoinformatics of Khallikote University, India, also the lead researcher of this study. “But this is important as a balanced and healthy ecological environment of the mangrove is important for us to be protected from future natural catastrophe,” he added.

The loss

The dense mangrove areas, which are the swamp forest portion of the Sundarbans, have suffered the most significant loss. According to the Land Use Land Cover (LULC) data, the croplands of both countries were significantly decreased, said the prof. Vegetation lands were damaged significantly in the northeastern and central region of the country, where the most affected regions were the Sarankhola range of Bagerhat and coastal areas around Barisal. Although the flora and faunas in the Sundarbans are habituated with the salinity of the Sundarbans, some mangrove vegetation including the Amur, Dhundul, Sundari, and Golpata, require low salinity. Among these, the Sundari trees are at significant risk of extinction. Due to the increase in salinity, many Sundari trees in the forest area have died of disease after the cyclone. MA Hasan, assistant conservator of Forest of Sundarbans West Division of Khulna, disagreed with the severity of the mangrove due to Amphan. “Sundari is decreasing in our region. That is not new information, in fact it has been declining in the region for a long time due to the scarcity of freshwater. The situation has arisen because of Farakka dam,” said Hasan. There is a difference area-wise, Bagerhat district is still in good condition to grow Sundari trees whereas Satkhira has been continuously submerged with saline water, hence the soil here losing the ability to maintain a standard growth of Sundari trees,” he added.

The report also stated that people who lost their livelihood sources due to the cyclone are being forced to encroach upon core mangrove areas for the collection of fish, timber, honey, etc, thus, not only putting the remaining mangrove at risk but also inflicting possible human-wildlife conflict. “Such human-wildlife conflict we see on our part too. And it will continue to increase unless nature gets the scope to heal itself. But as we see, after these cyclones there is very little initiative to restore nature, said Prof Mishra. “So, even the natural process of revival gets hampered. At the same time, the geographical location of Sundarbans and proneness of natural disasters of this region are making the resuscitation process difficult,” he added. The Department of Forest has not yet done any comprehensive study about the ecological impact in Sundarbans after Amphan. Regarding this matter, the Chief Conservator of Forest Md Amir Hossain Chowdhury was contacted by Dhaka Tribune multiple times but he could not be reached.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/08/25/study-83-sundarbans-mangrove-landscape-changed-for-cyclone-amphan>

Bangladesh: Lone marine crab and the touchy mullets of BFRI: Where something new and blue happens

I was anxiously waiting for this alliance of rain and ocean to end. Bangladesh Fisheries Research Institute – BFRI’s scientific officer Khairul Alam Shobuj was waiting for me. We were scheduled to visit the Marine Fisheries and Technology Station – MFTS’ (official name of BFRI Cox’s Bazar station) cage culture of seabasses, mullets, and oysters in the estuary of Bakkhali River in Khurushkul. The young officer was kind enough to sacrifice his day off to show me what they (the MFTS) have been nurturing in the Bakkhali estuary. Around lunchtime, the rain stopped. We took a reserved speedboat from Ghat No. 6 to the estuary. To be honest, when I first saw the queues of bamboo structures floating on big plastic drums in the river, I assumed the fish were inside the plastic drums. I was itching to see the mullets and seabasses. After two MFTS guards reached us, to my awkward surprise, they began to drag the fishing net from the water

circled by the plastic drums that supported the structure. The fishes were in the net underwater, not inside the plastic drums. As we dragged them up, I finally got to see the touchy mullets and seabasses. They were too agile to remain on the surface of the water for long. I barely had time to take a good photo before we had to release them back into the water. The net was too heavy even for all of us holding it together. “This project has been going for 4/5 years by now. If cage culturing of seabasses and mullets is successful, the over-dependence on ocean fish stocks will be reduced. We will have plenty of them without depleting natural stocks,” scientific officer Shobuj said.

However, the Bakkhali project has yet to make a significant breakthrough. From maintenance to sustenance, the investment that is required by such an experiment exasperates the BFRI project officials, according to its scientific officers. “It is tough to bring a change here with government funding alone. If the private investors come up with assistance, these projects will have no reason to fail. It needs to be done more thoroughly, which requires adequate funding and supervision,” Shobuj added. They also have a mollusk raft culture on the Bakkhali estuary. Shobuj dragged out a cage of green mussels and an oyster cage for us to see. I’m not sure if I did these beautiful seashells justice with the photos you see here, but just looking at them will give one goosebumps. The green mussels are highly nutritious. Besides its anti-inflammatory nutrients, the mussels are a good source of calcium, zinc and an excellent source of iron, selenium, and several B-vitamins. The oyster, green mussel and other seashells are called bivalves together. Although green mussels are not in high demand in Bangladesh, they can be exported if cultured successfully (bivalves are New Zealand’s main aquaculture), and they can be produced almost at zero maintenance cost. You don’t even have to feed them. However, all of these potentials are still capped in the research phase, just as the entire concept of the blue economy in Bangladesh is almost in the incubation phase. It was June when I visited the BFRI’s Cox’s Bazar projects. The natural season of seaweed ended two months ago. Despite this, Shobuj took us to the natural bed of seaweed near Cox’s Bazar airport which has been threatened due to the expansion of the airport.

When the global market value of seaweed could exceed \$85 billion by 2026; and around 80% of the seaweed produced globally are from Asia, Bangladesh annually produces just a meagre 600 tonnes at present- an example of another gem of blue economy that remains untapped in Bangladesh. However, when I visited the main MFTS office premise in Cox’s Bazar sea beach area the following day, I found that they have been researching to provide seaweed all over the years. Its station chief, Dr. Shafiqur Rahman, told us that in recent years, besides the development of seaweed culture technology in marine environment, they also developed a low-cost emergency dryer to minimise spoilage of fish in absence of the sun. Dr. Rahman said they were working on several projects involving seaweed, live feed (first food for baby sea creatures), spawning season identification of marine fishes, oyster, and mariculture (seabass, mullet, and mollusc), and the marine crabs. “New jurisdiction established over a vast area in the Bay of Bengal offers great opportunities for Bangladesh through proper use and development of its blue economic resources on a scientific basis,” Dr. Rahman added. As we entered the BFRI lab, a long corridor welcomed us. Remember, you must wash your feet outside and must not bring the shoes inside because they can be harmful to the sea creatures living there for the institute’s experimental purposes. Rows of concrete tubs, a few of which were empty, could be found to the left of that corridor. The tubs are linked to a saline water with UV filtration unit because it is the

basic living component for sea creatures. Then according to the needs of the creature, the water is mixed with live feed or other nutrients. I met a lonely marine crab in one of these concrete tubs—a lone mother sea crab with eggs inside, who could appear menacingly ferocious if you got too close to her. I wondered if the crab was upset that they had taken her from a vast sea to this tiny little tub, or if her manners were influenced by loneliness. However, senior scientific officer Ahmad Fazley Rabby enlightened me. He told me that it was a brood crab's natural mother instinct to protect her eggs that caused this crab to become overprotective.

The BFRI officers said that they have been breeding blue swimming crabs for the second season to see if they could culture them locally. There were two separate lab rooms on the right side of the corridor, one for live feed and one for seaweed culture. These two require a certain amount of light exposure and proper temperature. What fascinated me most was the live feed. Millions of billions of zooplanktons and phytoplanktons were being cultured in small glass jars and beakers. The lab in charge Zakia Hasan said, “These planktons are basically first food for the spat (baby oyster) and Zoea (baby crab).” “These live feed are packed with nutrients that give the baby creatures enough nutrition to grow in a laboratory. Even the hatchery owners and technicians collect live feed from this lab for free,” she added. A rectangular hall with four concrete reservoirs is located at the end of the corridor. One of them contains a mud crab. The other two have seaweed baskets. There are some glass aquariums for sea bass fish, a giant blue swimming crab, and oysters as well. Fazley Rabby said that right now they were trying to feed the blue swimming crab with tilapia fish as the crab is carnivorous. The oyster pool was amusing. They appeared to me to be uneven rocks placed in a pool of water with a constant supply of oxygen. No movements, nothing. It's hard to even tell if they are alive or dead. They have been growing inside that pool since they arrived from the ocean, and these oysters are now expected to be pregnant. But it is hard to know if they are giving enough effort to that end. This is a common expectation from every creature brought to the lab. All they have to do is to produce babies. But even if they do, most of the babies do not survive long. “That is the challenge we are trying to overcome in this laboratory. If these creatures can survive and produce in the lab, it means these can be cultured and turned into a profitable industry,” said Fazley Rabby. Regardless of how many of the BFRI projects were successful or not, its Cox's Bazar station will give you a sense of how the blue economy works in real life. Something new and blue always keeps happening at this institute.

URL: <https://www.tbsnews.net/features/panorama/lone-marine-crab-and-touchy-mullets-bfri-where-something-new-and-blue-happens>

Bangladesh: Fish enclosures creating perennial waterlogging in Harina Beel

Around 1,500 bighas of land of Chanchra Harina Beel (water body) in Jashore Sadar upazila remain out of the purview of Aman cultivation as a section of local influential people has turned it into a haven for fish cultivation. More than 25 fish enclosures have been set up in the paddy fields at the Saraghuto part of the beel. The influential people have also dug out the soil of the cropland to facilitate fish cultivation hampering natural outflow of water. The newly planted Aman paddy seedlings in some parts of the water body have rotted due to waterlogging. Farmers have not been able to plant Aman saplings even in Rupdia, a part adjacent to Kalabaga of the

beel, due to knee-deep water. The affected farmers said that the water of Jashore town flows through the Harina Beel during the monsoon season. Later, this water falls into the Mukteshwari river through 'Zia Khal' dug through the beel. But for the last few years, a number of unplanned fish enclosures have been created disrupting the free flow of water creating perennial waterlogging. Heavy rains often inundate the five villages surrounding the beel. IRRI and Ropa Aman used to be cultivated in the beel even a few years ago. But for the last two years, about 20 to 25 big and small fish enclosures have been created in Harina Beel. Currently, about 1500 bighas of land are under water. Md Shahjahan, a farmer from Uttar Bhaturia village in Chanchra, said that he planted Aman paddy on five bighas of land in the Beel this season.

"My land was submerged as the rain water could not get out of the beel due to the fish enclosures," he said. He said, last year in the Aman season, he got 75 maunds of paddy from the five bigha. Matiar Rahman, a farmer from the same area, said that his 10 bighas of land in the beel have been inundated. Due to the fish enclosures, the flow of water in the Zia canal of the beel has been stopped. As a result, the paddy seedlings of his 10 bighas of land have rotted this time. Most of the people on the shores of Harina Beel have no land anywhere except in the beel. The crops of this land are their only means of survival. Anil Ghosh of Uttar Bhaturia village said, influential people of Jashore town are leasing some land in Harina Beel and buying some land for fish cultivation. Even those who have land next to the fish enclosures are being pressurized in various ways to sell out their lands to them. Jashore Sadar Upazila Nirbahi Officer (UNO) SM Munim Lincoln said if any complaint is received, legal action will be taken after investigation. Deputy Director of the District Agriculture Extension Department Badal Chandra Biswas said, "As soon as I heard the matter I instructed the upazila agriculture officer to solve the matter through the local people's representatives." No work can be done hampering cultivation on agricultural land, he said, adding that a list is being made to assess the amount of land lost due to waterlogging in Harina Bill.

URL: <https://www.thedailystar.net/news/bangladesh/news/fish-enclosures-creating-perennial-waterlogging-harina-beel-2159991>

Bangladesh: Australia going to strike TIFA deal

Bangladesh and Australia are set to sign Trade and Investment Framework Agreement (TIFA) aimed at bolstering bilateral trade by way of removing barriers and tapping potential, officials said. Both the sides have completed the spadework and taken approval for signing the umbrella agreement, possibly in mid-September, they added. Bangladesh's Commerce Minister Tipu Munshi and Australian Trade Minister Dan Tehan would sign the deal virtually on behalf of their governments respectively. Under the agreement a working group will be formed which will meet annually discussing issues to facilitate bilateral trade and investment by removing the bottlenecks. "We have taken required approval according to the rules of business for signing the pact," a senior commerce ministry official told the FE Wednesday. "Both of us agreed to sign the deal on September 15," he said. The officials said the aim of deal signing is to boost trade and investment through bilateral cooperation in mutually agreed arenas. He said sectors like garments and textiles and, manufacturing, information and communications technology, skills development, and education are among the top-listed arenas to get priority in bilateral

cooperation. The official also expects that the deal will pave the way for enhancing Australian investment in Bangladesh. Until June last year, Australian investment in Bangladesh had stood at US\$845 million which mainly went for gas and petroleum sectors.

As a least-developed country, Bangladesh enjoys duty-and quota-free market access to Australia. Yet, Bangladesh's annual export to the 14th-largest economy could not cross a billion-dollar mark so far. In fiscal year 2019-20 Bangladesh exported goods worth \$678 million to Australia and \$805 million in the previous year. On the other hand, Bangladesh's imports from Australia cost \$649 million in FY 2019-20, up from \$597 million in the previous fiscal. Bangladesh's major export items included apparel, textiles, footwear, articles of leather, frozen fish, jute, pharmaceuticals, and ceramics. On the other hand, Bangladesh's top imports from Australia are cotton, edible vegetables, cereals, copper, iron and steel, paper, zinc, and machinery, among others. In last December, Bangladesh High Commissioner to Australia in a letter to the ministry of commerce said annual bilateral trade may reach \$5.0 billion once the TIFA deal is signed and both sides start to extend cooperation. He further wrote that Australia has been shifting its focus beyond its traditional markets like South Korea, Japan, China, and the Association of Southeast Asian Nations (ASEAN), and concentrating to South Asia to expand trade and investment. Asked, another senior commerce ministry official said Bangladesh will lose duty-free- and quota-free market access to Australia once the country graduated from the poor- country club in 2026.

After TIFA is struck, Bangladesh will request Australia to extend the duty-and quota-free market-access facility further. Research Director of the Centre for Policy Dialogue (CPD) Dr Khondaker Golam Moazzem said a number of countries in the Indo-Pacific region are in discussion for signing TIFA. Such agreements have strategic perspectives, too, which may surpass economic perspectives, he noted. "The focus of the proposed TIFA with Australia should be exclusively confined to economic issues," he told the FE. Mr Moazzem suggests that the main objective of the TIFA should be strengthening bilateral ties with Australia for enhancing trade and investment in traditional and non-traditional products/sectors. Improving Bangladesh's competitiveness to address the post-graduation challenges should also get focus, he says. Commerce secretary Tapan Kanti Ghosh could not be reached for his comment on the up-and-coming trade deal.

URL: <https://thefinancialexpress.com.bd/economy/bangladesh-australia-going-to-strike-tifa-deal-1629430904>

Bangladesh: A fish factory in Sreepur

You always have to be strategic to become successful in the farming sector. Success in farming depends on how skilled a farmer is. It's not just about investing money and time, it's about investing talent, thoughts as well as using modern technology in the work process. Over the past few years, there has been a great deal of interest and enthusiasm among the youth for fish farming using the biofloc method. While some biofloc projects have been successful, there have been reports of failures also. However, the initiatives haven't stopped. In December last year, Mohammad Abdullah Jaber, managing director of Noman Group of Industries, called me and

said he had seen my reports on biofloc on YouTube and had taken up the initiative of fish farming on a portion at his factory premises in Gazipur's Sreepur upazila. I was very curious about the matter because I was glad to know that industrialists are also giving spaces for farming enterprises, which I have dreamt of for long. I know Jaber for a long time. He is a man, full of passion for agriculture and has been engaged with farming since his childhood. As a child, when everyone at his home liked to watch cartoons and entertainment programmes on television, he liked my agricultural TV shows. He also cultivates vegetables and raises poultry beside his factory. I went to his factory to see his biofloc method and harvest. Jaber has done different species of fishes, including shing, gulsha and shoal in 5,33,000 litres of water. Indoor fish farms have become an attractive venture for young entrepreneurs.

A biofloc shed, 182-feet long and 65-feet wide, next to Noman Group's huge factory. Eleven tanks made of rod cages and Korean PVC-coated plastic on the top. The height of the tanks are about four to four and a half feet with a capacity of 10,000 to 1,00,000 litres. There are aerators, oxygen bubbles installed in the tank. Each tank has different varieties of fishes. Jaber said the sheds and tanks were made of unused iron sheet, rods and old materials. As a result, the cost was not too high. Jaber released only a gram of fingerlings in these tanks back in December, 2020. Like fabric production, fish production is going on in other sheds of the textile mill. Jaber's biofloc factory is a smaller version of the fish factory I had seen in China. Water was cleared from two tanks from where Jaber would harvest fish. Shing fish in one tank, tengra in the other. I was amazed to see lots of fishes in a small place, a 10-feet by 10-feet tank, containing 10,000 litres of water which produced fish that might have required 0.40 acres of pond in reality. First I went in front of the shing tank. Arif, who is in charge here, said fingerling quality, is a big issue in biofloc fish farming.

If the fingerlings are not good, it is difficult to harvest the desired size. It takes four months to produce shing fish in biofloc method. Jaber is very optimistic about the purity of the fish produced in this way. He said, the colour and taste of this fish is like river fish or you may call it freshwater fish. Even I had not seen such bright shing fishes for a long time. The colour of gulsha and tengra was also shiny. The other nine tanks were cultivating Vietnamese shoil, monosex tilapia, Vietnamese koi and pabda fish. Jaber and his colleagues are very happy with the success they achieved from the experimental production in the first couple of months. Jaber dreams of distributing fish he produced from biofloc to his staff. Through this, he can see there is a good market and demand for biofloc fish. He is very much optimistic that Bangladesh will soon export a lot of fish produced, using the biofloc method. And I was really pleased by seeing an industry owner getting more interested in farming and a factory is leaving space for fish cultivation, in other words, for farming. I believe the revolution in the agricultural industry will be accomplished through entrepreneurs like Mohammad Abdullah Jaber.

Traditional farming is now rapidly shifting to commercial arena. Commercial entrepreneurs are leaning towards production systems which can be financially profitable in a short time. To accelerate this system, various technologies, Internet of Things (IoT), artificial intelligence have been added to agriculture sector. Consequently, production has increased scientifically and has become dynamic. If there is no mechanical disorder, there is no risk of loss in production. Therefore, people from unemployed youth to the largest financial entrepreneurs are getting involved in agriculture through farm enterprises. Both sides want quick financial return. Many

are also reaching success by following proper management. But some are lagging behind in management just to focus on money. Over the last few years, biofloc has become a very attractive investment sector for new entrepreneurs. But keep in mind that 'biofloc' is a completely scientific method for fish farming. There is a lot of competition going on around the world for this system. There is RAS method, Bottom Clean Raceway and also IPRS (In-Pond Raceway System) method. Again, several methods are being practiced for fish farming in intensive and semi-intensive approaches. In fact, it is a matter of paying close attention. It is a matter of following scientific management. There is no chance to do anything outside the formula here. If an entrepreneur does not fully apprehend the issue, it will be fatal. I wish success to all the entrepreneurs. With that, I hope you will put more emphasis on systematic tactics that will give you a productive commercial agricultural enterprise.

URL: <https://www.thedailystar.net/news/bangladesh/agriculture/news/fish-factory-sreepur-2151456>

Bangladesh: OCPP to support aquatic food production, trade

Projects to tackle climate change and protect the world's oceans have been given a major boost with the first £16.2 million of funding from the UK's £500 million Blue Planet Fund. In Bangladesh, the Ocean Country Partnership Programme will support aquatic food production and trade, said the British High Commission in Dhaka. It put in place the systems and ability to reduce the harmful impacts of aquatic food production, control common diseases of fish and seafood, and increase production. This in turn will also support progress towards several UN Sustainable Development Goals on poverty alleviation, zero hunger and good health and well-being, said the High Commission. The new programme builds on an existing strong cooperation between the UK's Centre for Environment, Fisheries and Aquaculture Science, WorldFish, and the Bangladesh Government's Department of Fisheries.

The programmes, financed from the UK's overseas aid budget, will increase marine protection, tackle plastic pollution and the decline of global coral reefs, as well as using the UK's world-leading expertise to help respond to marine pollution disasters such as the Xpress Pearl in Sri Lanka. The ocean is a critical carbon sink which every year absorbs almost a third of global CO₂ emissions. Around the globe, the ocean supports the livelihoods of one in every ten people, including some of the poorest and most vulnerable. In the run up to the UK hosting the COP26 climate talks in November, the government is working with developing countries to take action to protect and restore our oceans.

The projects receiving funding include the launch of a new UK-led programme which will help developing countries partner with the UK's world-leading scientists to better manage marine protected areas, and improve our understanding of the impacts of climate change and contaminants in the ocean. The Ocean Country Partnership Programme already has work underway with UK scientists at the Centre for Environment, Fisheries and Aquaculture Science providing analysis of water samples from Sri Lanka to contribute to the ongoing response to the Xpress Pearl environmental disaster in June. British environment secretary George Eustice said

the UK is a global leader in marine protection and will continue to advocate for ambitious climate and ocean action at COP26 this year.

‘Our shared ocean is a vital resource and provides habitat to precious marine life, as well as supporting the livelihoods of one in every ten people worldwide. The Blue Planet Fund will support many developing countries on the front line of climate change to reduce poverty and improve the health of their seas,’ he added.

URL: <https://www.newagebd.net/article/146409/ocpp-to-support-aquatic-food-production-trade-in-bangladesh>

Bangladesh: Haloishar, a model fishing village in Naria

Imagine the pictures of a village a decade ago — rugged roads, crop fields, settlement of huts on the banks of the river, dark evenings and fishermen suffering from abject miseries. These features used to define the fishing village of Haloishar of Gharisar union under Shariatpur’s Naria upazila. But now, if one visits Haloishar, he or she will find that picture to have transformed into something better owing to various development initiatives by the government and non-governmental organisations over the last few years.

On June 21, the government declared this fishing village as an ideal village. The village has now become a town because of the implementation of integrated development programmes by the Department of Fisheries and various government agencies. Almost all the amenities of modern urban life are now available in Haloishar. The USAID-funded ECOFISH-II activity, jointly implemented by the Department of Fisheries and WorldFish Bangladesh, has played a key role in the implementation of this model fishing village. The programme has been taken up under the Ministry of Fisheries and Livestock on the occasion of Mujib Year – the birth centenary of Father of the Nation Bangabandhu Sheikh Mujibur Rahman. As part of the special programme “My Village, My City,” the government has established this “Model Fishers’ Village”. Under this programme, a plan has been adopted to create employment opportunities and improve the quality of life of the fishers living in Haloishar village by expanding various facilities including infrastructure, fish farming, agro-based industries, agricultural mechanisation, agricultural diversification and market management.

The Department of Fisheries is implementing extensive activities in the village. Notable among these are implementation of scientific fish farming activities in all ponds of the village and measures to meet the nutritional needs, formation of fish farmer’s teams, training and package-based fish farming exhibitions, formation of fishermen teams, providing training and alternative employment and loan assistance, empowerment of women through reforms and establishment of fish sanctuaries and formation of community savings groups. Besides, some more activities are being implemented in the village with the help of other government departments. These include installation of deep tube wells and hygienic latrines, construction of roads suitable for vehicular traffic, tree planting, treatment of beneficiaries, poultry and cattle and ensuring 100 percent education for the children of the villagers. Since 2015, under the ECOFISH-II project several initiatives have been taken to ensure food and nutrition security, create alternative income-

generating opportunities and increase social and environmental resilience for the fishers of this village. As part of the programme, fishers received poultry, goats, cows and vegetable seeds. They were also trained in modern methods of fish farming and loan facilities for fisher women were facilitated.

In addition, community fishing guards have been formed with fishermen. They have been cooperating with law enforcement agencies and the administration for co-management activities and work for conservation of Jatka and brood Hilsa, guarding the sanctuary. Identity cards, trousers, towels, umbrellas, aprons, shoes and flashlights have been provided to help them perform their duties. Dadan Sardar, a fisherman of Haloishar, said, “We have benefited a lot from the ECOFISH project. Various awareness-raising activities and livelihood support from the project have changed our lives. We are proud to be residents of this model village.” Haloishar, once an ordinary fishing village, is now a model village, and all development activities and achievements achieved in this village should be replicated in other villages, opined Naria Upazila Fisheries Officer Mohammad Aminul Haque.

URL: <https://www.thedailystar.net/news/bangladesh/agriculture/news/haloishar-model-fishing-village-naria-2152881>

Bangladesh: Can we be bold enough and integrate nature-based solutions into blue economy?

Before answering the question in the title, let’s look into Nature-based Solutions (NbS) and Blue Economy. Over the last couple of years, NbS as a concept has received global attention, especially in climate change discussions. NbS are actions we take to protect, sustainably manage, restore, even create, a wide range of ecosystems—from hilly forests to freshwater wetlands to coastal mangroves, for example—to tackle one or more big challenges of our society, such as climate crisis, food insecurity, environmental degradation, and poverty. A crucial aspect of such ecosystem-based actions is they directly support human wellbeing in terms of nutrition, income, health, and safety. But at the same time, they increase biodiversity, maintain ecosystems’ integrity. This “dual benefit” separates NbS from hardcore biodiversity conservation and conventional community development through agriculture, aquaculture or animal husbandry. Blue Economy, on the other hand, is the sustainable use of marine and coastal resources for economic development. It encompasses all established sectors, such as oil and gas extraction, shipping, and industrial fishing, as well as emerging sectors, such as marine energy, blue health, and marine biotechnology. Although human civilisation and prosperity are built on maritime transportation and oceanic resources, Blue Economy—with present global worth USD 3 to USD 6 trillion per year—has renewed our attention to the untapped riches and opportunities of our seas for a climate resilient future. Although we rarely discuss NbS and Blue Economy together, they do have some similarities. First, maintaining socio-economic development under constant socio-political and environmental changes is a critical challenge for all nations, especially in on-going climate crisis. NbS can tackle such societal challenges by sustainably managing marine and coastal biological resources, which is also a core component of Blue Economy.

Second, NbS have strong economic element within them: when we design an NbS intervention, we calculate its economic feasibility to make it implementable, acceptable, and sustainable.

Similarly, economic analyses of maritime sectors are essential to identify viable options for investment. Third, once we find an NbS intervention working well in certain context, the next logical step is to scale it up in other suitable locations by mainstreaming it into policies, plans, and projects. Likewise, elements of Blue Economy which embrace sustainability and resilience, such as coastal rehabilitation for climate change adaptation or ocean finance and insurance, need to be integrated into a country's sustainable and resilient development pathways. Although Blue Economy in Bangladesh involves a wide range of ministries and divisions, our conversation is often dominated by exploration of oil and gas, development of shipping industry, and establishment of new sea-ports along with improving the existing ones. In January 2017, the government established the "Blue Economy Cell" under the Energy and Mineral Resources Division to explore, conserve, and sustainably collect and manage natural and mineral resources. Over the last four years, however, the Cell offered limited leadership to advance Bangladesh's Blue Economy agenda.

In terms of marine biological resources, ilish, which is 12.15 percent of our total fish production, often dominates our discussion on fisheries. Shrimp and other coastal aquaculture make up a significant portion of our coastal economy. These, however, underscore the exploitative and intensive nature of our fisheries management and are often criticised for not thinking of biodiversity conservation as they destroy non-targeted species due to unsustainable practices. While 65-day fishing ban on the Bay of Bengal is praised as evidenced-based fisheries management; in 2019, Bangladesh was ranked 47 among 152 countries given the occurrence of illegal, unregulated and unreported (IUU) fishing in its waters and the country's response to it. Even if we talk about developing non-extractive eco-tourism as a part of Blue Economy, St Martin's Island alone shows how badly we have failed to save it from destruction despite declaring it an Ecologically Critical Area (ECA) 22 years ago. On a positive note, Bangladesh is effectively protecting the Sundarbans, in recent years, through participatory management and SMART patrolling. Bangladesh Forest Department created green belt on more than two hundred thousand hectares of coastal land since 1966. Together with UNDP, the Department improved the resilience of coastal communities through afforestation and reforestation programmes since 2008. In June 2019, the Ministry of Fisheries and Livestock declared 3,188 square kilometres of the sea on the south and south-west of Nijhum Dwip as a marine reserve or marine protected area (MPA). All these actions are NbS, if both human wellbeing and biodiversity benefits are ensured, and can effectively contribute to Blue Economy. To integrate NbS into Blue Economy, first, we need to shift our mindset and start seeing our coasts and seas as thriving ecosystems made of biodiversity, not as commodity. Taking this first step is crucial to transform our extractive and exploitative approach to Blue Economy into sustainable and resilient approach. Second, Bangladesh's 8th Five Year Plan (2020-2025), Prospective Plan of Bangladesh 2021-2041, and Bangladesh Delta Plan 2100 sufficiently talk about Blue Economy as well as ecosystem-based approaches to sustainable development. We have heard of a Blue Economy Action Plan supposedly drafted as a comprehensive planning document.

While this action plan needs to be aligned with the above short- to long-term national plans, it is also important to make it public to gather peoples' opinions and start an inclusive planning process. Besides, the on-going formulation of the Mujib Climate Prosperity Plan 2030 still has the opportunity to embrace Blue Economy and NbS to make Bangladesh a "resilient delta". Third, our maritime policies and practices, and changes in them, should be based on evidence. If

we want to build a strong deep-sea fishing fleets, for example, we should know how much fish could be harvested annually to making fishing sustainable. While glorifying the positive impacts of fishing ban, we should know how the fishers of Moheshkhali survived 130 days' lockdown (March?May) and fishing ban (May?July) last year and how they are doing this year as the lockdown and ban overlapped. Fourth, when it comes to climate finance, Bangladesh not only created a trust fund with about USD 450 million and implemented about 800 projects in the last 10 years, it has also mainstreamed climate budget into all relevant sectors. The Bangladesh Biodiversity Act, 2017 has a provision for "Biodiversity Conservation Fund", which is yet to be created. This biodiversity fund, along with the climate trust fund, can be a dual funding source for supporting NbS as a part of Blue Economy. Fifth, in the wake of the Covid-19, NbS and Blue Economy should be part of our economic recovery plan. We need to appreciate that NbS can create jobs, diversify livelihoods, and offer business opportunities through restoring degraded coastal and marine ecosystems, sustainable fishing, following ecosystem approach to aquaculture, managing and sharing benefits from MPA, and combining conventional coastal protection infrastructure with NbS as a means of adaptation. The initial enthusiasm built around Blue Economy, soon after the resolution of the maritime boundaries with our neighbours, lost its way in recent years. By integrating NbS into Blue Economy, we can regain our lost momentum.

URL: <https://www.thedailystar.net/views/opinion/news/can-we-be-bold-enough-and-integrate-nature-based-solutions-blue-economy-2147156>

Bangladesh: Permission for exporting hilsa sought

The country's apex frozen food exporters association has sought permission to export the national fish Hilsa, considering its potential to bring home more export earnings. Bangladesh Frozen Foods Exporters Association (BFFEA) on Wednesday requested the commerce ministry to provide the facility to its members, licensed by the Department of Fisheries. In the last one decade, the annual Hilsa production has increased around 79 per cent in the country and the average production growth is about 6.2 per cent, according to the BFFEA. The country produced 0.533 million tonnes of Hilsa in the 2018-19 fiscal year; if the government permits exporting only 5.0 per cent or 27.5 tonnes of the total, this won't hamper the local market, the association said in a letter. Currently, buyers demand importing Hilsa as a mixed item with frozen shrimp and other fish items. The importers generally cancel the demand orders and import frozen shrimp and other fish items from other countries if the country's frozen food exporters decline to export Hilsa, according to the association document. As a result, the country is now being deprived of a large amount of export earnings, the document noted.

The ban on export of Hilsa fish has been effective since 2021 for fulfilling the country's overall demand, Kazi Belayet Hossain, managing director of Sobi Fish Processing Ind. Ltd, told the FE. The promising frozen food sector is now in a tight corner due to the Covid-19 pandemic, said the industry insiders. A high official of the commerce ministry said, "We've just received a letter from the frozen foods exporters association [BFFEA] recently. We will start working on the issue soon." The demand for luxury food items, especially frozen shrimp and fish, has decreased globally and the cancelled consignments, including prices of products, have also been reduced, an entrepreneur of the sector said. "We've requested the government to allow export of Hilsa

fish, aiming to increase the export volume of the sector,” he added. Currently, there are 76 factories involved in processing shrimp and fish items in the country. The sector produced more than 0.56-million tonnes of shrimp and other fish items between 2010 and 2020.

URL: <https://thefinancialexpress.com.bd/trade/permission-for-exporting-hilsa-sought-1628221748>

Bangladesh: Native fish species face extinction threat

HAOR is considered one of Bangladesh’s most productive wetland ecosystems. The haor basin is crucial for fish production, both commercially and ecologically, and home to a diverse range of finfish, including 143 indigenous and 12 exotic species and various freshwater prawn species. The haor region is said to have approximately 966,900 hectares of fish habitat, which serve as breeding, nursing, feeding, and overwintering habitats for residents and most freshwater migratory fish species. The total fish production of the haor region was 108,880 tonnes in the 2018–19 financial year, with a productivity of 433 kilogram a hectre. Many haor dwellers exclusively depend on haor fisheries in Sylhet, Sungamganj, Habiganj, Moulvibazar, Kishoreganj and Netrakona. It is now, according to the Bengali calendar, the month of Shraban, which is the monsoon season. During the monsoon season, the haor region fills to the brim with water and resembles a big inland sea. However, this year, the reality is entirely different: little rainfall has resulted in lower water levels in haors. Bangladesh has roughly 373 haors, all of which are in a nearly identical condition. Despite the presence of a limited amount of water in the low depression, referred to as bils, the great majority of haor is still parched or water-scarce. The Bangladesh Meteorological Department’s seasonal outlook and available climate model projections predict a below-normal rainfall for June–September in Sylhet and Mymensingh divisions as well as in India’s Meghalaya. Sylhet is located close to Cherrapunji of Meghalaya, which typically receives a high amount of rainfall. The haor region receives water from the Shillong Plateau’s catchment slopes in India to the north and the Tripura Hills in India to the south-east.

Fishermen have already reported low fish catch in haor areas because of a shortage of water. Because of a low water volume, fishing folks from Hakaluki Haor, Dekhar Haor, Tanguar Haor, and other haors have reported low quantities of catch. They are not familiar to this scenario of haor during this time of year. Most native fish species regard the monsoon season to be their breeding season. The haor region’s native fish stock is maintained by a natural recruitment process that takes place both within and outside the haor. Every year, a large number of fingerlings/juveniles scatter to haor habitats and adjacent water bodies after spawning. This boosts the region’s fish stock. Rainfall is always considered one of the most crucial variables for fish breeding. The migration of indigenous fish species between the bils, haors, and rivers contributes significantly to fish breeding. The hydraulic linkage between perennial water sources cannot be assured because of insufficient rainfall. The present state of the haor could have an impact on native fish breeding and result in low catch rates. Because of climate variability and anthropogenic factors, indigenous fish species, particularly small ones, are on the verge of extinction in the haor region. Since this water persists for a certain period of time, a decrease in water volume in the haor region may considerably contribute to the extinction of these

vulnerable indigenous fish species. This anomalous situation will also have adverse consequences on the socioeconomic status of fishing folks as a majority of such people who rely on fishing for a living in haor areas have no prior employment experience.

Whether this exceptionally low water volume in haor is attributable to climate variability or linked to climate change has arisen as a topic of research. However, not only natural factors but also human actions are to blame for the rapid extinction of native fish species in the haor region. There are no fish pass facilities in the newly constructed dams in the haor region, preventing fish species from migrating safely. Other factors include habitat loss, pesticide use, over-exploitation and water pollution. Between the 2018–19 and 2017–18 financial years, the haor region's fish production increased by 12.11 per cent. The current unfavourable situation in the haor region may cause this rate of growth to slow. The government, research organisations and development organisations should all take this seriously in order to determine the underlying cause of the problem and assess the impact on fish breeding and production.

URL: <https://www.newagebd.net/article/145558/native-fish-species-face-extinction-threat>

Bangladesh: China lifts ban on crab imports

China has removed a ban on crab imported from Bangladesh, after it said Bangladeshi exporters met requirements on quality control and certificate verification. The ban, which was imposed in September 2020, was lifted on 2 June, Bdnews24 reported. A total of 34 consignments of crab and Asian swamp eel have already been shipped to China, according to Bangladesh Department of Fisheries Deputy Director Niaz Uddin. Chinese authorities had set quality control conditions for crab and eel from Bangladesh after they said the products were contaminated with lead and cadmium. The Bangladesh Department of Fisheries then initiated a testing program for crab and eel in its laboratories and granted certificates for exporters so they could continue selling to China. However, in September 2020, China halted all imports of crab and eel from Bangladesh after an exporter, BM Traders, was found using a false certificate. BM Traders has been barred from exporting to China since then.

Bangladesh Frozen Fish Exporters Association Vice President S Humayun Kabir said a lack of sufficient laboratory testing for the products and the use of false certificates by some companies led to the Chinese ban. Bangladeshi authorities have offered assistance to help exporters resume selling to China. Crab and eel products must now undergo at least a dozen tests at three laboratories run by the Bangladesh Department of Fisheries before it is granted a certificate, Uddin said. Crab prices in Bangladesh fell sharply after China's ban came into effect, with export volumes falling by 50 percent, resulting in severe financial losses for farmers across Bangladesh. The decline in exports was also attributed to lower demand during the COVID-19 pandemic. The value of Bangladesh's crab exports was USD 35 million (EUR 29.5 million) in the last fiscal year, down 25.5 percent year-on-year. Mainland China was the largest destination for crab from Bangladesh, followed by Hong Kong, Myanmar, Vietnam, Japan, and Malaysia.

URL: <https://www.seafoodsource.com/news/supply-trade/china-lifts-ban-on-crab-imports-from-bangladesh>

Bangladesh: Thousands marooned in coastal areas seek aid

The authorities are working to increase support for the flood-affected people of the coastal districts, mainly Khulna and Bagerhat, as they have remained stranded for the last few days due to the rise in water levels caused by incessant rains. Hundreds of thousands of houses, fish farms, croplands and roads have been submerged, causing huge sufferings for the coastal people, who are yet to recover from the losses from Cyclone Yaas that hit the coastal region in May this year. Meanwhile, the flood situation in Cox's Bazar district remained unchanged on Thursday. Landslides and floods in the district have killed at least 20 people, including Rohingya refugees, in the past three days. Moreover, the Bakkhali and Matamuhuri rivers — the main rivers of the district — are currently flowing above danger level. According to official estimates, at least 250,000 people have become stranded. Floodwaters swept across rural communities, washing away houses, fish enclosures and vast areas of cropland. Some 413 villages under 41 unions in Cox's Bazar have been flooded following three days of torrential rains. In these locations, the authorities have opened 30 shelter centres. Deputy Commissioner Mamunur Rashid said the upazila nirbahi officers had been granted special allocations for the flooded areas. "Some 135 tons of rice and Tk5 lakh have been provided so far. More immediate relief will be sent as needed."

Ashrayan homes inundated in Teknaf

Due to the incessant rains, homes built under the Ashrayan Project in Hnila union of Teknaf upazila have been flooded. Most of the families have had to leave for higher ground. A total of 28 houses were handed over to the homeless near the coastal embankment road east of Moulvibazar in the union. The entire region was flooded as the sluice gate along the road remained closed for a long time to protect the interests of "a syndicate of unscrupulous salt farmers". Samira Begum, a beneficiary of the Ashrayan project in Hnila union, said: "I have been waterlogged for two days. I have to collect food and water by boat. "No one showed up with any assistance. All but four of the 28 families have left this facility." Speaking on the matter, Cox's Bazar Deputy Commissioner Mamunur Rashid said: "We are working on the sluice-gate issue along the coastal embankment. We are also executing plans to keep the water from becoming stagnant."

Heavy rain disrupts life in Khulna

Many low-lying areas of Khulna's Koyra and Paikgachha upazilas have been inundated due to incessant rains for the past three days. Houses and farms went under water, leaving residents waterlogged. Fishing grounds have been washed away as the owners are trying to mitigate the damage by placing nets or raising the embankment. Harshit Mandal, a fish farmer at Koyra's Mothbari, said his shrimp farm, which he took on lease last year, was completely damaged during Cyclone "Yaas". As he restarted fish farming, the two-day rain has again washed away almost everything. Moreover, a large pothole has appeared on the Koyra-18-mile main road. Imtiaz Uddin, general secretary of the Koyra Development Coordination Committee, said the drainage system was completely broken. The sluice gates were not enough to drain water during

the monsoon as illegal occupants and leaseholders had obstructed most of the canals. In Paikgacha, 10 houses have collapsed and disappeared in the Kopotakkho River. Residents were facing extensive damage as low lands, including fish farms and croplands, had been submerged in water, said Raduli Union Parishad Chairman Abdul Majid Goldar.

Life in Bagerhat

Officials say at least 50,000 families of Bagerhat district have been marooned and over 5,000 fish farms have been inundated by the floodwaters, caused by the low in the Bay. The loss incurred by the shrimp and the crab farms would be no less than Tk11 crore, said Raj Kumar Bishwas, assistant director of Khulna Divisional Fisheries Department. Rampal Upazila saw a loss of around Tk3.8 crore, Senior Fisheries Officer Sheikh Asaduzzaman said, citing preliminary assessments. Apart from the floodwaters, the incessant rains accompanied by winds have increased the sufferings of the coastal people. Many areas of Bagerhat Municipality, Sharankhola, Morelganj, Rampal, Kachua and Mongla have been submerged by the floodwaters, causing massive damage to farms and homesteads. Sharankhola UNO Khatun-e-Jannat distributed dry food among the flood-affected people in the upazila on Thursday. "Most of the people in the upazila have been affected by the flood. The local public representatives have been instructed to take proper steps to make way for the stagnant water," she said. Meanwhile, party leaders distributed dry food among the people of Ward No 6 under Bagerhat Municipality on Thursday, under the guidance of Bagerhat-2 MP Sheikh Sarhan Naser Tonmoy. Bagerhat Deputy Commissioner Mohammad Azizur Rahman said that the authorities had instructed all UNOs to provide people with necessary aid wherever needed.

Landslides in Chittagong

Heavy rains caused landslides in different parts of Chittagong city from morning to afternoon on Thursday. No casualties were reported. The district administration relocated five families at risk in the afternoon. The landslides occurred at Baitul Aman Housing Society in Lalkhan Bazar and Florapas area of Ambagan in the city. On receiving information, a joint team of the district administration and the Fire Service began removing the soil from the spot. Additional Deputy Commissioner of Chittagong District Administration Nazmul Ahsan visited the spot. He said that the families had been relocated as they had been living close to the landslide site. Meanwhile, the district administration distributed food among about 1,000 people at four shelters and other places in the afternoon.

More rains ahead

The Met Office in a bulletin on Thursday said that light to moderate rain or thundershowers accompanied by temporary gusty or squally wind were likely to occur at most places over Rangpur, Rajshahi, Dhaka, Khulna, Barisal and Chittagong divisions and at many places over Mymensingh and Sylhet divisions. It also predicted moderately heavy to very heavy rainfall at different other places in the country. The well-marked low over the southwestern part of Bangladesh and the adjoining area now lies over the western part of Bangladesh and adjoining West Bengal. It is likely to move northwestwards. The axis of the monsoon, which is active over

Bangladesh and strong over the North Bay, runs through Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, the centre of the well-marked low to Assam across Bangladesh's central part.

Signal No 3

The Met Office in another bulletin on Thursday advised the maritime ports of Chittagong, Cox's Bazar, Mongla and Payra to hoist local cautionary Signal No 3 and alert vessels of a possible squall. The advisory for Signal No 3 — which means that a depression has formed and may affect the port later — comes in the wake of the well-marked low. “Under its influence, deep convection is taking place and a steep pressure gradient lies over the North Bay and adjoining areas,” said the bulletin. Squally weather may affect the maritime ports, the North Bay and the adjoining coastal areas of Bangladesh, it added. All boats and trawlers in the North Bay have been advised to remain close to the coast and proceed with caution until further notice.

URL: <https://www.dhakatribune.com/bangladesh/2021/07/29/thousands-marooned-in-coastal-areas-seek-aid>

Bangladesh: Fishing trawlers getting poor catch from Bay

Southern region's largest fish market and fishing trawler landing station, KB Bazar in Bagerhat, is witnessing a poor supply of fish after a 65-day ban on fishing at sea was over on July 23. Unabated fishing by Indian fishing trawlers near the Bangladesh maritime borders during the fishing ban might have depleted fish population in the Bay of Bengal, speculated many fishers in Bagerhat. Some of the local fishers also blamed the recent turbulent weather for the dwindling catch in the Bay. In the morning this Sunday, while visiting KB Bazar — located by the town protection embankment along the Daratana River, the area was seen teeming with fishers, sellers and buyers. Out of all fish varieties, hilsa is the highest selling commodity at the market where daily trade amounts to several crores of taka. Aside from hilsa, at least 50 different varieties of fish — including Kaua, Koiya Bhol, Jaba Bhol, Mochan Gagra, Chela, Dhela, Laitta, Bhol, Kankon, Meid, Tengra, Rupchanda and Botal — are usually available at KB Bazar. A single piece of hilsa, weighing 1 kilogram, was being sold for between Tk 1,000 and Tk 1,100. The smaller ones, weighing 500 grams each, were being sold for Tk 500 per kg. The rest were selling in sets of 4 to 6 pieces at Tk 300 to Tk 450 each kg. Many fishers said freshly caught fish could have been sold at higher prices if imported frozen fish were not allowed to be sold at the same market.

Kabir, who brought sea fish to KB Bazar for sale, said while Bangladeshi fishers refrained from catching fish in the sea during the ban, large Indian fishing trawlers continued to catch fish near the Bangladesh maritime boundaries. For that reason, fishers in Bangladesh have not been getting a good catch now despite their compliance with the lengthy ban, he added. “We support the ban imposed by our government, but the Indian fishermen had been catching fish along our boundary lines all this time,” alleged another fisher named Shukkur. “The handful of fish we are getting now does not even cover our voyage cost. Moreover, fish prices have been falling at markets due to the ongoing lockdown,” he lamented. Bagerhat Coastal Fishermen's Association President Sheikh Idris Ali said over one lakh fishers and their families depend on fishing at the

sea. But this time around, their livelihood is at risk as many fishing trawlers have been incurring huge losses after returning empty-handed amid the turbulent sea. Contacted, Bagerhat District Fisheries Officer ASM Russell said the rough seas might be one of the reasons behind the poor catch of fish at this time. Acknowledging that fishing ban periods in Bangladesh and India are different, he said the ministry concerned has been working on to adopt a common maritime fishing ban calendar for the region under the banner of South Asian Association for Regional Cooperation (SAARC). On the alleged netting of fish along the Bangladesh maritime boundaries by Indian fishing trawlers during the fishing ban in Bangladesh, he said in order to thwart such attempts by intruders, the maritime boundaries of the country are under constant surveillance by the navy and coast guard.

URL: <https://www.thedailystar.net/news/bangladesh/news/fishing-trawlers-getting-poor-catch-bay-2138751>

Bangladesh: The model fishing village of Naria

Imagine the pictures of a village a decade ago – rugged paths, horizon, crop fields, mundane houses, settlement of huts on the banks of the river, solemn darkness of the evening and fishermen suffering from abject miseries. These things were used to define the fishing village of Haloishar of Gharisar union under Nariaupazila of Shariatpur district. But now, if you go to that fishing village, you will not find any trace of the afore-mentioned signs as the scenario of the village has transmogrified for something better owing to various development initiatives by the government and the non-governmental organisations in the last few years. Recently, the government has declared this fishing village as an ideal village. The village has now become a town because of the implementation of integrated development programmes by the Department of Fisheries and various government agencies. Almost all the amenities of modern urban life are now available in this village. USAID-funded ECOFISH-II activity, jointly implemented by the Department of Fisheries and WorldFish Bangladesh, has played a key role in the implementation of this model fishing village. The programme has been taken under the activities by the Ministry of Fisheries and Livestock on the occasion of Mujib Year celebrations. As a part of the special programme ‘My Village, My City’, the government has established this ‘Model Fishers’ Village’. Under this programme, a plan has been taken to create employment opportunities and improve the quality of life of the fishers living in Haloishar village by expanding various facilities including infrastructure development, fish farming, agro-based industries, agricultural mechanisation, agricultural diversification and market management. The Department of Fisheries is implementing extensive activities in the village. Notable among these are implementation of scientific fish farming activities in all ponds of the village and taking measures to meet the nutritional needs, formation of fish farmer’s teams, training and package-based fish farming exhibitions, fishermen team formation, providing training and alternative employment and loan assistance, empowerment of women through reforms and establishment of fish sanctuaries and formation of community savings groups.

Besides, some more activities are being implemented in the village with the help of other government departments. These include installation of deep tube wells and hygienic latrines, construction of roads suitable for vehicular movement, tree planting, treatment of beneficiaries,

poultry and cattle and ensuring 100per cent education for the children of the villagers. Since 2015, under the ECOFISH-II project several initiatives have been taken to ensure food and nutrition security, create alternative income-generating opportunities and increase social and environmental resilience for the fishers of this village. As part of the programme, fishers received poultry, goats, cows and vegetable seeds. They were also trained in modern methods of fish farming and loan facilities for fisherwomen were facilitated. In addition, community fishing guards have been formed with fishermen. They have been cooperating with the law enforcement agencies and the administration to co-management activities and work for the conservation of Jatka and brood Hilsa, guarding the sanctuary. Identity cards, trousers, towels, umbrellas, aprons, shoes, flashlights have been provided for the convenience of performing their duties. Dadan Sardar, a fisherman of Haloishar, said, “We have benefited a lot from the ECOFISH project. Various awareness-raising activities and livelihood support from the project have changed our life. We are proud to be residents of this model village.” Haloishar, once a general fishers’ village, is now a model village, and all the development activities and achievements achieved in this village should be replicated in other villages, opined Naria Upazila Fisheries Officer Mohammad Aminul Haque.

URL: <https://www.theindependentbd.com/post/265682>

Bangladesh and India: Threats to Meghna river basin ecosystem: A wake-up call

A wide range of threats facing the ecosystem of Meghna river basinis constitute a wake-up call for both Bangladesh and India. But neither country is showing any interest to protect or promote the basin’s ecosystem. An ecosystem is a geographical area, where plants, animals, and other organisms, as well as weather and landscapes work together to form a bubble of life. The eco system of the Meghna, flowing southward across India and Bangladesh, is neglected by both the countries, despite its huge importance as the natural ‘biogeographical gateway’ located in the transition zone between Indian, Indo-Malayan and Indo-Chinese regions. The Meghna river basin drains a total area of 82,000 square km, of which 47,000 square km or 57 per cent of the total area is in India and 35,000 square km or 43 per cent is in Bangladesh. According to a recent study, the basin’s ecosystem is endangered by a number of threats. The study, supported by the International Union of Conservation of Nature (IUCN), is a wakeup call to address large socio-economic disparities throughout the region. At a three-day virtual dialogue, split into 10 thematic sessions, hosted by the Meghna Knowledge Forum (MKF), participants from Bangladesh and India called upon the two neighbouring countries to develop cooperation to protect and promote the ecosystem services in the Meghna river basin for the benefit of 50 million people in the two countries including the Garo, the Khasi and the Jaintia communities. They said such cooperation would also increase the benefits to the people in downstream Bangladesh, and build trust between stakeholders across the border. The Meghna river basin, shared by Bangladesh and India, has 29 transboundary rivers originating in India which flow through Bangladesh before falling into the Bay of Bengal. Located in the transition zone between Indian, Indo-Malayan and Indo-Chinese regions, the Meghna river basin is their ‘biogeographical gateway’. The ecosystem services provided by the river basin directly support life and livelihoods of over 50 million people in Bangladesh and India including the Khasi, the Garo and the Jaintia communities. The study is also a call to wake up without wasting further time to develop cooperation for joint

solutions and basin level integrated approaches to tackle challenges posed by recurring floods and droughts troubling millions of people in the two neighbouring countries. The two countries could make the Meghna river basin the most vibrant region in South Asia. Over 100 participants, 40 of them from the Garo and the Kashi communities, of the two countries took expressed concern over neglecting the basin's eco system.

Saber Hossain Chowdhury, MP, chairperson, Parliamentary Standing Committee on Environment, Forest and Climate Change Ministry, called for moving from conflict to cooperation through the Meghna Knowledge Forum. PR Sambharia, senior joint commissioner, Ground Water and Flood Management at Indian Jal Shakti Ministry, requested the IUCN to share its findings with Bangladesh-India Joint River Commission and provide them to the relevant government departments of the two countries. Malik Fida A Khan, executive director, Centre for Environmental and Geographic Information Services, said that Article 6 of the Framework Agreement for Cooperation between Bangladesh and India, mandates the two countries to work together for the preservation of ecosystems of shared rivers. He said, "This provides an entry-point for strengthening cooperation for the formation of the Mghna River Basin Organisation for multi-level cooperation for the sustainable management of the Meghna basin." The IUCN will disseminate the outcomes of the Meghna Knowledge Forum (MKF) at bilateral and global platforms, including at the September 2021 IUCN World Conservation Congress, to be held in Marseille, France, the IUCN said a news release. "We felt the need to assess the downstream benefits to the people in Bangladesh from such initiatives. However, this will help build trust between stakeholders across the border and for the benefit of 50 million people living in the region shared by the two countries across the border," said Dr P Shakil Ahammed, principal secretary, Water Resources, Fisheries, Food and Civil Supplies. The basin's importance stems from the fact that more than 50 million people in Bangladesh and India, particularly, farmers, fishermen and forest dependent communities like the Khasis, the Garos, and the Jaintias in the haors in Sylhet region of Bangladesh depend on it for their sustenance. The two countries have no choice but to cooperate, and work together to protect the basin's ecosystem. The three-day dialogue laid the foundation for a multi-stakeholder knowledge exchange platform for the inclusive management of the Meghna river basin. The participants shared their perspectives on a wide range of issues linked to culture, water governance, climate change and inland navigation to promote partnerships among the stakeholders to address knowledge gaps for integrated water resource management in the Meghna river basin. About the significance of Barak-Meghna river system, Dr Rajdeep Roy, MP, from Silchar, Assam, India described the Barak river as 'rich in biodiversity with its more than 100 species of fish, including the Ganges Dolphin, listed as endangered.' More than 70 community managed fish sanctuaries have been established across Meghalaya, and many of these are located in transboundary tributaries of the Meghna river basin, such as the Someshwari, and Simsang rivers originating from Garo hills in India, he said. The initiative led to increase in the fish population and improvement in water quality. At the first webinar participants discussed the importance of the Megha basin from the socio-economic and ecosystems perspectives. The Meghna basin supports one of the largest Hilsa fisheries in the world, providing a source of protein for millions of people living in Bangladesh and India.

Vishwa Ranjan, programme officer, water and wetlands, IUCN Asia, said, "The basin includes more than 1,000 wetlands located in the haor region of Bangladesh and the Barak Valley of

India. These buffer against flooding, and also provide habitat for thousands of migratory waterfowl annually.” The basin has high cultural significance, with a number of indigenous communities including the Jaintia and the Khasi living in it, said Sabyasach Dutta, executive director, Asian Confluence. He said, “The ancient Jaintia kingdom used to span both sides of the border and was replete with monuments, cultures, folklore and art forms. The ancient Jadukatariver festival, celebrated even now, is an example of the cultural value of the rivers for the people.” Despite such importance, the Meghna basin is facing a wide range of threats, shows the IUCN supported study. Dr Saudamini Das, professor, the Institute of Economic Growth, Delhi University, said, “Indigenous communities living in the forest dominated landscapes of Meghna basin are poor, and depend on the forest for their socio-economic well-being.” “Development of innovative Payment of Ecosystem Services mechanisms could provide economic security of indigenous people and the protection of watersheds for the long-term water security across the basin.” FW Blah, chief forest officer of the Jaintia Hills Autonomous District Council, Meghalaya pointed out the impact of mining and shifting cultivation on the forests of the Jaintia Hills, the source of many transboundary tributaries of the Meghna river, including Myntdu and Umngot. He said, destructive mining has stopped, but deforestation, forest fragmentation, and soil degradation continue to threaten the ecosystem. Blah described the Jaintia Hills Autonomous Council as an elected governing body of the Jaintia people and it plays a key role to promote the region’s culture. Panelists and participants discussed the benefits of sharing as an opportunity in the transboundary context. Dr AK Enamul Haque, director of the Asian Centre for Development, Dhaka, highlighted the potentials of bilateral benefits of sharing the Meghna basin. The webinar highlighted the need to strengthen collaboration within the basin to maintain the Meghna’s status as one of the last remaining long free-flowing rivers in Asia.

According to a recent article published in the Nature journal, Mapping the Worlds Free-Flowing River, the Meghna river has been identified as one of the last remaining long free-flowing rivers in Asia. The Brahmaputra river is, however, listed as a non-free-flowing river, with good connectivity, and the Ganges is also categorised as a non-free-flowing river, with very limited connectivity. The webinar also demonstrated the cultural importance of the river to indigenous communities, and their dependence on the ecosystem services provided by the river. The webinar series aims at building the water governance capacity of a network of Civil Society Organisations (CSOs) in the GangesBrahmaputraMeghna (GBM) River Basin. The webinar series is funded by the Swedish International Development Cooperation Agency (SIDA) through the Oxfam Transboundary Rivers of South Asia (TROSAs) programme. Its focus is to strengthen CSO engagement in transboundary water management issues.

URL: <https://thefinancialexpress.com.bd/views/threats-to-meghna-river-basin-ecosystem-a-wake-up-call-for-bangladesh-india-1627142147>

Bangladesh: Whiteleg shrimp cultivation sees success in Khulna

A new species of shrimp named vannamei or whiteleg, which is dominating the shrimp market, is seeing success in its first experimental cultivation in Khulna. The average production per hectare of this shrimp is 6,761kg more than the Bagda variety. Besides, the production rate of this species is high while cost is low. It is also cheap, easily available and delicious. The vannamei

shrimp originated in Vietnam, but now 15 countries in Asia are producing it. Except Bangladesh, the remaining 14 countries are producing it commercially. If necessary steps are taken, Bangladeshi shrimp exporters say they can go for commercial production of this variety. Shrimp farmers and exporters say only vannamei can grab the world market by expanding the shrimp industry of Bangladesh. According to the Bangladesh Frozen Foods Exporters' Association, the average production of Bagda shrimp in Bangladesh is 341kg per hectare while that of vannamei in India is 7,102kg per hectare. It says Bagda and Galda shrimp production is declining day by day. Besides, Bangladesh is failing to compete in the international market of frozen shrimp. In this regard, the association has been applying to the government for permission to cultivate vannamei for the last 20 years. The government finally gave the permission in September 2019. The project is being piloted at the Paikgachha Saltwater Centre in Khulna under the Department of Fisheries and the Fisheries Research Institute. This is a joint venture between MUC Foods of Jashore BSCIC Industrial City and Sushilan, a private development agency in Satkhira. The cultivation of this new species of shrimp is going on in four ponds. About eight lakh vannamei shrimp fries, brought by air from Thailand in March, were released there in early April this year. Those involved in the project have expressed satisfaction with production.

Chief Scientific Officer and Head of Paikgachha Saltwater Centre in Khulna Dr MD Latiful Islam said entrepreneurs were given six ponds for the cultivation of vannamei shrimp. He said although the programme was supposed to start in 2020, the first shrimp was released on 31 March this year due to the pandemic. "They reserved two ponds and cultivated fish in the remaining four ponds." Praful Kumar Sarkar, a shrimp expert and former fisheries officer, said samples are tested every week to detect shrimp growth and disease. Although there has been some fear of higher temperatures this year, regular monitoring has shown that this variety's disease resistance and life expectancy are much higher than Bagda, he said. S Humayun Kabir, vice-president of the Bangladesh Frozen Food Exporters Association, said only 28 out of 105 frozen fish processing and exporting establishments in the country are operational due to a lack of raw materials (shrimp). He said the remaining 77 have been closed. MA Hasan Panna, director of Frozen Foods and promoter of Bagda Shrimp Farming in Bangladesh, said, "To cultivate vannamei shrimp, it is necessary to produce SPF fry in the country. Only then will it spread widely at the marginal farmer level." Shyamal Das, managing director of MUC Foods in Jashore, the country's first vannamei shrimp farming entrepreneur, said the global market for shrimp is worth \$33 billion and vannamei has taken over 80% of it. "We have to fight for only 20% of the market. We are lagging behind in shrimp production and export due to falling market prices." As per the Department of Fisheries and Export Development Bureau, 47,635 tonnes of frozen shrimp were exported in the 2013-14 fiscal year, which came down to 30,036 tonnes in 2019-20. Also, foreign exchange earnings fell from \$550 million to \$333 million. In 2020-21, it came down further to \$329 million.

URL: <https://dailyindustry.news/whiteleg-shrimp-cultivation-sees-success-in-khulna/>

Bangladesh: Novel feeding strategy boosts fish farmers' incomes by 22 percent

So concludes a study by Wageningen University and WorldFish, which aimed to establish more economical ways of increasing aquaculture yields, as a means to alleviate poverty and increase

food security in Africa and Asia. In particular they looked at feeds that not only target the fish but also the pond organisms that help break down waste and produce natural feed for the fish. As different ingredients are used, this feed is cheaper than conventional alternatives. While it has less direct nutritional value for the fish, it allows the pond to provide more high-quality feed. “This makes it very attractive for a fish farmer,” said Wageningen researcher Marc Verdegem. “The fish production is the same, if not higher, and the fish farmer pays less for the feed”. In Bangladesh, for example, fish farmers using this method reported a 22 percent increase in income.

The feed used in the study contains more carbohydrates, which are only partially digested by the fish. Bacteria in the pond convert what is not digested into nutrients for the pond, contributing to the production of natural food for the fish through the pond’s food web. Aquaculture has developed rapidly and intensified in recent years, and according to the researchers this often results in overfed ponds and a disturbed natural pond ecosystem. “We studied how we can achieve a food web that ensures the pond stays healthy and functions as it should. Natural products, such as pond organisms and plankton, can contribute considerably to the fish’s menu,” said Verdegem. The researchers note that improving the social, economic and ecological sustainability of fish feed will increase the ability of the aquaculture sector to fight poverty and ensure food security in Africa and Asia. Aquaculture is the fastest-growing production sector in the world and provides a crucial source of income for small-scale fish farmers and local communities. Moreover, farmed fish – such as tilapia, carp and catfish – form an important protein source for many people.

URL: <https://thefishsite.com/articles/novel-feeding-strategy-boosts-fish-farmers-incomes-by-22-percent>

India and Bangladesh: Jadukata river buzzing with lives, livelihoods again following SC verdict

The Jadukata is one of the 54 transboundary rivers flowing between India and Bangladesh. Originating from the Meghalaya Hills of India, it flows into Bangladesh through Sunamganj’s Tahirpur and into Bishwamvarpur upazilas. Known for its scenic beauty, the Jadukata is a reservoir of natural resources. Mountains stand still near the river and the sky seems to lean on the mountains. Barik Tila sits on top of the river. A Supreme Court decision in June designated two balumahal (sand quarries) in Jadukata. Jadukata-1 is flowing beside Barik Tila. Shimul Bagan, the garden of cotton trees, is on the other side, and this is where another sand quarry called Jadukata-2 has been designated. The ruling of the Supreme Court finally allowed for sand to be lifted from the river again, after being barred for years over environmental concerns. The area from which sand can be legally mined has been very strictly demarcated. Additionally, it was stipulated that no heavy-duty machinery could be used in the extraction of sand. Since 12 June, workers have been lifting sand from the river again, but now by hand in an environment-friendly way as no one is allowed to extract sand with mining explosives. The precious natural resource in the river is the unlimited sand. Locals say that the world’s best sand is found here, and certainly the sand from Sylhet’s hilly rivers enjoys a very good reputation in the construction industry. Like any fast-developing country witnessing construction booms, sand is in high demand in Bangladesh. The living standards of the workers in the Haor area developed around

the Jadukata. Almost all working people lost their jobs because of non-settlement of leases due to legal complications and lawsuits in the high court. Visiting the area on Wednesday, the area is buzzing again with workers around the two designated quarries. Thousands of workers are lifting sand in small boats. The sand is being sold on to big traders for cash. About 50,000 workers have returned to their old jobs. Each worker is earning Tk 1,500 per day.

Shukur Ali, a labourer from Miyarchar, said, “I was in a lot of trouble because of the pandemic as the river remained closed. I wanted to run away from home. But in the end I didn’t have to go anywhere as the river opened. I can earn Tk 1,500 by lifting sand from the river.” He also said his family is spending their days happily now. “I used to spend half a day starving as the river was closed. I am happy now with my family after opening the river,” said Alamgir of Ghagtia village. Every worker UNB spoke to expressed the same. It means the environmentalists’ concerns may be legitimate, but the court verdict has provided a final settlement that all parties must accept. Besides, numerous people, including boat owners and traders, are earning their livelihoods in some way or other from the river. With the people of the area having money to spend, trade has increased in the markets around the river. Store owners say they are doing up to 50 times more business. In the evening, the workers buy fish and meat from the market as they wish. The prices of the products are also increasing in the market but the workers do not care about that. They have pent-up demand to be met. This is how the economy is growing in the area. Lessee Selim Ahmed said, “The workers of Haorpar were living an inhuman life as the Balu Mahal was closed due to some litigation. At the end of the legal battle, the Supreme Court returned a verdict in my favour. Now I get a legal lease. And I have nothing else to worry about lifting sand from the river.”

Deputy commissioner Jahangir Hossain said the lessees have been made aware of the boundaries for sand mining in the Jadukata River. “When I visited the area, I saw the workers here mining sand from the river with super enthusiasm. Those who had long been unemployed, it is very good to see them active now,” he said. Upazila nirbahi officer (UNO) Md Raihan Kabir, who personally demarcated the boundaries of the two quarries, said that the only source of livelihood for the people of Haorpar is the Jadukata River. “Workers are earning by working in this river. The workers are doing well with their families by working in an environment-friendly way,” he said. He has also been vigilant against any violations of the court’s stipulations. On 21 June, the UNO led a mobile court that fined two boats Tk 50,000 each for straying outside the boundaries set for sand mining.

URL: <https://en.prothomalo.com/environment/jadukata-river-buzzing-with-lives-livelihoods-again-following-sc-verdict>

Bangladesh: Production, export permission of diversified shrimp culture sought

With the export oriented frozen shrimp sector on the decline, sector insiders urged the government to allow diversified shrimp culture in the country to survive and compete in the highly competitive global market. There are 105 frozen food processing factories in Bangladesh with annual production capacity of 0.4 million tonnes whereas due to the scarcity of raw

materials, the production capacity of our factories stands at 10-15 per cent, speakers said at an event in the city.

Shrimp was second among export items which have slipped down to seventh position in export chart. In fiscal year 13-14, a total of 47,635 tonnes frozen shrimp was exported worth \$550 which had declined to 30,036 tonnes in FY20 worth \$333, according to government data. In this scenario, it is not conducive to the survival of the factories, they said. Participants said these at a seminar titled “Increase Export through diversified Shrimp Culture” organised by the Bangladesh Frozen Foods Exporters Association (BFFEA) in collaboration with Fisheries Products Business Promotion Council (FPBPC) on Tuesday.

Shrimp has been cultivated in Bangladesh in a traditional way for the last five decades, so the production per hectare is only 300-400 kg, which is the lowest in the world, BFFEA President Amin Ullah said, urging for diversification of the shrimp culture. “The Vannamei (Whiteleg shrimp) is disease tolerant and high yielding (production 10-15 tonnes per hectare), and low cost of production has already gained wide popularity in the global market,” he added.

However, the variety has not to get permission officially for production and export in Bangladesh while it is dominating 77 per cent of demand of the global market. And, 14 out of 15 shrimp producing countries in Asia have started Vannamei shrimp farming since 1988, speakers said. As a result, Bangladeshi exporters are not able to meet this huge demand, the alleged. Sector insiders urged the government for cash incentives, low interest rate loan, ease the export procedure, availability of raw materials and shrimp insurance similar to agricultural crops in order to help nourishing and survival of the shrimp sector.

Saifullah, Head of Business, ACI Agrolink Limited, suggested increasing RM supply to factory, high yielding variety “Vannamei” and proper input of seed, feed, pond management solution for the diversification of the sector and raise export capacity. Besides, farm management, climate smart technology, access to finance, advanced payment mechanism, intensify semi-intensive cultivation area, entrepreneurship development training are need for the sector development, he added. Md. Abdur Rahim Khan, Joint Secretary at Ministry of Commerce, addressed the event as the chief guest and emphasized on the maintenance of global standards for the industries and farming to catch the global market and compete. Assuring that the government is positive to the Vannamei shrimp farming in the country, he suggested further discussion on it and forward a combined recommendation to this end for further course of action.

URL: <https://thefinancialexpress.com.bd/trade/production-export-permission-of-diversified-shrimp-culture-sought-1624976694>

Bangladesh: Flash floods hit north, northeastern districts, plunging lowlands into chaos and misery

Low-lying areas in Sylhet, Sherpur and Sunamganj districts have been flooded due to downhill onrush of water and heavy rainfall for the last couple of days, causing immense sufferings to local people. In Sylhet, many parts of roads, houses, seedbeds and schools in Gowainghat,

Jaintapur and Companiganj upazilas went underwater due to the flash floods. Rivers were flowing above their danger level, leaving several hundred people of the three upazilas marooned. Road communication with many villages remained snapped while people were suffering from an acute shortage of pure drinking water. Around 10,000 people in the haor areas of Gowainghat upazila have been living underwater in the past three days. In some areas, people were seen using boats for commuting. In Jaintapur upazila, the Sari and Boro Noyanga rivers were flowing 59cm above the danger level, rendering hundreds of people marooned. In Sherpur, the low-lying areas of the district also flooded due to the heavy rains and onrush of hill water. Besides, the waters of Bhogai, Chellakhali, Someshwari, Moharashi were flowing above the danger marks. The Jhenaigati bazar and upazila parishad premises were submerged.

People have been forced to live indoors as all the low-lying areas were flooded. The Shimultoli embankment along the Bhogai River has been damaged, inundating many areas including Madhyabazar in the municipality, Jailkhana Road, Uttar Garkanda, Nalitabari union. Alamgir Hossain, an official of Chellakhali Water Development Board, said “I have not seen such rains in the past few years.” The fish enclosures in Jhenaigati upazila have been washed away. In many areas, people have to wade through knee-deep water. In Sunamganj, road communication on Tahirpur-Bishambharpur-Sunamganj road in Bishambharpur upazila remained suspended as the road went underwater. The water level of the Jadukata River has increased in the past 24 hours, worsening the flood situation. Some 30,000 people have been marooned while a vast tract of cropland was submerged, with aman seedbeds inundated.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/07/01/flash-floods-hit-north-northeastern-districts-plunging-lowlands-into-chaos-and-misery>

Bangladesh: 2750 fisher families receive dried fish

USAID-funded ECOFISH-II activity distributed dried small fish among the fishing households who become unemployed due to the ongoing 65-days marine fishing ban as announced by the government. Delwar Hossen, senior fisheries officer of Teknaf, inaugurated the fish distribution at Notun Pallanpara of Teknaf upazila on Sunday (June 27) noon. Among others, Sazeed Mehrab, Research Assistant of ECOFISH-II activities of WorldFish Bangladesh were present at the occasion. These dried marine small fish were provided through the USAID-funded ECOFISH-II activity jointly implemented by the Department of Fisheries and WorldFish Bangladesh. 2,750 fisher families of Cox’s Bazar and Bhola received the dried fish, which are safely produced under the project’s supervision. Prof Abdul Wahab, team leader of the ECOFISH -II project, said, “1 kg of dried fish which is equivalent to 4-5 raw fish, has been given to 2,750 fisher families to address the nutritional needs of the fishing households during this long ban period”. Besides this, 250 kg pelagic small fish power prepared by the Noakhali Science and Technology (NSTU), an implementation partner of ECOFISH-II, will also be distributed among the 250 fishers’ families, he added.

URL: <https://www.risingbd.com/english/country/news/80526>

Bangladesh and India: Urged to cooperate on Meghna River basin

Speakers at a dialogue have called on Bangladesh and India to boost cooperation in protecting and promoting the ecosystem services of the Meghna River basin for the benefit of 50 million people living in the region shared by the two countries. The two neighbours should work together to make the basin as one of the most vibrant regions of South Asia, Planning Minister Abdul Mannan said. “There is no alternative to cooperation and working together,” he said while addressing the first ever knowledge forum on the Meghna River basin, according to a release from International Union for Conservation of Nature (IUCN) on Saturday. It is estimated that more than 50 million people in Bangladesh and India depend on the ecosystem services provided by the basin, including indigenous forest dependent communities such as the Khasia, Garo, and Jaintia; and the fishermen and farmers depending on the extensive wetlands (Haors) of Sylhet region in Bangladesh. RR Sambharia, representing India’s Ministry of Jal Shakti and senior joint commissioner, Ground Water and Flood Management, advised the IUCN to share the result of the forum with the Joint River Commission (JRC) of Bangladesh and India, and its dissemination to the relevant government departments at the state level.

To maintain the momentum created through the Meghna Knowledge Forum (MKF) 2021 and to attract international donor agencies to the Meghna River basin, IUCN will disseminate the forum outcomes at the bilateral and global platforms, such as IUCN World Conservation Congress in Marseille France planned in September 2021. Malik Fida A Khan, executive director, Center for Environmental and Geographic Information Services, said the article 6 of Framework Agreement for Cooperation between Bangladesh and India, mandates the two countries to work together for the preservation of ecosystem of the shared rivers. “This provides an entry point for strengthening the discourse on the formation of Meghna River Basin Organization (RBO), which needs to ensure multi-level coordination for the sustainable management of the Meghna basin.” More than 100 participants from across the Meghna basin joined the three-day forum held recently, said IUCN on Saturday. The three-day forum laid the foundation of a multi-stakeholder knowledge exchange platform for the inclusive management of the Meghna river basin. Designed as a virtual event, the forum’s objective was to facilitate partnerships among different stakeholders and sectors to address knowledge gaps in the implementation of an Integrated Water Resource Management (IWRM) in the Meghna River basin.

Highlighting the significance of Barak-Meghna river system, Dr Rajdeep Roy, member of Parliament, India (Silchar, Assam) said: “Barak river is rich in biodiversity and more than 100 species of fish, including the Ganges Dolphin, listed as endangered species have been recorded from Barak river in India.” The forum included 10 different thematic sessions and more than 40 speakers from diverse sectors, including from the Garo and Kashi indigenous communities. The speakers shared their perspectives on the wide range of issues linked to culture, water governance, climate change and inland navigation. “There are more than 276 shared river basins across the world, Meghna basin is one of them,” said Saber Hossain Chowdhury, MP and chairperson of Parliamentary Standing Committee in Ministry of Environment, Forest and Climate Change, Bangladesh. He reiterated that through MKF 2021, they hope to move from a situation of conflict to cooperation, as the forum dialogue is linked to creation and enhancement of the benefits from the Meghna basin through trans-boundary cooperation. The forum also

highlighted the need to strengthen the governance of the basin, and make it more inclusive and responsive to the needs and aspirations of the indigenous community.

“More than 70 community managed fish sanctuaries have been established across Meghalaya, and many of these are located in transboundary tributaries of the Meghna river basin, such as the Someshwari or Simsang river originating from Garo hills in India. The initiative led to increase in the fish population and improvement in water quality,” said Dr. P. Shakil Ahammed, Principal Secretary, (Water Resources, Fisheries, Food & Civil Supplies). Shakil also emphasized the need to assess the downstream benefits to the people in Bangladesh from such initiatives, as this will help build trust between stakeholders from across the border.

URL: <https://www.dhakatribune.com/bangladesh/2021/06/26/bangladesh-india-urged-to-cooperate-on-meghna-river-basin>

Bangladesh: Special budgetary allocation for coastal areas demanded

Lawmakers elected from Bangladesh’s coastal districts and development activists on Sunday urged the government for keeping special allocation in the national budget for 2021-22 for construction of sustainable embankments to save lives and livelihood of the people of the country’s coastal belt. They made the demand in a special convention organized by Faith in Action and Leaders, a non-governmental development organisation, and civil society platform Sundarbans and Coastal Protection Movement at the Krishibid Institution auditorium in Dhaka on Sunday. Addressing the convention as the chair, ruling Awami League lawmaker from Khulna-6 constituency, Akhtaruzzaman Babu, said that the government was conducting different development activities in the coastal areas but the people had to suffer immensely as they had to become waterlogged even in high tide water. He said that the embankments were, at places, weak and they often breach during natural disaster and even due to pressure of water during high tide.

Speakers in the event urged the government to raise special funds for maintenance of the embankments and including people’s representatives in implementing any development projects. They stressed the need of transparency and accountability in the implementation of the projects and to take short, mid and long term plans to protect the lives, livelihoods and nature in the coastal areas by declaring the area as disaster prone areas. Lawmakers Mir Mostaq Ahmed Robi, Mustafa Lutfullah, Abdus Salam Murshidy, Md Amirul Alam Milon, SM Shahzada, Syeda Rubina Akhter and Gloria Jharna Sarkar, among others, spoke in the convention conducted by Sundarbans and Coastal Protection Movement coordinator Nikhil Chandra Bhadra. Former ministers and AL lawmakers – Narayan Chandra Chandra and AFM Ruhul Huq joined the convention. Leaders executive director Mohan Kumar Mondol presented the keynote paper in the convention.

URL: <https://www.newagebd.net/article/142157/special-budgetary-allocation-for-bangladesh-coastal-areas-demanded>

Bangladesh: Pandemic ravages fisheries sector

Livelihoods of about 1.8 crore people involved in the fisheries and aquaculture sector in Bangladesh have been affected by the Covid-19 pandemic, researchers found. Fish farmers are bearing the brunt of the crisis as the incomes of 86 per cent of them dropped, the researchers said in a study report titled “Impact of novel coronavirus pandemic on aquaculture and fisheries in developing countries and sustainable recovery plans: Case of Bangladesh”. The report was published in the United Kingdom-based journal *Marine Policy* recently. It said that the pandemic had hurt the earnings of 85 per cent of fishers. The report blamed the restriction on movement, activities and businesses at the early stage of the pandemic for the sufferings confronting fishers and related stakeholders. The increased transportation cost and the sharp rise in the price of feed and ingredients have worsened the financial condition of the people in the sector. Besides, harvesting the fish while maintaining social distance was almost impossible, impacting the overall fish production adversely. About 43.8 lakh tonnes of fish are produced annually in Bangladesh, which ranks fifth in aquaculture and third in inland open water capture fish production in the world. Besides, 84 per cent of fish traders were impacted slightly or severely due to the pandemic, the report said. “The fishers and small-scale fish farmers, most of whom are poor, are among the worst-affected by the pandemic,” said Md Monirul Islam, chairman of the Department of Fisheries at the University of Dhaka. Monirul, along with Makidul Islam Khan, a research associate at the department of oceanography at the DU, and Aparna Barman, a research associate at Sustainability Services Ltd, carried out the study on 350 stakeholders across the country from June to November last year.

About 74 per cent of the survey participants said the pandemic had impacted fish consumers despite the price reduction. This might be because of the decline in the purchasing capacity of people. The female household members of about 70 per cent of fishers and 35 per cent of fish farmers cut down on food intake, from three meals to two meals per day, to cope with the adverse situation. Adolescents and pregnant women suffered due to a lack of nutritious foods and proper treatment, the report said. The fisheries sector meets 60 per cent of animal protein intake and nutritious diets for around 16 crore people in Bangladesh. The situation worsened because of the reduction in income due to the shortening of marketing hours, the increasing cost for fish feed and transportation, and the lower price of fish. About 35 per cent of the fishers reported their debt increased as they could not repay the loan instalment on time. The restriction on transport and less availability of workers, and difficulty in running operations pushed up the price of feed by 10 to 12 per cent. Because of the lower prices, fish farmers do not catch fish. They hope that the price will go up once the situation improves. But rearing fish in ponds for a longer than expected period inflicted more cost in terms of foods and maintenance, said Monirul. And due to the higher price of feed, the farmers used fewer feeds in the ponds, slowing the growth of fish. They also cut the rate of stocking fries. The pandemic has taken a toll on the export-oriented shrimp aquaculture in the southwestern part of the country because of the disrupted supply chain and a fall in demand and price, impacting the livelihoods of 85 per cent of people. The price of shrimp has gone down by 20 per cent to 35 per cent. Before the pandemic, the aquaculture and fisheries sector contributed 3.5 per cent to the gross domestic product and fetched \$501 million in exports. The report suggested an urgent short-term recovery plan to address the immediate needs and a long-term plan to ensure a more durable recovery. Besides,

quantitative and qualitative impact assessments are imperative for long and short-term responses and adaptations, it said.

URL: <https://www.thedailystar.net/business/economy/industries/news/pandemic-ravages-fisheries-sector-2120225>

Bangladesh: The forgotten people of our wetlands

There is something surreal about Bangladesh's wetlands. Miles of beautiful scenery, of sparkling shallow waters surrounding patches of land full of greenery. The waters teem with fish that the local fishermen can make a living out of. We are naturally blessed with several types of wetlands too—rivers, haors, beels, baors, chars, coastal islands, marshes, you name it. Yet the plight of the people who live on these wetlands lies almost invisible and forgotten to us beneath all this beauty. Picture this: You live in a tiny makeshift hut with a family of four on an island in the coastal areas. You wake up every day to have nothing but panta bhaat and daal, (plain soaked rice and lentils) and get to work at a farm or a fishery. After a long day of gruelling work that hardly pays, you count yourself lucky to be able to afford something like fish, or meat if you somehow manage to afford that luxury, for lunch with the staple rice in the late evening. Drinkable water is rare, and you pray that water levels around the island you live on do not rise and contaminate your food, drinking water and crops with saline water, as well as hoping that the ground beneath you does not vanish into the waters that keep closing in.

This is a common scenario for the everyday lives of people living in the remote wetlands of our country. The Household Income and Expenditures Survey 2016-2017 pointed out that the poverty rates shot up from 2010 to 2016 in places like Kurigram, Dinajpur, Sherpur, etc. Some places, like Kurigram (71 percent) and Dinajpur (64 percent), had shocking levels of poverty. Terrible nutrition values and diseases are commonplace in our remote wetlands, and the people find it impossible to escape the poverty trap. Environmental hazards like storms and soil erosion are norms, too. To add to that, people in the wetlands are also helpless against natural disasters, as evidenced by the havoc unleashed upon our coastal areas by storms and tidal surges triggered by Cyclone Yaas. To quantify the damage, about 6,000 families' homes were flooded in Koyra upazila, nearly 2,570 houses were damaged in Cox's Bazar, 727 kilometres of roads were damaged in Patuakhali, and so on. Tens of thousands of people living in shelters—5,000 in Koyra upazila alone—suffered from a lack of food and water. All this, after seeing their homes and whatever little belongings submerged or destroyed, and their crops and livestock killed off as collateral damage by the cyclone's wrath. Relief groups, mostly non-government ones, often try to help these people through raising awareness about their rights, safety measures and providing food relief to impoverished families. They also get to see the terrible states of the people living in the wetlands first-hand.

Mohammad Amirul Huque Parvez Chowdhury, one of the founders of Upokul Foundation (one such relief group), spoke of some heartbreaking details when interviewed about his experiences. He commented that it is very difficult for the people living in the coastal islands to earn livelihoods. The power dynamics in these regions are very wide. The money that, for example, the fishermen earn from selling the fish they catch is proportionately very small compared to

what the middlemen earn from reselling them. None of the equipment (neither the boats, nor the nets) belongs to the fishermen, so they are completely dependent on the middlemen for their livelihoods, as they cannot afford the equipment themselves. Amirul Huque confirmed that the people in the coastal areas also find it very difficult to move around from one place to another, as transport systems are either perilous or non-existent. So, essential facilities like schools or hospitals are out of reach for the inhabitants. He added that the income potential in these islands is huge, but the people who are making it possible are not earning what they deserve.

To present an example, he pointed out that he had visited a char once that had managed to fish hilsa worth around Taka four crore in a single year. The chars, however, are not regulated optimally, and thus extreme poverty and low living standards plague the inhabitants. So the relief and the spread of awareness that Upokul Foundation and other relief groups provide are just not enough. If the government were to step in, things would take a turn for the better for the lives of the poor. From an agricultural point of view, the people in our wetland areas produce mind-boggling figures when it comes to agricultural and fish-product yields. These wetlands are ideal breeding grounds for many sorts of fish stock such as rui, katla, mrigal, etc. According to the USAID statistics on Bangladesh's wild fisheries, our fisheries contribute about seven percent of the world's inland fish productions. As for agriculture, an ongoing research abstract by Bangladesh Institute of Development Studies (BIDS) pointed out that the haor region of the Meghna basin in northeastern Bangladesh alone manages to produce 27 percent of Bangladesh's total boro production and 15 percent of our total rice production. We would not be wrong to expect, then, that the segments of our population which contribute a huge chunk of the Tk 2,874.26 crore in exports (Fiscal year 2019-2020, upto January 2020)—through fisheries alone—deserve to live with some form of certainty about their lives and livelihoods.

The people who live in and around the wetlands either have poorly managed facilities (schools, healthcare institutions and clinics), or no such facilities at all. NGOs have tried to help these unfortunate groups, but it is not enough. Our government has the resources to provide them with properly maintained schools and healthcare facilities—and physical roads to get to these places. Strong embankments can be built to prevent tidal waters from posing so much of a threat. Awareness campaigns on how soil erosion can be slowed down or stopped through mulching and laying down sandbags on the banks and backyard gardens can be carried out or funded by the government, too. Proper regulations of fixed and fair prices to fishermen and farmers could be imposed as well, with consequences available for middlemen that try to underpay the people in need. The people of the wetlands, despite their contributions to maintaining the food security of the country, are neglected and forgotten, as if punished for their ill fate of being born in such remote areas. The government and non-government organisations must make concerted efforts to provide these people with the basic rights of food, shelter and education, as well as fair earnings from their livelihoods.

URL: <https://www.thedailystar.net/opinion/news/the-forgotten-people-our-wetlands-2119917>

Bangladesh: Blue economy: Road to economic prosperity

The end of the longstanding maritime boundary dispute of Bangladesh with India and Myanmar has opened up immense potentialities for us regarding blue economy. Proper development in the maritime economic sector will give us the opportunity for swift economic expansion. Mainly, blue economy discusses a country's development in her marine resource and its proper usage. Almost 70% of our earth surface is covered with water, which includes a vast amount of aquatic species. Besides these, there are also natural resources, oils, minerals and different types of aquatic plants. According to the information provided by Food and Agriculture Organization, every year, almost 1 to 2.5 trillion tons of fish is collected from marine bodies which accounts for fulfilling 15% protein requirement of at least 430 crores of people of the world. Besides this, different types of natural gas, minerals extracted from the sea surface fulfill various daily necessities of people. Researchers predict that by the time 2050, world's population will reach almost 900 crore. And to fulfill various economic needs of this vast amount of people, blue economy will play a significant role.

Among the sustainable development goals (SDGs), SDG-14 focuses on sustainable use of the oceans, seas and marine resources for sustainable development. Bangladesh has adopted steps to ensure sustainable use of the oceans, seas and marine resources attaining inclusive development and goal related to SDG-14. In near future, blue economy will greatly influence our country. With that concern, in 1974, the Government of Bangladesh under the leadership of Bangabandhu Sheikh Mujibur Rahman, enacted the Territorial Waters and Maritime-1974 Act. But the maritime dispute with India and Myanmar was the main barrier against the implementation of this law. After resolving the dispute with Myanmar in Hamburg International Maritime Court in 2012, Bangladesh established her sovereign authority over 1 lakh 18 thousand square kilometers of sea area. By this, Bangladesh established her economic authority over 200 nautical miles of sea area. After resolving the dispute with India in 2014, Bangladesh gained the authority of more 19 thousand square kilometers of sea area. As a result, a maritime area almost equal to the total land area of Bangladesh came under her authority.

A huge portion of Bangladesh's economy depends on her fish resource. Fishes collected from sea meet the protein demand of her people. Besides, every year, huge amount of foreign currency is obtained by exporting fishes. According to the research of Sustainable Coastal and Marine Fisheries Project Bangladesh's marine bodies contain 430 species of fishes and 17 species of shrimp. Few years back, Bangladesh could collect only 6 lakh tons of fish from the sea. But at present, after expanding the maritime boundary, the amount of fish collected measures up to 80 lakh tons. If this newly claimed maritime area is properly utilized, then it is possible to gain crores of foreign currency every year from this fisheries sector. Maritime researchers say that, 13 areas of this newly claimed sea area of Bangladesh have valuable sand, uranium, thorium and other mineral resources which if properly extracted, will bring a revolutionary change in her economy. At the shore of the Bay of Bengal, there is a sea beach extending up to 120 kilometers around Cox's Bazar. The country's tourism industry evolved centering this sea beach. Every year, almost 80 to 90 lakhs of people from around the country visit this beach. Besides, the number of foreign tourists is almost 2 to 3 lakhs. Proper maintenance and accurate steps, if taken, will turn this sector into the country's one of the most important economic drivers. According to a report of 'Save Our Sea' a lot of important ingredients of medicine, such as bromine, chloride and various other chemicals are collected from marine source. It is also possible for the country to develop the medicine sector by utilizing her marine resource. Also if different factories for ship building

and reformation is established centering the coastal areas, then the countrys shipping industry will also thrive.

But the main barrier of Bangladesh regarding the implementation of blue economy is the lack of knowledge and information of our people in this area. Due to lack of proper knowledge and information, many investors get discouraged for investing in this area. So after 9 years of solving the dispute, we are still not able to reach our desired goal in blue economy. At present, a proper master plan of the national level is necessary to drive blue economy in our country. Last year, at the Blue Economic Ministerial Conference held at Hotel Intercontinental, Dhaka, ministers of many countries participated. There, Prime Minister Sheikh Hasina talked about developing our blue economy which resulted in coordination among 17 ministries and directories for the purpose of searching and extracting marine resources. Until now, the government has identified 26 different initiatives for developing the marine economic sectors that include shipping, coastal shipping, sea port, internal river transportation, ship building, ship recycling industry, oil and gas, sea salt production, blue energy, mineral resource, marine genetic resource, coastal tourism, artificial island, marine security and surveillance and many more. We can expect that, if things go in this pace, then by the next few years, our country will transform into a marine resource based economy. If we can fully utilize the potentials of blue economy in our country, then very soon we will be able to set a distinct image to the world in terms of economic power.

URL: <https://www.theindependentbd.com/post/264008>

Bangladesh: Coastal cities face their mortality on the climate ‘frontline’

For thousands of years, people have built their great metropolises right up against the contours of coasts, in estuaries and deltas, confident of the ebb and flow of the tides. Domination of the seas allowed many coastal cities to become trading powerhouses and cultural melting pots. But now that strength is becoming a liability as climate change swells the oceans, redrawing the map and putting hundreds of millions at risk. That’s the warning of an unpublished draft report by the UN’s climate science advisory panel, seen exclusively by AFP, which outlines the vast and urgent climate threats facing the planet. From the air, you can see the problem. In city upon city, office towers, warehouses and homes crowd the water’s edge as if they are jostling to take a dip, major roads hug the shore, landing strips jut dauntlessly into the frothing waves. These cities are on the “frontline”, the Intergovernmental Panel on Climate Change (IPCC) report says. “Difficult choices will need to be made as sea level continues to rise, floods and storm surges become more frequent and intense, warming increases ocean acidity and intensifies heatwaves,” it adds. Rising seas will likely spark mass migration and eventually force whole cities to be abandoned to the flood. But profound consequences for megacities, small islands, arctic communities and deltas will come long before that — well within the lifetimes of most alive today. In some places, people already know all too well the destructive power of water. “I once was a bride of an affluent family,” Yasmin Begum tells AFP in the bare corrugated metal hut she now shares with her relatives in the Bangladesh capital Dhaka. “My in-laws and parents, they had everything — cattle, nice house, farmland. But the river took it all away.” The family had lived a relatively prosperous life in the southern island district of Bhola, an exposed tendril of land at the outer

limits of one of the world's most populated deltas. Then one night 12 years ago, the raging Meghna river devoured everything they had.

Begum, now 30 and a mother of three, scratches a living as a Dhaka housekeeper, while her husband drives a cycle rickshaw through the city's steamy streets. They escaped one flood only to be at risk of another: Their new home, in one of the narrow-alley slums clustered precariously close to a flood barrier, is just metres from the riverbank. Roughly a tenth of the world's population and assets are based less than 10 metres (33 feet) above sea level. "Structurally, a lot of cities are set up in almost the exact wrong place for a world with rising seas," says Ben Strauss, CEO and chief scientist at Climate Central. Ports and airports are built on the very flattest, lowest land possible. "Sea level used to be stable," Strauss explains. "Not anymore." Land currently home to 300 million people will be vulnerable to annual flooding by 2050, according to his research. Those least able to afford to protect themselves will likely be hit hardest. All urban areas are increasingly stifled by air pollution and extreme heat, but those at the coasts are also deluged by flooding intensified by the rising water level and lashed by storms whipped into greater fury by warmer seas. Saltwater washes across agricultural fields and rice paddies, while ecosystems — crucial for economies, cultures and climate protection — are gravely degraded by human activities. Cities like Venice and Jakarta are also sinking, while low-lying island nations, particularly in the Pacific, are at risk of disappearing under the waves. The report says slashing emissions now can reduce the risks. "But sea level rise is accelerating and will continue for millennia," it says. The greenhouse gases already in the air have essentially baked-in the amount that waters will rise until around 2050. By 2100, the IPCC has predicted water levels could be 60 centimetres (24 inches) higher, even if global warming is limited to well below two degrees Celsius — the cornerstone target of the 2015 Paris Agreement. Longer term, it says, the prospects for many coastal cities are "dismal" without deep cuts to emissions.

Meanwhile, humanity continues to pump pollution into the atmosphere, locking in global heating that is melting ice sheets and glaciers and expanding oceans. In just a few decades we may have emitted enough to eventually drown some of the world's great cities, Strauss says. By 2050, an at-risk region like South Florida might have developed a multi-decade plan to "empty out", he says. "We live our lives knowing we're going to die, but I don't think we often think of our cities in those terms," he tells AFP. "Most of our coastal cities are mortal. A lot of them will end by flood in the long run." Costs are already rising. In October 2012, Hurricane Sandy slammed into the coast around New York and New Jersey, killing scores of people and causing tens of billions of dollars in damages. The storm caused "cascading" impacts, the IPCC says, triggering massive power outages and disrupting water and communication links for hundreds of thousands of people. Disasters like this in globalised coastal cities pose "risks for societies and the global economy in general", the report says. A worst-case-scenario projection for the world's 136 largest coastal cities calculated expected damages by mid-century of between \$1.6 to \$3.2 trillion from sea level rise without adaptation. There were wide variations between cities, partly because of where assets and people are concentrated, study co-author Elisa Sainz de Murieta of the Basque Centre for Climate Change said. Guangzhou was top of the list, with damages calculated at around \$330 billion by 2050 under a pessimistic emissions scenario without adaptation, and nearly \$1.4 trillion in 2100. In second place was Mumbai, which the IPCC report describes as a "non-adapting" — with little done to prepare people and property for disaster — despite predictions that swathes of built-up area could be flood-prone by 2100. And cities continue to

expand, putting millions more in harm's way, particularly in Asia and Africa. How can cities protect themselves? Options include engineered protections like dykes and seawalls, which could cut flood risk for up to a few metres of sea rise but can damage environmental systems. Rehabilitating coastal ecosystems also offers broad benefits. Storm surges kill fewer people and cause less damage when a coastal city is sheltered behind a wide buffer of mangroves or marshes. Seagrass meadows, mangrove forests, coral reefs and tidal marshes also support marine life and related economic sectors like fisheries and tourism. There is "no silver bullet", the IPCC draft says, but the choices will only get tougher as the impacts stack up. "We have to act now, because we are already too late," says Johan Verlinde, programme manager for Rotterdam's Climate Adaptation Plan. More than half of the Netherlands is vulnerable to large-scale coastal and river flooding and over a quarter is below sea level. After deadly inundations in 1953 the country set about building a network of high-tech defences.

The Netherlands currently allocates one billion euros (\$1.2 billion) a year for its "living with water" adaptation plan. Rotterdam's assortment of floating infrastructure includes a cattle farm. With 85 percent below sea level, Verlinde says the city is "really a bathtub". "Every drop of water that falls on our city, we need to pump it up. We really need to be innovative to keep our feet dry," he says. Dutch engineers travel the world sharing their flood resilience expertise, although many poorer countries and communities cannot afford the most effective big infrastructure defences. But the reasons why some are protected and others not go far beyond national budgets. Cape Town is an "extensive adapter", according to the IPCC, with flood protection infrastructure, as well as early warning systems in place. But almost 100,000 households are exposed to flooding in a city riven by deep poverty and the legacy of apartheid. Toward the coast, the serene Lake Michelle is a high-end housing complex enfolded within a secure perimeter fence. Outside a scrubby strip of land separates it from Masiphumelele, where ramshackle informal homes blanket the waterlogged ground. The contrast is an example of the stark inequalities that make finding consensus on a response to climate change much more difficult, says Anton Cartwright of the African Centre for Cities. "Ultimately we're all going to have to sink or swim — literally in this instance — together," he says. In the end, even the most innovative, big-spending adapters may not be able to avoid the ultimate solution: retreat. Indonesia has already put together plans to shift its capital to Borneo from subsidence-wracked Jakarta. In Bangladesh, climate-related migration has already started. But this is just the beginning. Studies predict sea level rise could displace nearly a million people in the country by 2050, and more than two million by the end of the century. Dhaka will likely be a destination for those driven from their homes in other low-lying coastal areas. But the delta city, where almost 40 percent of people live in vulnerable informal settlements, is itself expected to face increasing inundations. As simple as their rented house is, Begum says they cannot afford to lose it — her family has nowhere to retreat to. "Then probably we'll have to die by drowning," she tells AFP.

"We have no other option." Like Begum, some communities will be unable or unwilling to move even if their homes are at risk. And some places are irreplaceable. UNESCO describes Venice as an "extraordinary architectural masterpiece" where even the smallest buildings contain works by some of the world's great artists, such as Titian and Tintoretto. The city was founded in the 5th century, although it was not until the 10th century that the "Queen of the Seas" became a major maritime power. Today, Venice is the most threatened world heritage site in the Mediterranean. Over 90 percent of the city is vulnerable to flooding. Venice has installed mobile barriers to

close lagoon inlets during storm surges. But if sea levels rise 30 centimetres, floodwaters could slosh around the palazzi for several weeks. At 75 centimetres, they could linger for six months. The IPCC's most pessimistic prediction for 2100 is 1.1 metres. Oceanographer Georg Umgiesser says because of the effects of subsidence, even half a metre would be "catastrophic" for the city. St Mark's Square would never be dry. And Venice is not alone — up to 140 world heritage sites are at risk of coastal flooding even at two degrees Celsius of global warming, mostly in the Mediterranean. Humans have told stories about cities and civilisations swallowed by the sea for centuries. In the past, there was no evidence linking behaviour to the deluge, but now our choices are creating real Atlantises of the future, says Strauss. "Our efforts to stop climate change are to protect the lives that we have today, but also they are going to shape the stories that our descendants tell about us," Strauss says. "And I think there will be a lot of stories about what we've lost, about the things we failed to protect."

URL: <https://www.deccanherald.com/science-and-environment/coastal-cities-face-their-mortality-on-the-climate-frontline-1000514.html>

Bangladesh: Govt declares two 'fisheries villages' in country

The government has declared two villages in the country as "fisheries village" and those would be developed as ideal villages to be followed by other villages. As per the instruction from the Ministry of Fisheries and Livestock, the Department of Fisheries issued an announcement to this end on Monday marking the Mujib Year. Under the announcement, Dakshin Bishiura village at Sadar upazila under Netrokona and Haloishar village under Naria upazila of Shariatpur will be developed as prosperous villages under the implementation of government special program "My village, My city (amar gram, amar sahar)." A plan has been taken for employment generation and livelihood development locally by extending various opportunities, including infrastructure development, fisheries and agro-industries, farm mechanization, and agricultural diversification under the program, said an official release.

The Fisheries Department is implementing a number of programs in these two villages which include implementation of scientific fisheries program at all ponds and water bodies in the village, formation of fish farmer groups, training and exhibition of package-based pond fisheries, alternative employment generation, and disbursement of credit assistance, social-based fisheries management group formation for open water bodies and women empowerment through developing community savings group, the release added. Apart from this, deep tube-well and sanitary latrine installation, road construction, tree plantation, initiative to set up poultry and livestock treatment facilities for the rural beneficiaries, and ensuring hundred percent education for the rural people also will be implemented in these two villages with the assistance of other government agencies.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/06/22/govt-declares-two-fisheries-villages-in-country>

Bangladesh: River pollution puts fisheries at risk

Fisheries are facing serious threat due to continuous grabbing and pollution of rivers located around Dhaka. Even in the rainy season, there is no availability of fishes in the rivers that growing tension among the concerned people. If necessary steps are not taken right now, fisheries in the country would face dire consequences in future, experts apprehended. Sources said, the lifeblood of Dhaka is the Buriganga and all other rivers around it, while the life of the river is water. But, it is very painful that, the water of all rivers is being polluted alarmingly and the river is getting poisonous and lifeless. As a result, fishes or aquatic animals can't live in the poisonous water of the rivers. All the rivers situated around Dhaka have become poisonous seriously due to unbridled pollution from residential and industrial sources. There is no life in the rivers. The pollution is slowly becoming more widespread day by day putting the biodiversity at risk. Environmentalists said, "The river pollution from Buriganga to Shitalakshya has now reached to the mouth of the Meghna that hampers Hilsa production drastically. Meanwhile, the amount of Hilsa, popularly known as king of the fishes, has been decreased in the Meghna river as pollution of rivers around Dhaka is going on for long. If pollution is not prevented right now, the country's fisheries will be threatened in the future, they opined. Locals said, the river pollution is not being stopped at all despite the directives of High Court, protest, shouts and movements of environmentalists.

The level of pollution is increasing day after day. The water of Buriganga and neighboring rivers has turned black due to contamination. Factory waste and garbage are floating in the river water. The stench is spreading from the river. Locals are at health risk. During a recent visit, this correspondent found that, the water of Buriganga river has increased a lot due to the approach of monsoon. But, a strong stench was spreading from the water of the river due to continuous pollution. Garbage was seen floating in the water along the river banks at different places as huge quantity of garbage were dumped along the bank of the rivers. Residential and industrial wastes are being dumped in the river regularly that making the water toxic. Regarding the pollution of Buriganga, Abu Taleb, a fruit trader from Soarighat area said that, "At one time there were 12 water buses plying this route from Gabtali to Sadarghat. Currently there are only two. The main reason for stopping the water bus is less passengers. The reason for the low number of passengers is the stench of river water. No one wants to get on a water bus because of this horrible stink. Even those, who carry business near the banks of this river, can't stand due to the stench for long. Now because of corona pandemic, I have worn a face mask. This is why, the smell is a bit less. Not only Buriganga, the situation of surrounding river-Turag, Balu, Shitalakshya and Dhaleshwari is same. The quality of water in these rivers is much lower than it should be to sustain aquatic life. The water quality in some areas improved for few days during the lockdown imposed by the government due to corona pandemic last year. But now, the situation has worsened further centering the ease of lockdown and rising of pollution." One of the criteria for measuring river pollution is the determination of Dissolved Oxygen (DO) in water. If there is a minimum of 5 mg DO per liter of water that water is considered to be of good quality. Observations of river quality by the Department of Environment over the last five years have shown that the amount of DO in the water of five rivers in Dhaka has dropped to zero in many places during the dry season. In March this year, the DO level in the water near the Mirpur bridge of the Buriganga river was 0.32 percent.

Here in April last year it was 2.2 percent. The DO near Gabtali bridge on Turag river was 1.2 percent last year. This time, it has come down to 5 percent. According to the Department of Environment, the main source of pollution in Dhaka's rivers is sewage. WASA can treat only 20 percent of the area and only 10 percent of human waste, while the rest falls into the river. The river is also getting polluted due to both the residential and industrial wastes. The government agencies that are responsible for polluting the rivers are still busy blaming each other. The rivers of Dhaka are responsible for four major sources of pollution. These are industrial waste, sewage, solid waste of two cities and vessel waste. Multiple government agencies are responsible to look after and supervise the pollution. The Department of the Environment said, "Pollution levels are increasing due to sewage. Dhaka WASA Sewage Management Authority said, industrial waste pollution is on the rise. The Department of Environment is responsible to control it. Blame game is going on between them. But, no effective steps are being taken to prevent pollution. Shitalakshya near Dhaka is now 'toxic' due to continuous pollution. Some 417 Mills have been set up around Shitalakshya. Of which 105 factories do not have any waste treatment plant (ETP). As a result, the waste of these factories is dumped directly in water. Although, the remaining 312 factories have only nominal treatment plants, they do not use them and secretly or tactically dump the polluted waste in water. Environmentalists said, the horrific water pollution of Shitalakshya has reached to the Meghna. As a result of spreading pollution in the water, the amount of Hilsa fish in Meghna is much less this time. If the pollution of the Meghna cannot be prevented now, Hilsa will not be found here in the future, let alone other aquatic animals. The condition of Meghna will be like Buriganga or Shitalakshya river. According to a report by the Department of Environment, 4,500 tons of waste and 5.7 million gallons of polluted water are flowing into the rivers around the capital every day. Apart from this, industries are growing in Ashulia, Savar, New Leather Industry City and Tongi area outside the capital.

Rapid industrialization is taking place on the banks of Karnafuli in Chattogram, next to Mawa Ghat in Padma, on the banks of Meghna. Most of these factories are not using waste treatment equipment, the report said. Prominent environmentalist and river researcher said. River expert Dr. Ainun Nishat said that "There are rumors that various plans are being made to reduce river pollution in Dhaka. However, if the project is not accepted by all the concerned ministries, it will not be of any benefit. The money is being spent year after year in the name of the projects but no work is being done. If we do not work in a coordinated manner, it will not come to help. However, if river pollution is not prevented very quickly, our fisheries will face many disasters in the future. At the same time, biodiversity will be threatened. Due to pollution, the production of Hilsa in Meghna is decreasing day by day. Even in the Halda river, the only natural breeding center in the country, mother fish are not coming to lay eggs due to pollution. All in all, river pollution is leading us to a catastrophic catastrophe. This need to be seriously considered now and appropriate initiatives must be taken." Local Government, Rural Development and Cooperatives Minister Tajul Islam said, "A master plan has already been prepared for six rivers including Buriganga, Balu and Dhaleshwari to keep the river free from pollution and restore navigability. An agreement was reached with IWM and CEGIS on January 23 to carry out a master plan to prevent pollution of the Meghna." "According to the master plan being prepared, the concerned ministry will do the necessary work," he added. Syeda Rizwana Hasan, Chief Executive of the Bangladesh Environmental Lawyers Association (BELA) said, "The government has a constitutional responsibility to protect the river water bodies. But we see, our rivers have been poisoned from the stage of pollution and are now heading towards death. The

death of the river means the loss of human drinking water, fish and aquatic life. In this case, the government has failed to fulfill its at least constitutional responsibility to protect the river.”The government had spent tax money on river protection and shifted the tannery industry from Hazaribagh to Savar. But, the central waste treatment plant was not set up in the last two years. So another river is being polluted anew.

URL: <https://dailyindustry.news/river-pollution-puts-fisheries-at-risk/>

Bangladesh: Can Shrimp farmers recover from Amphan-Yaas double blow ?

Till even the start of 2020, farming of freshwater shrimp, otherwise known as ‘white gold’ among Bangladeshis for its lucrative export value, and the newer addition of crab farming in the same ponds and enclosures as the shrimp combined to paint a very optimistic future for the sector, with the promise of ample export earnings once the pandemic was over. Eighteen months later, the shrimp and crab farmers have lost not just income by way of lower demand, but also much of their assets in two natural disasters – Cyclones Amphan and Yaas- that brought tidal surges that washed away entire fish enclosures. For the owners, it is now a question of survival, and by doing so, keeping the 1 –1.5 million people employed naked in the sector and its offshoots in jobs. But they almost certainly cannot do it now without some form of bailout from the government – their dues have piled up, and many face the prospect of forced closure. Indeed, there have been scores of closures. Shrimp farmers must be wondering whether there is some curse over them, preventing them from meeting their potential. Every year since the 2013-14 fiscal has seen their sector hit by some major disruption, coming with new challenges for Bangladesh’s ”white gold” or commercial shrimp production. Viral infections, drought, heavy rain, flood, tidal surge, and cyclones are wiping away shrimp enclosures. According to the Export Promotion Bureau (EPB), Bangladesh exported 41,236 tonnes of shrimp worth \$545 million in the 2013-14 fiscal year. Since then, shrimp export has been dropping. By the 2018-19 fiscal year, exports decreased by 34 percent to \$361 million. In that fiscal year, the country exported 29,543 tonnes of shrimp.

The slump in demand for Bangladeshi shrimp over this period can also be partially attributed to the explosion in popularity of the whiteleg shrimp. Most of the farmers are also suffering continuous losses because of the drop in prices after the onset of the pandemic and the actions of syndicates of frozen food entrepreneurs. Also, Cyclone Yaas and the resultant floods have shattered the hopes of shrimp and fish farmers of the coastal districts and nearby areas. Shrimp, white fish, and crabs in farms and ponds over vast stretches of land in many villages of Bagerhat, Khulna, and Satkhira have been washed away by gushing floodwater and tides, causing huge losses to the farmers. Also, houses, structures and equipment surrounding the ponds and farms were washed away. Aquaculture farmers and shrimp cultivators, who have already counted losses worth crores of taka, do not know how long it will take them to recover the losses. Shrimp farming, which once lifted many people out of poverty, has now become synonymous with loss. The fate of many, who invested all their hopes and money to renovate the pond, now hangs in balance. So, they are looking for other ways to protect themselves including the introduction of an insurance scheme and moving to other professions. There was a shortage of shrimp fries at the beginning of the year. Also, viral infections and drought hit most of the shrimp enclosures during

the farming season. A huge quantity of shrimp died in enclosures from viral infections. Cyclones like Bulbul, Sidr, Aila, Amphan, and Yaas damaged fish, shrimp enclosures and other structures in coastal areas surrounding the Sundarbans, causing a loss of crores of taka.

Around 6,500 fish and shrimp enclosures were washed away recently in Bagerhat by tidal surges and storms, as an aftermath of Yaas, leaving damage of Tk9.5 crore, according to the district fisheries department. However, the farmers say the loss is as high as Tk50 crore. A huge quantity of shrimps was washed away by a tidal surge that breached the embankments at many places during Yaas. Faced with the massive losses, shrimp farmers of different areas of Bagerhat called for incentives. Animesh Mandal, a Hurka union parishad member in Rampal upazila, said: “Most people in my area depend on shrimp farming for a living. The aftermath of cyclones, virus, and price drop have ruined the financial health of so many farmers. For example, Shrimp from my five ponds were swept away in the tidal surge recently.” Shrimp farmer Manoranjan Dhali of Rampal, who is incurring losses every year, said: “There was a shortage of juvenile fishes at the beginning of the year and the price of the available ones was about one and a half times more. After a lot of effort, I managed to do shrimp cultivation on my five bighas of land. But the tidal surge caused by Yaas caused me a loss of Tk3 to Tk4 lakh.” Local farmers said shrimp cultivation was once profitable. People of different classes and professions in the area turned to shrimp farming in the hope of making more profit. However, many have no alternative source of income other than shrimp farming. As shrimp farming is profitable, many have raised the number of enclosures. But there seems to be no light at the end of the tunnel for the shrimp cultivators for the last few years as they are now suffering damages in every disaster.

However, the Department of Fisheries is advising the cultivators to have raised enclosures, increasing the pond depths, and repairing the enclosures every year. Bagerhat Deputy Commissioner Mohammad Azizur Rahman said, “A list of affected fish farmers has been sent to the higher authorities. Also, the cultivators will be benefited if an insurance scheme can be introduced for them.” There are 76,730 fish farms in Bagerhat across 67,000 hectares of land including 50,239 prawn (Galda) enclosures and 26,466 tiger shrimp (Bagda) enclosures, according to the district fisheries department. In the last fiscal year, the district produced 33,825 metric tonnes of shrimp and 31,551 metric tonnes of white fish. Until May of the current financial year, it produced 33,130 metric tonnes of shrimp. Around 65,804 people are involved in shrimp farming here, said the district fisheries department. The tidal surge caused by Yaas flooded 2,781 enclosures in Bagerhat’s Rampal, 1,090 in Mongla, 784 in Morrelganj, 105 in Sarankhola, 588 in Kachua, 40 in Sadar, 35 in Fakirhat; and 110 fish farms in Chitalmariupazila.

URL: <https://unb.com.bd/category/Special/can-shrimp-farmers-recover-from-amphan-yaas-double-blow/73986>

Bangladesh: Mortality in catfishes: A devastating threat to Bangladesh’s aquaculture

Revamping in catfish production is glorified as one of the most successful advances in the aquaculture sector of Bangladesh. There are few high valued catfishes such as gulsha (*Mystus cavasius*), pabda (*Ompok pabda*), shing (*Heteropneustes fossilis*) and magur (*Clarius batrachus*) are farmed profitably all over the country due to its simple culture

technologies which is developed and guided by the Department of Fisheries (DoF), Bangladesh Fisheries Research Institute (BFRI) through their vast research activities. Meanwhile, few entrepreneur and private organizations have made the technology commercially viable by importing micro feeds and other necessary technologies. As a result, the production of these consumer demanded fishes has increased almost 75,000 metric ton during the last production year 2019-2020. The nutritive value of these particular four species is abundant in containing protein, lipids, ash, minerals and vitamins. We consume the amount of nutrition by in taking 100g edible weight of pabda, gulsha, shing and magur are Protein: 16.2 g, 16.8 g, 19.1 g and 16.6 g; Fat: 9.5 g, 5.1 g, 1.9 g and 1.3 g; Ash: 0.9 g, 1.0 g, 1.0 g and 1.1 g; Energy: 619 kj, 479 kj, 374 kj and 326 kj, respectively. The catfishes are enjoyed appetizingly by the all classes of people as a delicious food item by cooking with a variety of savoury and tasty recipes. These species are recommended by the dieticians and nutritionists to the surgery patients due to containing the high amount of poly unsaturated fatty acids (PUFA) and other tissue building essential amino acids.

This nutrition value is collected from a research conducted in Asure Quality Laboratory, New Zealand and Technical University of Denmark, which is published in the Journal of Food Composition and Analysis V-42, page 120133 in 2015. But, unfortunately a huge number of severe mortalities incurred and destroyed the production by some unidentified diseases in the culture ponds of catfishes. Every year thousand tons of gulsha, pabda, shing and magur production is hampered by the pathogenic outbreaks in the farms. As a result, the farmers are losing their investment and interest to the catfish farming, which is considered as a great threat to the diversified aquaculture practice of Bangladesh. As an aquaculturist, personally I do visit throughout the country for ensuring technical guidance and consultation at the farming level. I observe, since 2015 the mortality in catfish ponds is becoming out of control day by day even the farmers are taking some preventive measures. The farmers become bewildered seeing the devastating mortalities of fish in their ponds and they apply different veterinary drugs and antibiotics to control the mortality, but the total crop is damaged by only 7-10 days. There are several types of clinical symptoms found during the distressing mortality. Most of the cases, different kinds and sizes of ulcers, lesion, distensions, hemorrhage are found on the ventral, lateral and dorsal portion of the body. The affected fishes lose their appetite, become lethargic, go to coma and finally the fishes died drastically. The farmers use a lot of immune modulator, disinfectants, probiotics even antibiotics in to their culture ponds. But the output is negligible to the farmers. The situation is getting dangerous to farmers as well as the environmental degradation.

It is high time to take some initiatives against the fatal disease of catfishes as well as to other fin fishes and shrimps. So far, we know there are few public universities where fish parasitology is studied to the graduate students as a fundamental course under the Fisheries department. I would request to the fish pathology experts of the universities to conduct some laboratory-based comprehensive research on the contemporary disease prevailing pathogen identification and their solution optimization. I also seek attention to the international research organization World Fish for carrying out some experiments for disease identification and treatment optimization. In this regard, I would say that there is a few conventional PCR laboratories in Khulna region those are operated by government and non-governmental organizations. Moreover, there is also a Real-Time PCR based molecular laboratory (Fishtech laboratory) in Khulna which is operated by a private company limited. Currently it tests probe and primer based 11 types of viral and bacterial

pathogens, 15 types of bacteriological tests and 18 types of water and soil quality parameters. It is BIOSAFTEY LEVEL-II category, Real-Time PCR brand is CFX96 BIO-RAD PCR detection system, USA. In fine, I would say the concerned actors of this industry should take initiatives to conduct research and experiments to find out the proper solution to preserve these exportable small indigenous fish species of Bangladesh, which will save the farmers as well as fish biodiversity of Bangladesh.

URL: <https://www.theindependentbd.com/post/263585>

India, Pakistan, Bangladesh, Sri Lanka and Maldives: IOTC adopts resolution to rebuild yellowfin tuna stock, but NGOs question its effectiveness

The Indian Ocean Tuna Commission (IOTC) agreed to reduce the total allowable catch for yellowfin tuna after months of pressure from non-governmental organizations and some commercial groups. But according to environmental organizations, the effort has fallen short of ending overfishing, as five members of the commission objected to the rebuilding plan.

The Blue Marine Foundation (BLUE) and the International Pole and Line Foundation (IPNLF) lauded the commission for the adoption of an updated resolution that lays out a rebuilding plan for the Indian Ocean yellowfin tuna stock. However, five IOTC contracting parties – Oman, Iran, India, Madagascar, and Indonesia – objected to the adoption of the resolution. “As a result of these objections, a total allowable catch (TAC) has not been agreed for the stock. When historical catch levels for the objecting contracting parties are factored in, their exemption from the new resolution means this interim measure is not expected to support stock rebuilding,” the nonprofits said in a statement following the conclusion of the IOTC meeting. BLUE and IPNLF called out the European Union for failing to take a leading role in calling for fishing restrictions during in the meeting, which they said could have helped reach a consensus on the rebuilding plan.

“While we are encouraged by the adoption of a new plan for yellowfin tuna and by the dedication that kept IOTC members around the table for six extra hours after a long week, we cannot ignore the shortcomings of this new resolution, nor can we ignore the selfishness of distant-water fishing nations such as the E.U. who had the opportunity to take a leading role in solving this problem they helped create, but chose instead to play hardball with coastal states who depend on Indian Ocean fish stocks for their very survival,” BLUE Executive Director Charles Clover said.

WWF also said the adoption of the resolution was a step in the right direction, but the five nations objecting to the plan are not bound by the rules and are not obliged to follow them. “WWF is disappointed that many countries are beginning to use the right of objection as a matter of convenience for not agreeing to rules that would allow an end to overfishing of yellowfin tuna,” WWF said. WWF said it is joining BLUE and IPNLF in urging the IOTC to call for a special session in 2022 to update the rebuilding plan. The Pew Charitable Trusts agreed the failure to enforce catch limits means overfishing will continue.

“The Indian Ocean Tuna Commission’s inability to agree on a sufficient reduction in yellowfin tuna catch levels isn’t new, but it is particularly disappointing that the commission failed again this year, given its market is now at stake. The commission has delayed taking the necessary steps to rebuild this stock for several years,” Glenn Holmes, officer for The Pew Charitable Trusts’ international fisheries project, said. “Now, with five parties objecting to the new measure and fishing essentially allowed to continue at previous levels, the change on the water is likely to be negligible – just a 1 percent difference in total catch compared to 2019.”

Holmes said the IOTC also did not focus its attention on other important issues before it, such as overfishing that has continued to occur for skipjack tuna. “This catch level, which was determined by an agreed-upon harvest control rule, has been exceeded every year since its inception in 2018, and the failure by commission members to adequately enforce the catch limit suggests overfishing of this limit will continue unabated,” he said.

BLUE and IPNLF said the IOTC failed to tackle a proposal to improve the management of drifting fish-aggregating devices (FADs) used by industrial purse-seine fleets in the region. Many coastal states, including Kenya, Sri Lanka, Maldives, Mozambique, Pakistan, Somalia, South Africa, Indonesia, and Tanzania pushed for the adoption – but the E.U., Japan, and South Korea objected. IPNLF Managing Director Martin Purves praised coastal states for their efforts at the IOTC. “Although some objections meant watertight outcomes could not be achieved within the updated stock-rebuilding plan, and some distant-water fishing nations did everything in their power to derail efforts to improve the transparency of drifting FAD operations and mitigate the negative environmental impacts of these devices, the resolve of proactive coastal-state delegations was clear for all to see in this,” Purves said.

The International Seafood Sustainability Foundation (ISSF) – a global coalition of seafood companies, fisheries experts, scientific, and environmental organizations, which advocates in favor of science-based initiatives for long-term tuna conservation – said if fully implemented, the adopted measure projects a resultant yellowfin tuna catch level of 401,000 tons, which it said meets the recommendation of the IOTC Scientific Committee. But that is unlikely given the objections of the five member-states. In response to the inaction from the IOTC, the ISSF now determining whether to enact its yellowfin Tuna rebuilding plan should go into effect, which would require participating companies to reduce their sourcing of Indian Ocean yellowfin tuna.

“Further information over the coming weeks will inform the ISSF board’s discussion on the sufficiency of the new measure as likely to be implemented,” it said. “ISSF remains focused on taking steps forward for the long-term protection of the region’s valuable tuna fisheries and their associated ecosystems. We will be working diligently in the weeks and months ahead with all stakeholders towards this goal.” ISSF did back an IOTC agreement to create a working group on electronic monitoring, which it said was an important step in the management of Indian Ocean fisheries.

URL: <https://www.seafoodsource.com/news/environment-sustainability/iotc-adopts-resolution-to-rebuild-yellowfin-tuna-but-effectiveness-in-question>

Bangladesh: Shortage of refrigerator containers disrupts shrimp, fish export

Shaikh Sohel Pervez, secretary of the organisation, said, since last Eid-ul-Fitr, the export of processed frozen shrimp and fish to the country's ports has been hampered due to shortage of the required number of refrigerator containers, especially at Mongla port. "In this situation, we urge the government to take necessary steps to address the shortage of refrigerator containers at sea ports in order to keep the export of processed frozen shrimp business," he said. Tariqul Islam Zaheer, managing director of Achia Sea Foods Ltd, said, "After receiving the order and completing all the procedures for export, when we are going to booking on the shipping line, they are telling us that there is the shortage of refrigerated container. Recently I had booked six containers, but I got one container." He said, "Those of us who do 100 per cent export-based business, this is a bad omen for us. If we break our chain, we will fall face down. However, business is not very good because of pandemic situation."

"Mother Vessels do not come to Bangladesh. And the containers that are going to Europe and America are not coming back. Again China is exporting Hughes. That's why they are also booking containers. The impact of the global crisis has now fallen on us," Zaheer added. The organisation has already written to the Ministry of Commerce, Ministry of Shipping and the Federation of Bangladesh Chambers of Commerce and Industry (FBCCI) to resolve the issue. According to the BFFEA release, the export of processed frozen shrimp and fish has been one of the largest foreign exchange earning sectors in the country and has made a significant contribution to the socio-economic development of the country over the past few decades.

URL: <https://www.thedailystar.net/business/news/shortage-refrigerator-containers-disrupts-shrimp-fish-export-2110317>

Bangladesh: Live crab, eel fish exporters seek 30pc cash incentive

The country's live crab and eel fish exporters have sought 30 per cent cash incentive on their export earnings as the sector is now in a tight corner due to the Covid-19 pandemic. Bangladesh Live and Chilled Food Exporters Association (BLCFEA) has recently requested the authorities concerned to take necessary steps for increasing the rate of cash incentive to 30 per cent. The sector, however, currently enjoys 10 per cent cash incentive for crab and eel fish exports. According to the evaluation of different state agencies, the crab and eel fish sector has been identified as severely affected due to the spread of the Covid-19 pandemic, mentioned the association letter. The exporters cannot export the items to China, the main export market for crab and eel fish, as the pandemic situation has not improved, read the letter. "Currently, we are exporting our consignments at lower prices to countries where the demand is low.

As a result, the volume of exports has been dropped many times and local exporters are incurring huge losses," sector insiders said. They expected that the government will consider their request as sector needs more incentives to continue its business in the international market and to offset losses. The association has also sought 25 per cent cash incentive for the export of chilled fish. Now, the sector gets 5.0 per cent such incentive. Country's export revenue from frozen fish and

shrimp is about Tk 45 billion annually. Crab and eel exporters earned about Tk 6.0 billion in the last fiscal year. A major portion of export consignments of crab and eel went to the Chinese market, a sector source said. Generally, live mud crab and eel fish are exported only by air. There are 218 members under BLCFEA.

URL: <https://thefinancialexpress.com.bd/trade/live-crab-eel-fish-exporters-seek-30pc-cash-incentive-1623557879>

Bangladesh: Resilience and repair: How finfish sector can turn the corner on the pandemic

So argue the authors of a recently published case study in Marine Policy, who have gathered data on Covid-19-related challenges for Bangladesh's aquaculture sector. The researchers found that the pandemic has squeezed each segment of the aquaculture supply chain but has exerted outsized pressures on finfish farmers. Though it's too soon to tell if the pandemic has thwarted the growth of Bangladesh's aquaculture sector, the researchers recommend that the government makes strategic investments to keep farms Covid-safe and operational in the near term. The industry must also increase its processing capacity and transportation infrastructure to withstand future lockdowns.

How the pandemic impacted Bangladesh's finfish sector

As the world locked down during the first wave of Covid-19 in the spring of 2020, many aquaculture activities were deemed "essential" and allowed to continue. Though primary production activities remained, the upheaval stemming from slowed cargo shipments and travel restrictions decreased overall fish production in Bangladesh. One year into the pandemic, the finfish aquaculture industry is transitioning from the initial shocks of lockdown to a more stable footing – but whether Bangladesh can regain its status as a major aquaculture producer is far from certain. To understand the full impact of Covid-19 on Bangladesh's finfish farmers, the researchers conducted two online surveys in Mymensingh, a major aquaculture producing region. One was a structured questionnaire with 40 finfish producers that focused on the economic feasibility of farm activities during the pandemic. The researchers also surveyed 120 middlemen (aratdar) and 120 consumers to learn about the impact of Covid-19 on the aquaculture supply chain and on consumer choices.

Initial analysis shows that the national lockdown reduced aquaculture productivity, put a strain on transport links, caused a spike in unemployment and, consequently, decreased disposable incomes for families in Bangladesh. For aquaculture producers specifically, the pandemic has made farm operating costs surge while squeezing profit margins. It has also made existing inequalities in the supply chain more deeply entrenched. The lockdown shortened the aquaculture supply chain significantly. Many of the aratdar who sold fish from rural farms to urban centres have left the market entirely, while local middlemen gained a foothold. Despite this shift, the researchers found that many aratdar are purchasing fish at depressed prices at the farm gate, but increasing their selling prices to retailers, presumably to offset increased costs and to make up for sluggish demand. This is making it harder for finfish farmers to break even.

Since prices for popular fish like pangasius and carp increased alongside a spike in unemployment, demand for these fish dropped. However, prices for tilapia and catfish have decreased slightly. The researchers noted that many consumers with reduced incomes switched their main source of protein from fish to eggs. For those who continued to eat fish, many switched their preferred species from pangasius to tilapia, which is usually cheaper. The farm survey revealed that a larger-than-expected portion of farm expenditures are going to aquafeed and medicinal treatments for the fish. Since many transport and processing operations went offline during the pandemic, farmers held on to market-ready fish, anticipating the return of these services. However, these industries have not recovered to their pre-pandemic levels. This means that farmers are spending their available money on keeping slaughter-weight fish healthy instead of investing in the next production cycle. The survey also showed that farmers are compensating for rising operational costs by cutting farm labour – usually by furloughing staff numbers and substituting higher-waged staff with lower-paid temporary workers. Though this can keep farms afloat short term, the researchers warn that these practices risk frustrating the communities that fish farms operate in.

How can the finfish sector bounce back from Covid-19?

The researchers pitched multiple strategies to stabilise Bangladesh’s finfish farming industry. In the short term, they argue that the Department of Fisheries should promote Covid-secure working practices on farm sites to prevent further outbreaks. They suggested developing a smartphone app that provides farmers with information on safe working practices. The Department of Fisheries could also try to make farmers aware of “compensatory feeding” to keep feed costs under control. In this system, fish are fed in short, intermittent spells, which increases their growth rates. This strategy will let farmers to maintain their fish stocks in case lockdown measures impact the transportation and processing links of the aquaculture supply chain. The researchers also recommended giving farmers access to interest-free bridging loans to stay in the black. The practice has been trialled successfully in the United Kingdom, Canada and Switzerland, and allowed aquaculture producers to pay wages and maintain business operations during the downturn. The bridging loans would also ensure that farmers could set up new production cycles next year to avoid further market disruptions. In the medium term, they argue that farmers should consider switching to polyculture operations instead of farming a single species. Ideally, producers could culture indigenous carp species alongside pangasius and tilapia. The researchers explained that this would make the sector more resilient since farmers would be less dependent on high value imported feed and would be able to withstand market fluctuations. The researchers also suggest developing digital services that would link consumers with their local finfish farmers. Creating an online payment service would allow contactless (and therefore, Covid-safe) purchases, shorten the supply chain and provide product provenance for the consumer.

Moving beyond the pandemic

Long-term, Bangladesh’s finfish farmers need to become more organised and gain an active voice in government decisions. Though aquaculture is a key export commodity and a valuable source of foreign earnings, Bangladesh’s fish and shrimp farmers are largely unorganised and there is no industry-wide association that represents their interests. A farmer-led group could

ensure that government decisions are made with their input, and also ensure that any government stimulus is distributed fairly among its members. In addition to creating a formal farmers' association, Bangladesh should invest in market monitoring and regulation for the aquaculture industry. The researchers believe that this would stabilise the market and, "allow a roadmap to ensure a sustainable future for the industry delivering the right balance of species for the consumer and production markets." The government should also provide financial incentives or pursue public-private partnerships to develop local finfish processing companies. This would not only provide stable livelihoods, but also add value to Bangladesh's aquaculture outputs and improve the quality of the finished products. Implementing these measures could put the Bangladeshi aquaculture sector in a stronger position for the rest of the 2020s, they conclude.

URL: <https://thefishsite.com/articles/resilience-and-repair-how-bangladeshs-finfish-sector-can-turn-the-corner-on-the-pandemic>

Bangladesh: Organic certification helps expand fish market in Germany

German business people observed that Bangladesh should give more focus on organic certification for expanding its market in Germany by competing with other fish producing countries in Asia. They laid emphasis on quality and standard certification with regard to the European and especially the German market. The business community made the remarks on Monday while speaking at a virtual conference titled "Bangladesh: Opportunities for export and trade of fishery products", said a press release on Tuesday. Bangladesh Embassy in Berlin, Germany and German Agribusiness Alliance jointly organized the virtual conference where business people and policymakers from both countries joined.

The German business community mentioned that organic certification provides an opportunity to gain the edge over competing Asian fish producing countries such as Vietnam, China and Indonesia and will help Bangladesh achieve higher prices. Ambassador of Bangladesh to Germany Md Mosharraf Hossain Bhuiyan, Secretary of the Ministry of Fisheries and Livestock Rawnak Mahmud, German Federal Ministry of Food and Agriculture's Moritz zu Knyphausen, Additional Secretary of the Commerce Ministry Hafizur Rahman, Director General of the Department of Fishery Quazi Shams Afroz, Additional Secretary (Export) of the Commerce Ministry Md Hafizur Rahman and Director General of the Bangladesh Fisheries Research Institute (BFRI) Dr Yahia Mahmud, took part, among others, in the discussion. Commercial Counsellor of the Bangladesh Embassy in Berlin Md Saiful Islam and Director of the German Business Alliance Alina Gumpert moderated the session. Md Mosharraf Hossain Bhuiyan said Bangladesh is one of the world's leading inland fisheries producer ranking third in terms of production.

He mentioned that although the country exports shrimps to Europe, there is enough scope to increase export of both shrimp and fresh water fish. The ambassador urged German business people to invest in Bangladesh for processing and exporting fish. Rawnak Mahmud informed that there is still potential in terms of investments in production, quality and technical knowhow. He requested the German side to come forward with cooperation and investment like deep sea sector and also mentioned designated economic zones. Moritz zu Knyphausen mentioned that the

German government adapted the supply chain law last month. He said these developments provide tremendous opportunities and are a task for ministries and businesses alike. Hafizur Rahman said Bangladesh has expected to export the fisheries items for USD \$ 1 billion to Germany in the next fiscal. Now, Bangladesh is exporting the fisheries products for around \$ 0.50 billion to Germany, he added.

URL: <https://www.dhakatribune.com/business/economy/2021/06/08/organic-certification-helps-bangladesh-expand-fish-market-in-germany>

Bangladesh: Freshwater shrimp farming expanding in Rajshahi

The state-owned breeding hatchery in Rajshahi has raised huge hopes for commercializing freshwater shrimp farming in the region by providing farmers with healthy hatchlings. Last year, the state-owned hatchery successfully produced over 300,000 post-larvae and distributed them to farmers in several areas across the Rajshahi division. “We’re producing post-larvae and larvae in the hatchery and supplying those among the farmers for the second consecutive time this year,” said Dr Jinnat Ara Rokeya Chowdhury, manager of Fish Seed Multiplication Farm. She said brine water was collected from the coastal belt in Cox’s Bazar in February last while 100 brood shrimps were collected in two phases from the Kocha River in Pirojpur district in April last. Subsequently, those were disinfected and nursed in brine water. During the entire nursing period, bio-security is being maintained strictly as it’s very important for post-larvae production from the larval stage. Vice-Chancellor-in-Charge of Rajshahi University (RU) Prof Ananda Kumar Saha visited the hatchery to see the larvae and post-larvae producing activities on Monday afternoon, reports BSS.

He said the prospect of freshwater shrimp farming in a mixed culture method with some major carp fishes commercially is very bright in the region. “We’re seeing a glittering prospect of shrimp farming with some major carps like Rui, katla and silver carp in the region,” said Prof Shaha, a senior-most teacher in the Department of Zoology of RU. He clarified that both water and soil quality in the region including major parts of the Barind tract is suitable for shrimp farming and that it will surely bring diversity in the fish farming process. There are enormous prospects of boosting farmers’ income, employment generation, poverty reduction and protein security through cherished expansion of shrimp farming in the region, Dr Saha added. Dr Jinnat Ara Rokeya Chowdhury told Dhaka Tribune that fluctuation of temperature, bio-security, water hardness and disruption of power supply are the major challenges to a substantial reduction of mortality rate. Continuously, post larva will be produced here though bringing parents from the saline rivers every breeding season. Farmers can purchase healthy and quality hatchlings from here at a reasonable price. As a whole, the hatchery will contribute a lot towards fulfilling the farmers’ demand. She expected that an adequate number of healthy post-larvae could be supplied to the farmers through facing the existing challenges within the next couple of years.

Shahidul Islam, a shrimp farmer of Kornoher village under Paba upazila, said he collects post-larvae from the hatchery and many farmers collect juvenile shrimp from him. Within six months, each of those weights becomes 120 to 125 grams. In local markets, shrimp is now being sold at Tk700-750 per kilogram, he revealed. Another farmer Shafiul Alam said commercial shrimp

farming is gaining popularity with the breakthrough of introducing larvae and post-larvae production in Rajshahi. Earlier, the Department of Fisheries (DoF) had constructed the modern shrimp breeding hatchery at the compound of 3.29-hectare Fish Seed Multiplication Farm in the 2016-17 fiscal year at a cost of around Tk74.96 lakh. The aim of the construction of the modern shrimp breeding hatchery was to make farming more popular by removing the existing spawn scarcity. Divisional Deputy Director Tofaz Uddin said the DoF is intended to expand shrimp farming in freshwater bodies by providing updated technologies to grassroots farmers. Demands of hatchlings and fingerlings will be met through the successful implementation of various need-based programmes. In addition to farmers' motivation, the department has set up projection ponds among the farmers. The farmers should cultivate shrimp using modern farming methods as it is very profitable, he added.

URL: <https://www.dhakatribune.com/bangladesh/agriculture/2021/06/08/freshwater-shrimp-farming-expanding-in-rajshahi>

Bangladesh: Budget FY22: Fisheries and livestock sector gets Tk244cr hike

With the aim of keeping up with the growing demand for protein intake for an increasing population, the government has proposed an increase in the budget for fisheries and livestock. Finance Minister AHM Mustafa Kamal on Thursday proposed Tk3,437 crore for the Ministry of Fisheries and Livestock for FY2021-22, which is a Tk244 crore increase from last fiscal year's Tk3,193. The government has also proposed expanding existing facilities for fisheries, poultry and dairy sectors as a measure to promote local farmers. Stating that a mobile market system had been introduced to facilitate the marketing of fish and fish products and animal and livestock products, Kamal said: "An amount of Tk7,286 crore worth of fish, meat, milk, eggs and other fisheries and livestock products were sold from April 2020 to December 2020 through mobile and online sales system." "Cash incentives to the tune of Tk568.87 crore [of which 468.87 crore are in the livestock sector and Tk100 crore for the fisheries sector] have been provided to 407,402 dairy and poultry farmers and 78,074 fish farmers, who have been affected by the Covid-19 pandemic, through Nagad, Bkash and bank accounts."

He said: "A project, 'Community-Based Climate Resilient Aquaculture Development Project in Bangladesh', is being implemented to address the negative impact of climate change on the fisheries sector. "A project, entitled 'Climate Smart Agriculture and Water Management Project', is also in the process of approval." He told parliament that the Halda River had been declared as "Bangabandhu Fisheries Heritage." "Farmers are being supplied with chickens of the 'shubra' variety, which can survive in the local environment at low cost," the minister said. He added that the government would provide technical services at the farm level through mobile fish clinics to fish farmers. "In addition, there is a plan to distribute nationwide germplasms for the conservation of local small fish species," he added.

URL: <https://www.dhakatribune.com/business/economy/2021/06/03/budget-fy22-fisheries-and-livestock-budget-gets-tk244cr-hike>

Bangladesh: Women-led dried fish trade booming in Cox's Bazar

Fishers are part of a marginalized community, who live in harsh living conditions with lack of food security. The livelihood of the coastal fishers is constantly disrupted during the marine fishing bans imposed by the government aimed at protecting and conserving spawning fishes and crustaceans. These unforeseen challenges are further compounded by the loss of livelihoods of thousands of fishers' families due to the sudden onset and prolonged stay of the Covid 19 pandemic. In some of the cases, the fishing bans are administered amid inadequate and untimely social safety and protection measures. To address this, WorldFish Bangladesh is training vulnerable fisherwomen in Cox's Bazar under its USAID-funded ECOFISH II program to produce safe and hygienic dry fish for consumption and trade purposes. The project aims to train up 2,500 fisherwomen with improved traditional method and provide necessary market support. ECOFISH II teaches fishermen the process of cleaning and treating the raw fish, drying and packaging through sustainable and environmentally-friendly techniques. Besides, the project also provides all tools and equipment including scaling knives, protective clothing to drying structure and packaging materials. So far, 500 women received training and by December 2021 WorldFish plans to reach another 500 women. "Here in the village, we are all poor fishers. It is really getting tough to live solely on the income earned from fishing," said Khurshida Khatun, a fisherwoman in Ukhiya.

"During fishing ban period, we have to struggle for food and family expenses" she added. Last year, Khurshida joined the ECOFISH II to become a beneficiary, and received training on dry fish production. "Earlier, we didn't not know how to produce dried fish in safe and hygienic way. But now, we are very clear about the procedures. This activity has created a new option for an additional earning source for all of us," added Khurshida Khatun. Despite the popular demand for dried fish, many health-conscious people are often demotivated to consume it due to the suspect of addition of harmful chemicals and insecticides during its preparation and preservation. "To address the issues, ECOFISH II focuses on safe and hygienic preparation of dry fish from nutrient-rich marine small pelagic fishes" said Dr MA Wahab, team leader of ECOFISH II. He added: "Nutritional quality and food safety issues are first priorities in this regard. The project facilitates fisherwomen to adopt easy and improved fish drying methods that earn trust among the consumers and this new product fetching high demand and premium price. "This women-led community approach to hygienic dry fish production could be a role model for empowering marginalized fisherwomen in the region" he said. "Locally produced sun dried fish is a local delicacy which has a high demand. Thus, fisherwomen are finding an alternative livelihood through safe and hygienic dried fish trade," said SM Khalequzzaman Biplob, Cox's Bazar fisheries officer. "We must take necessary actions to produce hygienic dried fish and ensure good quality through laboratory tests," he also added.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/06/04/women-led-dried-fish-trade-booming-in-cox-s-bazar>

Bangladesh: Cyclone Yaas: Fish farmers in Patuakhali looking at Tk 55cr loss

Patuakhali District Fisheries Department has informed the higher authorities to rehabilitate the affected farmers. According to the Water Development Board, a large area of Patuakhali has been inundated due to the impact of Cyclone Yaas. The currents of the main rivers have flowed above the danger level of 74 cm, which is more compared to last year's Cyclone Amphan – resulting in flooding of several fish farms in Kalapara, Rangabali and Galachipa upazilas. According to the District Fisheries Office, 1,742 ponds and 605 ghers in Kalapara Upazila, 1,167 ponds and 63 ghers in Dashmina, 1,142 ponds and 123 ghers in Baufal, 755 ponds in Sadar, 308 ponds and 850 ghers in Rangabali, 185 ponds and 40 ghers in Mirzaganj, 105 ponds in Galachipa and 500 ponds in Dumki have been flooded. Chalitabunia UP Chairman Zahidur Rahman said, the area is vulnerable and unprotected as the embankment was destroyed a long time ago.

The entire union has been inundated with tidal water as the embankment has not been repaired. Fish in ponds and ghers have been washed away. Fish farmers need financial support, he said. Rangabali Upazila Nirbahi Officer Md Mashfaur Rahman said that water has entered the locality through embankment due to excessive tidal pressure. As a result, many ponds and ghers in the area have been submerged and the fish have been washed away. Patuakhali District Fisheries Officer Mollah Emdadullah said at least 7585 ponds and ghers' fish worth Tk 55.44 crore have been washed away in Patuakhali. The list of affected fish farmers has been sent to the higher authorities. Once allocated, it will be distributed among the farmers, he said.

URL: <https://www.thedailystar.net/business/news/cyclone-yaas-fish-farmers-patuakhali-looking-tk-55cr-loss-2102925>

Bangladesh: Enhance support for shrimp farmers

Various labour organisations and industry experts have urged the government to allocate special funds in the upcoming national budget to help distressed jute mill workers and shrimp farmers survive the ongoing coronavirus pandemic. “More than 26,000 shift workers and temporary employees of nine state-run jute mills along with the Khulna-Jashore industrial belt have lived miserably ever since the factories were shut on July 1 last year for modernisation,” said Professor Anwarul Kadir, executive director of Sundarban Academy. Besides, they have yet to receive their dues after being laid off amid the current crisis, he added. The Bangladesh Jute Mills Corporation (BJMC) is unsure about if and when these workers might get their arrears as it would require a separate allocation. The BJMC owes more than Tk 200 crore to displaced workers in the Khulna region alone for services completed between 2015 and 2020 due to the implementation of a new pay scale in January 2020 as per the Productivity and Wage Commission-2015. Without new employment opportunities or cash assistance, the once vibrant jute industry cannot survive the Covid-19 fallout, according to the workers. Similarly, around 40 private jute mills are in distress due to the ongoing pandemic, said Sayed Ali, chairman of the Bangladesh Jute Association.

Other than that, the coronavirus has also devastated the shrimp industry as farmers are being deprived of fair prices amid the current suspension of exports. About 260,000 hectares of land in the coastal districts are used for shrimp cultivation with around 2.2 million people directly involved with the industry. Making matters worse, more than one lakh shrimp farms in Satkhira,

Khulna and Bagerhat districts were washed away by cyclone Amphan with the damage costing them roughly Tk 100 crore, said Aftabuzzaman, president of Bangladesh Shrimp Farm Association. “So, they need cash assistance and bank loans immediately,” he added. The local shrimp industry is one of Bangladesh’s main sources of foreign exchange but since production has declined year after year, the upcoming national budget should include intensive support for this industry. As per data from the Department of Fisheries, around 2.4 lakh tonnes of shrimp was produced in the country in fiscal 2018-19 while it was nearly 2.5 lakh tonnes the year before. “The Covid-19 fallout has forced trade and commerce in Khulna into a deep crisis so at this time, we have to focus on job creation and investment,” said Kazi Aminul Haque, president of Khulna Chamber of Commerce and Industry. Since marginal, small and medium traders and farmers were the worst hit, they should be brought under a separate package to ensure adequate funding for their survival. “But this region is always deprived.

For example, Khulna’s Batiaghata and Terokhada were declared economic zones but no construction work has started yet,” he said. Besides, construction of Rampal airport needs to be completed very soon and that too with government funding, Haque added. Liakat Hossain Liton, president of the Bagerhat Chamber of Commerce and Industry said, over 5,000 small traders in the region need cash assistance to revive their business. “A world class tourism industry could be built around the Sundarbans, which has to be maintained by a separate ministry or board,” he added. Nazrul Azam David, secretary of the Tour Operators’ Association of Sundarbans, said about 63 river vessels have been stranded for months now due to the closure of all tourist spots across the country in order to combat Covid-19. Considering the coastal region’s susceptibility to natural disasters, the allocation for development activities in these areas should be expanded, said Gouranga Nandy, a researcher and environmentalist. With various other issues, such as waterlogging, over salinity and water shortages, often causing untold losses to people in the region, these areas need special attention in the budget, he said. Locals previously demanded that the coastal region be declared a disaster prone area and a separate board be set up to handle its development activities.

URL: <https://www.thedailystar.net/business/economy/news/enhance-support-shrimp-farmers-jute-mill-workers-2101981>

Bangladesh: Utilizing the potential of fish farming

Bangladesh is a riverine country which is blessed with many big and small rivers along with many other water bodies including haor, baor, beel, jheel, etc. All these water bodies once were full of different species of indigenous fishes. There was a popular saying that fish and rice make a Bengali. Thousands of people in the rural areas used to live on fishing. But over the years due to drying up of many water bodies, growing use of pesticides in farm lands and water bodies, climate change and industrialization fresh water fishes have faced extinction. Sources said that indigenous fishes include around 265 species. Of them 140 species are the small ones. Over the years many of the small indigenous varieties have been endangered while some species of fishes have already disappeared from our water bodies. Though Bangladesh Fisheries Research Institute (BFRI) is working to tackle the extinction of some homegrown fishes, if fresh water bodies are filled up and unless the fish population provides an uninterrupted atmosphere, it is

tough to save them from being extinct. It is obvious that open water fish production has decreased to the great extent but over the last two decades, fish farming has been one of the growing sectors across the country. Before that, the word farming would mean cultivating different crops and that fish can be farmed was strange for the people. A report on Hakim Ali's fish farm in the early nineties shown on BTV by Shykh Seraj, one of the renowned agricultural activists and media personalities, made many interested in raising fish farming. It was the beginning of the history of fish farming in our country. These days the country sees a silent revolution in fish production. Official data show that the production in fish farming has increased threefold over the last two decades. As per the report of 2020, it is estimated that fish production has increased to 4.4 million tons which was only 1.8 million in the year 2000. Again, amid different sources of fish production almost 60 per cent comes from farmed fishing.

Fish has been a great source of protein. Reports estimate that fishes have been one of the cheapest sources of protein for 170 million people in the country. We see abundance of fishes in the local market. Due to the availability and low price the poor people have the affordability to buy fish. Some reports state that once those who lived on fishing from the open water bodies have come out of their cocoons and involved in fish farming or fish trading mostly and they have changed their lot within some years. Fish farming in these days has brought the fortune for the village farmer. Many educated youths are also found involved in aquaculture to be self-reliant. Again, this sector has created employment opportunity for thousands of people. It is true that the mind of the educated youth has changed. To many, receiving education does not mean that they should have a job after completing their education. They have come out of the traditional intention and are trying to set up their individual identity with their acquired knowledge and skills. Many have understood that to serve the country and its people the youth should come out of their traditional thinking and engage them to create more scopes for the nation. It is evident that the educated youth are changing their lot dramatically being devoted to self-engaged farming. In this digitized age, technology has widened many more possibilities. Technology has helped to bring revolution in agriculture, medical science, communication and many more sectors.

Fish farmers using technology grow more production. The educated youths in this sector have been experimenting updated approaches in fish farming following the modern strategies followed across the globe. In this connection, research institutes, scientists are playing a crucial role to provide the maximum services for the nation. Not only that, agriculture related programmes on TV channels contribute to disseminating field knowledge to make many enthusiastic in farming and aquaculture. Hridoye Mati O Manush hosted by Shykh Seraj has been a unique programme that helps and motivates thousands of people who are involved in different agricultural branches and the other interested to make farming. It is apparent that Bangladesh Fisheries Research Institute (BFRI) saw their many successes over their long experimentation to invent interspecific hybridization in some carp species, which helps to boost fish production in the country. In the decades, some exotic species including the silver carp, grass carp, bighead carps, common carp and silver barb have become popular. Fish farmers find more profits within the quickest time by farming these species than those of the indigenous. On top of that, our present government is focused and due to their various measures this farming has been a boon for thousands of people. Recently Prime Minister Sheikh Hasina has urged the youths to engage themselves in self-employment activities for the country's development. She

said, The youths can create self-employments by establishing fisheries farms and thus make them financially solvent instead of running after jobs. Obviously apart from making people self-reliant this sector is contributing to increasing the country's GDP.

But one thing we must not be indifferent to that the non-organic fertilizers like urea, Triple Super Phosphate (TSP) and Muriate of Potash (MOP) are indiscriminately used in aquaculture. In most cases, the use of these harmful chemicals begins from the very preparation of the ponds for fishing. Even some toxic elements are used to feed the fish population which poses a serious threat for the humanity. Regrettably, our farmers are in most cases using excessive chemical fertilizers and pesticides in the field and they hardly use natural compost. These chemicals produce nitrous oxide emissions, which contribute to contaminating the environment posing a serious threat to the human being, livestock, wild and aquatic lives. Lastly, to see this sector highly potential there is hardly any alternatives to sharing more successful stories of the beneficiaries involved in fish farming amid the people. The youth should be given loans on easy term to encourage them in fish farming. More importantly, it is time to create more scopes both for the individuals and the country in a bid to strengthen the potential of fish farming.

URL: <https://m.theindependentbd.com/post/262878>

Bangladesh: Aquatic food systems need to be transformed

Experts at a webinar on Thursday urged Bangladesh to make transformative changes towards aquatic food systems to bolster food and nutrition security. As part of a series of dialogues in preparation for the upcoming UN Food Systems Summit (UNFSS) 2021, the UN Food and Agricultural Organization (FAO) and WorldFish jointly organized a virtual event titled “Transformation and Future of Aquatic Food Systems in Bangladesh.” In this dialogue, fisheries, aquaculture practitioners, nutrition experts, and high-level representatives from the science and policy development sector discussed critical issues and solutions for the future of sustainable aquatic food systems in Bangladesh. They also discussed scaling up conservation solutions for justifiable livelihood outcomes within environmental boundaries. Nur Khondaker, FAO’s assistant representative, welcomed participants in the UNFSS dialogue webinar. Khaja Andul Hannan, additional secretary of the Ministry of Food, Bangladesh & National Convener of Food System Dialogue, delivered the opening remarks. Director-General of WorldFish Gareth Johnson said that Bangladesh is an example to the world of the possibilities from cross-sectoral collaboration with support for research and innovation in aquatic foods.

It is an example of how to transform fisheries and aquaculture to nourish a nation and boost livelihoods while protecting the environment, he also said. A food systems approach and co-management has seen hilsa stocks double while also increasing the incomes of fisher households by 65 percent through alternative income generation. This has been a great balancing act, balancing conservation with livelihoods, the WorldFish DG added. He said that nutrition-sensitive aquatic food systems could be a game-changing solution towards the transformation of aquatic food systems in Bangladesh, he said. 2021 World Food Prize Laureate and Global Lead for Nutrition and Public Health of WorldFish Shakuntala Thilsted said: “Research and innovation are important regarding transformation of the food system and adopting aquatic

foods.” She emphasized ensuring food safety and increasing the intake of diverse, nutritious fish-based food. Fisheries’ scientists, aquatic food systems experts, and policymakers discussed the challenges aquatic food systems face and how to mobilize relevant actors to transform and contribute to required actions and a set of policy recommendations.

URL: <https://www.dhakatribune.com/business/2021/05/27/aquatic-food-systems-need-to-be-transformed-in-bangladesh>

India and Bangladesh: High salinity threatens fish spawning in Halda river

The Halda river, the lone natural breeding ground of carp-like fish in South Asia, has seen a poor yield of eggs mainly due to heavy salinity in the river water this year. Saline water entered the river from the sea due to cyclone Yaas. Besides, there was absence of favourable natural phenomena, including heavy torrential rain, gusty wind and thunderstorm, which contributed to the poor breeding of fish, said an eminent Halda researcher. Brood fish spawned on Wednesday night. Several hundred egg collectors on both banks of the Halda in Hathazari and Raozan upazilas were frustrated as they expected more eggs this year for the decrease in manmade activities that pollute the Halda. The authorities concerned had taken multiple measures to this end. The government last year declared the river as Bangabandu Fisheries Heritage, banning 12 types of activities, including fishing, sand lifting, water withdrawal, plying of mechanised boats, construction of dams, and dumping of any industrial or domestic waste in the river. Apart from this, a unit of river police was deployed to oversee the river.

Visiting the areas on the banks of the Halda, this correspondent talked to around 20 egg collectors who attributed the poor spawning of fish to their bad luck. Monindro Jolodas of Ramdasmunsir Hat in Hathazari told this paper that once they used to live off by fishing in the Halda. As there has been a ban on fishing in the river since 2010, they wait for this time to collect eggs. “This year, we never thought that there would have been such poor spawning of fish. It is our bad luck as there was no enough rain and water from hills. And on top of that, a rise in salinity in Halda water forced the brood fish to lay less eggs,” he said. He added that he collected three buckets of eggs last year, but this year he only got half a bucket of eggs. Abu Bakkar, a resident of Pondit Bari along the Halda, said he sold fish fry worth Tk 18,000 last year. This year the eggs he managed to catch would not hatch as those are affected by salinity. Echoing the view of Bakkar, Elias Hossain, a seasoned egg collector of Halda, said such salinity was seen in 1991 when a strong cyclone hit the Chattogram coast. “I have never seen such salinity except this time since then. The cyclone that hit India contributed to a steep rise in salinity in the Halda water this time,” he added.

Manzoorul Kibria, professor of Zoology department at Chattogram University, also a renowned Halda researcher, has found 77 times more salinity in Halda water in three consecutive tests at Halda Research Laboratory on Tuesday. “The salinity found in Halda water is 36.9 PPT [parts per thousand] where the standard is 0.5 PPT,” he said. No one has ever seen this massive level of salinity. Cyclone storm Yaas has brought saline water to the Halda river from the sea, he said. Farhana Lovely, fisheries officer of Chattogram Fisheries Department, told The Daily Star that they were collecting information of egg collection. The fisheries and livestock ministry has

formed a committee to assess the egg collection, which will send their tally to the secretary of the ministry. Later, the ministry will reveal the total amount of egg collection, she added. Around 25,536kg of eggs were collected from the Halda last year. About 1,000 people collect eggs from the river.

URL: <https://www.thedailystar.net/backpage/news/high-salinity-threatens-fish-spawning-halda-river-2100173>

Bangladesh: Cyclone Yaas kills fish eggs, leaves farmers in distress

The Halda River in Chattogram's Raozan and Hathazari areas is one of the largest natural breeding grounds for fish in South Asia. Usually, fish release eggs into the river just ahead of the monsoon season, when conditions are favourable. Before laying all their eggs, female carp are known to release a few at first to test conditions. These test eggs were laid in the river early on Wednesday night, but the high level of saltwater intrusion due to a combination of limited rainfall in the area and the effects of Cyclone Yaas substantially reduced the number released by the fish subsequently, experts say. Fish egg farmers were dismayed after searching the river all day on Wednesday. It was Wednesday afternoon before they located the test eggs. It wasn't until 12:30 am on Thursday that fish began laying eggs in earnest. Approximately 1,500 fish farmers on nearly 350 boats attempted to collect eggs at the time. They finished up around 7 am. Kamal Saudagar says that fish eggs were found upstream in the river near Garduwara, Noyahat, Azimer Ghat, and the Porakpali Sluice area, but little was found downstream. "The fish laid their eggs during low tide last night," he said. "But there is a lot of salt in the water, so they only laid a few eggs. If there is another storm tonight, they might release more eggs."

Other fish farmers also found success in collecting eggs in parts of Hathazari and Raozan in the Ankuri Ghona, the mouth of the Kagatia, the Ram Das Munshi pier, Machua Ghona and Sattar pier areas. Carp fish lay eggs from mid-April to June when rain, mountain runoff and the tide create the appropriate temperature and salinity, says Kamal Saudagar. This season, the river's salinity was affected by the smaller than usual amount of rain or runoff, the limited amount of water released from the Kaptai dam and the cyclone. "These aren't the regular conditions for breeding," Chittagong University Department of Zoology Prof Manzoorul Kibria told bdnews24.com. "Yaas has raised the salinity of the river to 72 times the regular level!" Prof Kibria described the yield of fish eggs collected as 'fine'. "They were able to collect a comparatively good number of eggs in the Azimer Ghat, Gurduwara and Machuaghana areas. But we are still collecting data and we will only be able to tell how many eggs were collected after we compile it." "The number of eggs isn't even close to regular levels," said Hathazari Upazila Nirbahi Officer Md Ruhul Amin. "Egg collectors are dismayed. The eggs they did get have been sent to the hatcheries and they have begun to hatch."

The cyclone hit around the time of the full moon, which meant that a lot of saltwater entered the Halda River at high tide, Md Ariful Islam, a superintending engineer with Chattogram WASA. The salinity level in the water rose to 3,100 mg per litre. The acceptable level for coastal areas is usually 600 mg per litre and the safe level in drinking water is 10 mg per litre. "If we don't get water from Kaptai, the salinity of the Halda will continue to rise," Islam said. "We have to think

about how much saltwater is intruding. And we have to think broader than a single day. We have to take the Karnaphuli River into consideration too. Most of the water that WASA takes from the Halda comes from the Karnaphuli. It is also necessary to dredge Kaptai Lake.” According to Chattogram fisheries officials, last year about 25,500 kg of eggs were collected from the Halda River during this season last year, the highest amount since 2006, when farmers collected 32,724 kg. The 10,000 eggs laid on May 25, 2019, produced 200 kg of fry, which was sold at a market price of Tk 80,000 per kg, for a total market value of Tk 16 million.

URL: <https://bdnews24.com/bangladesh/2021/05/27/cyclone-yaas-kills-fish-eggs-leaves-farmers-in-distress>

Bangladesh: Cyclone Yaas: Cox’s Bazar villages flooded, St Martin’s Island jetty damaged

The coastal areas of Cox’s Bazar have suffered severe damage due to Cyclone Yaas and tidal surges. The cyclonic storm, which has already made landfall in India’s Odisha, has inundated at least 45 villages in the district. The wrath of the storm has been felt most by St Martin’s Island in Kutubdia. Contacted, Nur Mohammad, chairman of St Martin’s Island, said: “The island’s jetty has been destroyed by strong tidal waves caused by Cyclone Yaas. “As many as 50 houses on the island have been destroyed. In addition to the massive erosion around the island, 15 tourist resorts have also been damaged. Kutubdia Upazila Nirbahi Officer (UNO) Mohammad Noor Zaman said: “ A total of 25 villages in the several unions of Kutubdia Island are now under water. “This happened due to the cyclone and tidal surge. Houses here have been extensively damaged. Strong tides have broken through the island’s embankment. The houses near it have been destroyed by strong tidal waves.

“Besides, the people of the island, all 8,000 of them, have been evacuated to the designated cyclone shelters.” Meanwhile, 10 more villages located in the suburbs of Cox’s Bazar have been flooded. Several villages of Gomatali Islampur union of Sadar upazila are now submerged. Abdur Rahman, assistant meteorologist at Cox’s Bazar Met Office, said: “The water level in the coastal areas of Cox’s Bazar has risen drastically. It is flowing four to five feet above danger level. All of this is happening due to Cyclone Yaas and the full moon. “However, the effects of the cyclone will start to wear down from Wednesday afternoon,” he added. Speaking to Dhaka Tribune, Cox’s Bazar district Additional Deputy Commissioner Amin Al Parvez said: “We are yet to measure the damage caused by Cyclone Yaas. Due to the full moon, tidal water has risen dramatically, causing inundation in the coastal areas of Cox’s Bazar.”

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/05/26/cyclone-yaas-cox-s-bazar-villages-flooded-st-martin-island-jetty-damaged>

Bangladesh: Govt mulls higher tax to curb fake fish farming claims

High earners from fish and poultry hatchery as well as fish farming are likely to lose the privilege of income tax reductions from fiscal 2021-22 as the government plans to introduce a new slab to collect more taxes from fish and poultry farming entrepreneurs. Taxpayers earning

over Tk 30 lakh yearly may require to pay 15 per cent tax from the present 10 per cent, said finance ministry officials. The hike in the top income bracket comes as the National Board of Revenue (NBR) looks to increase tax collection for the next fiscal year and curb scopes of evasion. There is an allegation that a section of people show higher incomes from aquaculture to enjoy reduced tax benefits on fish farming which the government offers to encourage employment and increase availability of fish protein. In a letter to the NBR in January this year, the Anti-Corruption Commission (ACC) asked to verify income sources shown by many taxpayers in their returns, including fish and poultry farming. Up until now, incomes of up to Tk 10 lakh from fishery, shrimp and poultry hatchery and fish farming had been tax-free. Only 5 per cent tax is payable on the next Tk 10 lakh in income. On annual incomes of over Tk 20 lakh, only 10 per cent is payable as tax, whereas the highest rate of tax for an individual is 25 per cent.

The tax authority introduced the concessional tax rate first in July 2013 for two years to encourage diversification and increase production of fish to address nutrition deficiency in the country. The original concession was 3 per cent tax on any amount of income from fish farming. But some businesspeople, politicians and even government officials abused the privilege, said taxmen earlier. The abuse was tricky to catch as it is difficult to assess fish stocks in ponds, which made it easy for corrupt people to claim any amount of income from fish farming. And the abuse went as far as people who did not even own fish farms were claiming income from the business to evade taxes, said taxmen. To curb the malpractice, the NBR scrapped the reduced tax rate for the sectors by the end of 2014 but it had to reinstate the privilege from July 1, 2015 in the face of pressure from various interest groups. Now, the finance ministry officials said they want to collect tax from high income earners of these sectors. “We are not planning to impose any new tax burden on small and medium fish farmers,” he said. However, Md Tariqul Islam Zaheer, managing director of Shundarban Shrimps, a semi-intensive shrimp farm at Dakop, Khulna, said fish farmers suffer from losses for factors, including natural calamities.

“However we cannot realise our investment as we do not get any insurance coverage,” he said. “It will be frustrating for genuine fisheries entrepreneurs like us. Many of us are highly indebted for losses for natural calamities and low revenue. At this moment, a hike in the tax rate will affect us.” He suggested the tax authority increase supervision to curb fraudulence attempts at evading tax. Over the past two decades, Bangladesh saw a massive expansion of aquaculture to meet increasing demand for fish for population growth and rising incomes. Aquaculture area doubled to 8.21 lakh hectares in fiscal 2018-19 from 4.12 lakh hectares in fiscal 2001-02. Production grew threefold to 24.88 lakh tonnes the fiscal 2018-19 from 7.86 lakh tonnes in fiscal 2001-02, showed data from the Department of Fisheries. Cultured fish accounted for 57 per cent of the 43.88 lakh tonnes of fish produced in fiscal 2018-19. The ratio was 42 per cent in fiscal 2001-02.

URL: <https://www.thedailystar.net/business/news/govt-mulls-higher-tax-curb-fake-fish-farming-claims-2098937>

Bangladesh and Sri Lanka: Characteristics and performance of fisheries co-management in Asia: Synthesis of knowledge and case studies: Bangladesh, Cambodia, Philippines, and Sri Lanka

The overarching objective of this report was to determine, from current evidence and experiences from the region, a view of co-management application and performance. Among the findings of the review are: (1) Co-management is associated with positive trends across a range of social, ecological and governance indicators; (2) While overall trends in co-management performance are positive, between years the outcomes experienced by fishers and community members vary substantially between positive experiences and improvements and negative experiences and declines; (3) There is substantial variation in the systems to which co-management is applied and the degrees of inclusion, agency, influence and authority of managing partners; (4) Impacts of co-management on environmental and resource condition, and on the livelihood and economic conditions are determined as much by macro-level drivers of change as by co-management; (5) Initiatives associated with improved or alternative livelihoods were frequent; (6) A history of institutional and policy change created conditions enabling co-management arrangements; (7) Co-management is associated with improvements to representation and inclusion of resource users and beneficiaries; (8) National and international commitments have been made to progress gender equity, women's empowerment, and socially inclusive processes and outcomes; but substantial challenges remain in meeting them; (9) Co-management is generally associated with higher levels of buy-in and compliance by resource users; (10) Monitoring and evaluation should move towards best practice impact evaluation techniques; (11) Co-management arrangements for fisheries are widespread, diverse, dynamic and supported by a range of institutional structures and organizations.

URL: <http://www.fao.org/3/cb3840en/cb3840en.pdf>

Bangladesh: Groundwater depletion in Barind region threatens regional livelihoods

Scanty rainfall and excessive heat have created an alarming situation for farmers and fishermen in the Barind region as rivers in the region run dry and the groundwater level depletes. Moktar Ali, a farmer from Puthimari village in Chalan Beel, said: "The groundwater became scarce as soon as the Bangla month of Chaitra arrived. Since then, it has been difficult to irrigate our lands properly because the low water pressure takes up much time and costs money." Fisherman Baru Hawladar from Serkol Srirampur Jelepara (fisherman colony) in Natore's Singra said: "The Padma, for the most part, has dried up, giving rise to big chars. Besides, many more rivers, including Baral, Atrai and Gorai, the main tributaries of the Padma, are now suffering the same fate. We cannot fish if the rivers don't hold any water." According to sources, the average groundwater level in Paba upazila near Rajshahi was just over 20ft during the dry season in 1975. The water level dropped below 30ft in 1995 and about 66ft in 2010. Ghulam Sabbir Sattar, professor of environmental sciences at Rajshahi University, said: "There is a direct correlation between groundwater and river levels; one helps recharge the other. However, these normal functions of nature are being disrupted due to climate change and drought." If the rivers cease to exist, it will adversely affect regional livelihoods, he added. The region's annual rainfall never exceeded 1,400mm in the seven years till 2018, which is 45% less than the national average of 2,550mm, said prominent hydrologist Prof Chowdhury Sarwar Jahan of Rajshahi University.

Last year, however, the region witnessed 1,800mm of annual rainfall. The areas of Nachol and Gomostapur in Chapainawabganj; Tanore and Godagari in Rajshahi; and Porsha, Sapahar, and

Niamatpur upazilas in Naogaon are over 47m higher than sea level. There are areas in the same districts which are only around 10m above sea level, he noted. “Paddy farming using only groundwater can have a toll on the availability of drinking water in these high and arid areas,” he said. Groundwater provides 75% of the water needed for rice irrigation in Bangladesh, the world’s fourth-largest rice-producing country. The Bangladesh Rice Research Institute estimates that around 3,000 litres of water are required to produce one kilogram of Boro rice. “This estimate does not even take into account the use of water in rice mills,” Prof Chowdhury said. Wheat and maize require around 400-600 litres of water per kilogram production, he said. As such, grain production in the region should use surface water for irrigation, he recommended, adding a focus on less water-consuming fruit and vegetable farming can help preserve groundwater in the region. The region’s groundwater level was only 30 feet below in the 1970s when farmers used surface and rainwater for irrigation and tubewells for drinking water, said BMDA’s Superintending Engineer Abdur Rashid. With the BMDA installing deep tubewells in the 1990s, farmers began cultivating three crops a year, turning the northwest into one of the country’s major grain-producing regions, he said.

Following the BMDA’s lead, solvent farmers and businesspeople installed their own deep tubewells. In 2012, when the BMDA stopped installing fresh deep tubewells and moved to focusing on surface water, private tubewells continued to flourish for agricultural and industrial use. Around 70% of the Barind region’s annual groundwater extraction of 13,710 million cubic metres is done by unregulated private deep tubewells, according to a rough estimate by the BMDA recently. This amount of water would fill up around 1.8 million ponds — each 2m deep and covering one bigha. In February 2018, the lowest groundwater level was recorded in Nachol upazila at 107 feet below the surface, a fall of over 28 feet since 2005, when the level was at 78.8 feet. “The fall is still on,” Rashid said, adding that the levels go as low as 130 feet below the surface at the end of the irrigation season.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/05/20/groundwater-depletion-in-barind-region-threatens-regional-livelihoods>

Bangladesh: Climate-displaced people raise their voices for support

In the next few decades Bangladesh is likely to lose more than 10 percent of its land to the sea, and 18 million people could lose their livelihoods and homes. As a result, many families must relocate from coastal areas. While some people have means to resettle elsewhere, the most vulnerable have nowhere to go and must live where they can, often on public land along the roads atop Bangladesh’s many embankments. Cheno Ara Begum, a 45-year-old, single mother of three from the southeast coast of Bangladesh, describes how her family has been living after losing her husband and being displaced several times: “We have lived in a thatched hut alongside the embankment for five years. We regularly deal with open defecation in Kucha or ‘raw’ latrines covered with polythene and face difficulties collecting safe drinking water. Around 1,000 people are living around the Raichata village, but no one has a hygienic latrine.” Since 2012, Young Power in Social Action (YPSA) has used rights-based approaches to support climate-displaced people inside Bangladesh. They recognise that existing government programs do not meet climate-displaced peoples’ needs, often because local and national governments do not

fully understand the challenges they face or how to support them. “The national program for landless peoples, the Ashrayan or ‘cluster village’ Project, builds communal living spaces that have limitations, as most people are relocated to isolated areas without access to basic needs and support,” explained Mohammad Shahjahan of YPSA. “Relocated people lose their dignity, traditional or native lifestyle, occupation, and cultural and social harmony. They face social stigma as ‘outsiders’ in their new communities and are preyed upon by local criminals. In short, this is not a sustainable solution for landless households.”

YPSA’s efforts entered a new phase two years ago with support from the Climate Justice Resilience Fund (CJRF). YPSA started a comprehensive program including community organising, advocacy, and community-driven planned relocation and resettlement. Part of YPSA’s holistic approach is organising climate-displaced people into Community Teams and empowering them to advocate for what they need to support themselves and their families. This community organising has succeeded in connecting climate-displaced people to government support programs they had previously been unable to access. For example, in the upazila, or administrative region, of Banskhal in the Chittagong coastal area, people who face hardship due to a natural disaster qualify for local government cash assistance. The YPSA Community Team in Banskhal helped seventy climate-displaced people get information about this resource and apply for funds that help cover food and other living expenses. One of the most difficult challenges facing the Bangladesh government – and where YPSA’s innovative efforts play a key role – is proactively relocating the increasing number of people who are or will be displaced as a result of the climate crisis in the coming years. YPSA’s comprehensive model of community-driven relocation includes everything from providing land and shelter to ensuring access to clean water, skills training, and start-up capital to build a new life. YPSA also supports people to integrate into the receiving community. They facilitate meetings for relocating families with service providers, local authorities, and members of the host community.

While the number of families YPSA has resettled through this community-based, planned relocation process is small in comparison to the need, the people they resettle are able to build a new life where they are placed. By building an holistic model for relocation and resettlement of climate-displaced households, YPSA offers an alternative to top-down, ineffective, and often unjust relocation policies and programs. YPSA’s success demonstrates that grassroots, rights-based approaches can work for the complex challenge of climate-forced displacement, and their advocacy encourages local, national, and international governing bodies to dedicated resources to these bottom-up efforts. “Through our community organising, we are forcing the government to address this issue and take responsibility. At the same time, we are advocating with like-minded networks and organisations at the international level to hold the wealthy nations that contribute most to climate change accountable to the people and regions this crisis hits the hardest. This challenge won’t be solved immediately, but YPSA will continue until climate-displaced people have the focus and resources they deserve,” Shahjahan stated.

URL: <https://www.climatechangenews.com/2021/05/17/climate-displaced-people-bangladesh-raise-voices-support/>

Bangladesh: 200,000 more farmers to get incentives worth 2.92 bln takas

The government will provide incentives worth Tk 2.92 billion to 0.2 million more farmers of fisheries and livestock sector to help them offset their financial losses caused by the coronavirus pandemic. “We (the government) will provide Tk 2.92 billion more as an incentive to the fisheries and livestock farmers to overcome their corona induced financial losses. The process for giving incentives to them is now on,” Fisheries and Livestock Minister SM Rezaul Karim told the media at his secretariat office on Sunday. He said that his ministry had earlier disbursed Tk 5.54 billion from its two projects to 0.4 million farmers of the fisheries and livestock sector to help them withstand the losses caused by the pandemic. In addition, 0.2 million farmers will get over Tk 2.92 billion to overcome the Covid-induced financial losses, he said.

He said that the selling of fishes, meat, eggs and milk by the ministry’s vehicles during the ongoing holy month of Ramadan had received a good response from the people. From April 05 to May 08, the government had sold fishes, meat, milk and eggs worth over Tk 2.23 billion, the minister further said. A total of 18,000 mobile vehicles were engaged for selling those protein foods to the people at a subsidised rate. There are also 30 spots for selling those items in the capital. A kilogramme of beef was sold at Tk 500, while mutton at Tk 700, chicken (sonali type) at Tk 200, broiler chicken at Tk 120, one-litre packed milk at Tk 60, and an egg at Tk 06, on Sunday in the capital.

URL: <https://www.salaamgateway.com/story/200000-more-farmers-in-bangladesh-to-get-incentives-worth-292-bln-takas>

Bangladesh: Mobile fisheries, livestock sales boom in April

Mobile sales of fisheries and livestock products have reached more than Tk 2.04 billion in the past month until May 04 during the coronavirus lockdown. With an eye to mitigating farmers’ losses and meeting the demand for nutrient, fisheries and livestock ministry have been selling fish, meat, egg and dairy products countrywide since April 05. In addition to sales at mobile outlets, fish worth around Tk 30 million has been sold online in 30 days, disclosed data available with the ministry. During the period, a total of 17,954 mobile outlets sold the products under the campaign.

Milk was sold at Tk 50-60 per litre as the price varies in different parts of the country. Besides, egg retailed at Tk 6.0 each, beef at Tk 500 and mutton at Tk 700 per kilo, Sonali chicken at Tk 200-220 per kilo and broiler at Tk 119-130 per kilo. Under the campaign, marginal farmers in the fisheries and livestock sector have easily been able to sell their products through marketing at fair prices. On the other hand, consumers have been able to easily meet their demand through buying fish, meat, milk, egg and dairy products. Mobile sales activities in all 64 districts are being coordinated and monitored through one control room under fisheries department and another under livestock services department. Fisheries and livestock minister SM Rezaul Karim and secretary Rawnak Mahmud have been monitoring production, transportation, supply and marketing of this campaign regularly to strengthen sales.

URL: <https://www.salaamgateway.com/story/bangladeshs-mobile-fisheries-livestock-sales-boom-in-april>

Bangladesh: Alternative resilient livelihood through fish farming

Intense and frequent occurrences of cyclone, flood, tidal surge, river erosion, and salinity stress have been rigorously disturbing agriculture, fish cultivation, and livestock rearing in the coastal zone in Bangladesh. Communities in these coastal areas remain enormously vulnerable to these disasters which hinders their livelihoods more than any other region of Bangladesh. The poor infrastructure, disorganized institutional setup, improper resource management, social inequality, and absence of freshwater due to salinity intrusion has made the situation worse. “I was a fisherman. Due to this seasonal loss in fish farming; my livelihood was destroyed by the attack of two consecutive cyclones Sidr and Aila,” said Bidhan Chandra Das from Sonatola village. Sonatola village lies within the administrative boundary of Jiudhora Union at Morelganj Upazila in Bagerhat District and it is a disaster-prone area. Bidhan is the only earning member in this family of five, consisting of his wife, two daughters and ageing mother. He depends solely on fish farming on his small fish gher of two bigha land. During monsoon season, tidal inundation results in most of the fish ghers becoming submerged; this persists even after the monsoon is over. Moreover, climate change is causing longer and wetter rainy seasons in the coastal region, which is eventually initiating this waterlogging and longer flood period. These flood waters wash away the fishes from the ghers, adding to the suffering of the local fish farmers. The farmers have to endure significant loss as most times they are unable to achieve their expected profit due to the damages of their fishes in the gher.

Bidhan faced a similar fate, like many others in his village. The prolonged and constant loss experienced every year since 2009 resulted in the cumulative debt. “I did not know how to recover from that miserable situation. I was burdened by huge debt. I could not see any source of earning. It was a huge challenge to recover the cost and make a profit again”, Bidhan recalled his sufferings. “It was a mental trauma for me to arrange meals every day for my family. Seemed like a never-ending journey,” added Konika Mistry, Bidhan’s wife. Bidhan had been working in the fish farming sector all through his life. He has reasonable knowledge and years of experience in this sector, but he was left clueless at this stage in his life. He stated, “I was confused and frustrated. I have only expertise in fish farming. One thought was roaming in my mind; at this age, should I go for another occupation without any knowledge? I was hoping and praying for any support to continue the fish farming again.” On one side, Bidhan was trying to find a way or opportunity, on the other hand, the Upazila Fisheries Office(UFO) with the support from international and national NGOs was organizing training for fish farmers and looking for helpless farmers like Bidhan. In 2014 Bidhan started his journey to learn new techniques and explore support offered by Upazila Fisheries Office to grow his expertise to be able to run his fish farm better and be resilient to climatic shocks. “I have received various training on fish farming for capacity building by the Upazila Fisheries Office. Upazila Fisheries Office also organized fish farming exhibitions for disseminating modern fish farming techniques to the local farmers”, Bidhan stated. In 2016, Bidhan became a Local Service Provider (LSP) for the Producer Group (PG) with the support from Upazila Fisheries Office and other sector actors. He understood very clearly that this new expertise will help him to run his fish farm while also

providing advisory support to other farmers in this sector. Bidhan used to apply very traditional methods to nurture his fish farm, which was neither profitable nor climate-resilient. It always left him uncertain of unpredictable natural events.

As per the local practice, fish farmers depend heavily on loans to run their business. Any kind of distraction from estimated profit can lead up to huge debt. After receiving the training, Bidhan realized, “The traditional ways of fish farming are very much exposed to climate changes and extreme events. The recovery period is very long and sometimes fish farms cannot be restored fully. It is very wise to use and adopt modern technologies to respond and resist the natural calamities efficiently.” By enlightening the local fish farmers with proper knowledge and information regarding advanced techniques aligned with climate resilience with the help of local government authority, the traditional mindset of a fish farmer like Bidhan has been changed uplifting their confidence in their profession. More advocacy at the community level can make fish farming one of the dominant livelihood options as well as more resilient and sustainable. Bidhan stated, “Now I am now very much familiar with new scientific and climate-resilient technology. For example, I have elevated the banks of the gher considering flood. The death rate of fish has decreased during the last 3 years due to proper nurturing of the gher all the year-round.” Previously when gher were flooded due to ill-equipped management of the banks, local gher did not have any backup plan to recover from the situation. After receiving the training and guidance from Upazila Fisheries Office, they realized what was wrong with how they were doing it. Only training and technical support were not enough for Bidhan. By realizing the fact, Upazila Fisheries Office provided financial assistance of Tk22,000 with various equipment and technical support for crab farming in 2019. Later, Bidhan initiated crab farming with his capital. He has spent around Tk45,000 for fish and crab farming and earned around Tk200,000. In 2020, Bidhan built his own house by spending Tk1,75,000 from the profit made through cultivating fish and crab.

Bidhan stated, “Being an LSP, I am more connected with the Upazila Fisheries Office, which helped me to get all the necessary information.” He now provides advice to local fish farmers on improved farming and motivates local people to start fish farming as it is a very profitable business as modern techniques and technologies can be applied. “Compared to the local demand, we usually do not have the required set up to support training due to lack of manpower and resources. But we do provide updated information and guidelines to local farmers from time to time. But I think more training can contribute to building resilience in the fish farming sector,” said Pranab Kumar, Upazila Fisheries Officer. He added, “Bidhan came up with such a positive attitude, which became an inspiration to others. He keeps regular communication with UFO and disseminates the updated information to other farmers. He has a leadership quality which helped the community to rethink their coping strategies to recover their miseries.” Local fish farmers seek help from Bidhan from getting his advice to buying the best quality fish fry to fish feed. He also updates them about the current market rate for selling. “Many of us started fish farming again with a small piece of land. Bidhan da provided the guidance and demonstrated new techniques to restart our farm. He also introduced us to professionals of the Upazila Fisheries Office,” said Nasima Begum, a local farmer from the village. “We call Bidhan Da ‘Friend of Fish Farmers’ in our village,” echoed Eva Rani Paik, another local farmer. Local Service Providers should be promoted and provided support to keep the pace of fish farming on track. Timely training and knowledge dissemination can make the fish farming sector climate-resilient

and profitable for local farmers. Moreover, to enhance the diversity of livelihoods through transformative actions and a participatory approach from both ends can bring accountability including governance structures. And the story of Bidhan's journey so far with UFO and within his community has been evident to this concept.

URL: <https://www.dhakatribune.com/climate-change/2021/05/08/alternative-resilient-livelihood-through-fish-farming>

Bangladesh: How country can get richer and save the environment by growing seaweed

Bangladesh's extensive coastline is a source of many marine resources, providing livelihood for millions of people. But it is still underused. One of its untapped potentials is seaweed cultivation. Experts say that taking advantage of this will not only contribute to the country's economy, but it can also save the environment. British entrepreneur Sahil Shah says the enormous size of the Bangladeshi coastline, among other factors, attracted him. He says that the suitability on Bangladeshi coastal waters for seaweed cultivation, a need for farming/fishing diversification, especially in the face of climate change, and availability of a plentiful coastal workforce indicate that it is worth looking into seaweed cultivation in Bangladesh seriously. Sahil Shah's company Sustainable Seaweed, a seaweed cultivation and processing business, leverages technology that enables seaweed to be grown at higher yields and with a lower labour requirement. The business was established at the end of 2017 and is currently focusing on sites in Europe and Asia. For Bangladesh seaweed cultivation can be a great opportunity for future climate resilient investment. The FAO estimates that the global value of seaweed is around \$6.5 billion a year, with 80% of this produced in Asia, where conditions are ideal.

Currently however, very little is located in Bangladesh. Private research company GM Insights estimate that the global seaweed market will be worth over \$85 billion in 2026. And then there is environmental benefits. According to Australian climate scientist Tim Flannery, using just 9% of the ocean surface to grow seaweed would absorb all of global CO2 emissions, produce enough food for the world and meet global energy demand. Seaweed has many advantages: it is faster growing than any land based crop, more CO2 is stored in seaweed than any plant on land, and seaweed requires no land, freshwater or fertilizer to be cultivated. "Cultivating seaweed by setting up a nationwide or regional seaweed industry in Bangladesh would have a wide range of associated benefits. Many of these will be for Bangladesh as a whole, but critically they will also serve individual smallholder farmers, their families and their local coastal communities as seaweed is suitable for small scale production," said Shah. But this will require investment, both from coastal communities as well as the establishment of drying and packing facilities to take full advantage of export markets. The good news is that these are well within the reach of Bangladesh.

The economic impact

Seaweed farming would provide a number of micro and macro economic benefits. For example, said Shah, red species of seaweed have an exceptionally short growing season to maturity (as short as 30-45 days), meaning as many as 6-8 harvests are possible each year. This enables

farmers to receive money as soon as 30 days after planting. Growth rates are high, with yields of 10kg/m²/harvest attainable. While prices vary along with the species, it is possible to earn TK12,000-14,000 per season on an investment of just TK1,200, according to a research paper published in the Journal of Marine Science Research and Oceanography. Meanwhile, incomes of TK2.5 lakh every four months have been achieved, and given the scalability of seaweed cultivation this will be far from the maximum. “Once additional drying and marketing investments are made and higher value seaweed varieties can be sold worldwide, we would expect these incomes to rise significantly, both for growers and processors,” Shah told Dhaka Tribune. This allows seaweed farming to provide a supplementary income for fishermen, diversifying their risks. Moreover, seaweed farming is resilient to the depletion of fish stocks, and can even increase them by providing habitats and improving water quality.

Similarly, seaweed farms and prawn/crab farms are symbiotic, with seaweed absorbing excess waste from these farms, and actually growing faster, whilst cleaning the water. Combined with its climate resilience, this makes seaweed farming an excellent fit for many regions in Bangladesh, particularly in the south-east around Cox’s Bazar and along the west coast. “Seaweed is also able to be carried out commercially at smaller scales than many other forms of aquaculture, and makes use of natural fertility rather than needing intensive inputs as with other forms of aquaculture. Initial capital costs are also low, and supply chain traceability is much less of an issue than with other products such as prawns. This means seaweed cultivation avoids many problems that Bangladeshi producers have struggled with in the past. As a result, once the industry is established the cultivation of seaweed would be suitable for all kinds of farmers across Bangladesh, both large and small,” Shah said. The final macro benefit, says Shah, is export revenue. Large existing markets for seaweed exports exist, with Indonesia exporting \$325 million of seaweed in 2019. Tapping into these existing markets could similarly provide a much needed boost to Bangladesh’s foreign currency reserves, and contribute to an improvement in the Balance of Payments position.

The social impact

As well as economic, seaweed farming provides a number of social benefits. It provides direct employment, through the farming, as well as through the supply chain, with jobs created at the hatchery phase, for seeding, drying and any further downstream processing if done domestically. “Nearshore seaweed farming elsewhere in the world such as Tanzania is predominantly undertaken by women, and can be a source of female employment and empowerment, contributing to increased participation in the labour force and gender equality,” Shah said. Finally, seaweed is an incredibly dense source of micronutrients such as iodine and Vitamins B12 and D, and can be incorporated into diets to reduce micronutrient deficiencies, which could also lead to improved health outcomes.

The environmental impact

Seaweed farms are also highly resilient, and can make agricultural systems more resilient. Compared to land based agriculture, seaweed farming is not affected by flooding or by droughts, and temperature variation tends to be milder in the ocean than on land. Moreover, seaweed farms are less susceptible to climate change, with yields less likely to reduce with temperature rises and

less exposure to climate related natural hazards. Seaweed cultivation provides a number of environmental benefits. It absorbs excess CO₂ in the ocean and in doing so reverses ocean acidification, which is beneficial for both general marine life and aquaculture. As well as CO₂ absorption, seaweed absorbs both excess nitrates and phosphates in the water, often from either industrial waste or agricultural/fertilizer run-off. Seaweed farms can also act as hubs of marine biodiversity, and provide a sheltering habitat for juvenile fish. “There are scientific studies showing that seaweed farms both improve fish health and stocks, thereby increasing the amount of catch for fishermen in the long run,” Shah said.

URL: <https://www.dhakatribune.com/feature/2021/05/08/how-bangladesh-can-get-richer-and-save-the-environment-by-growing-seaweed>

Bangladesh: Lucrative fish farming leading to loss of land and livelihoods of farmers in Rajshahi division

A farmer in Rajshahi’s Paba upazila, Motahar Hossain sees his land waterlogged most part of the year preventing him from cultivating paddy with water even encroaching into his home. This, however, is not a result of climate change or seasonal flooding. In Rajshahi division, low agricultural land including vast stretches of beels is being converted into fields of ponds for fish cultivation. Experts said the high banks of these ponds block natural water flow, leading to severe waterlogging in nearby areas during the rainy season and beyond, affecting crop fields mostly three-crop yielding ones and delaying paddy cultivation. “Arbitrarily dug without prior assessment of requirements and environmental aspects, these ponds have put lives and livelihoods at stake,” Prof ABM Mohsin of fisheries at Rajshahi University told The Daily Star. Farmer Motahar said the waterlogging has deprived him of both rice and straw for cattle as he cannot cultivate paddy. “We don’t need these ponds. These are the roots of our destruction.” The local administration has turned a blind eye as there is no law against pond digging and influentials in the region — including some politicians have investments in these ponds, activists and farmers alleged.

Md Ayeen Uddin, lawmaker from Rajshahi-3 constituency (Paba-Mohonpur), admitted to this correspondent that he had been running at least three ponds on 150 bighas of leased land for the last five years. During a visit to these areas five years ago, this correspondent first observed ponds being dug on crop fields, which villagers said were leased by the local lawmaker. The MP, in February, claimed that his ponds were not affecting anyone. However, several locals in Paba, requesting not to be named, recently told this newspaper that the lawmaker’s ponds cause waterlogging on their cropland and homesteads every year. “We hear about an understanding between the local administration and investors in ponds,” said SM Mizanur Rahman, member secretary of the Chalan Beel Protection Movement in Sirajganj. Though affected villagers staged protests from time to time, the local administration kept silent in the end and influentials continued to dig ponds, he said. Ponds have scarred Chalan Beel, which is divided into around small 100 beels, by converting previously three-crop offering land to lone-crop one, he added. Contacted on April 12, Rajshahi Divisional Commissioner Dr Md Humyun Kabir said, “There is no specific law against pond digging.” He, however, agreed that causing waterlogging on someone else’s land or blocking natural water flow is an offence. “We are conducting drives but

the practice is so widespread that it has become difficult to check when the ponds are being dug overnight,” he added. The divisional administrative boss added that they wrote to the land ministry for issuing an executive order against the practice. The ministry is likely to respond soon. Conversion of land types are prohibited by land and environment protection laws and in addition, the Bangladesh Water Act of 2013 strictly prohibits hindering natural water flow, said Tanmay Sanyal, Rajshahi regional coordinator of Bangladesh Environmental Lawyers’ Association (Bela). The draft of the Agricultural Land Protection and Land Use Act which prohibits the conversion of agricultural land in clearer terms is yet to be finalised, he added.

Ponds Taking Over

On visits to Natore and Rajshahi from December till last month, this correspondent saw tractors busily breaking the silence of the otherwise tranquil rural roads, carrying earth from the newly dug ponds to brick kilns. In mid-February, farmers in Natore’s Boraigram and Rajshahi’s Paba, Mohonpur and Tanore upazilas were seen planting Boro seedlings when the sowing season was nearing its end. They said it should have been done earlier but they had to wait for water to recede after their land was waterlogged because of the unplanned ponds. The trend of digging ponds began in Chalan Beel areas in Natore district in the early 2000s. It spread to other districts in the last ten years, according to data from the Department of Fisheries. At least 17 upazilas in five districts Rajshahi, Natore, Bogura, Pabna, and Sirajganj witnessed the greatest increase in the number of ponds dug for lucrative fish cultivation. In Rajshahi division, the Department of Fisheries recorded an increase of 24,651 hectares of pond areas since 2001-02. Its data also showed around 12,000 new ponds were dug in the nine years till 2018-19. Fisheries and agriculture officials, however, said the official data does not reflect the actual picture as ponds elsewhere have also been filled up and river chars brought under crop cultivation. Besides, no proper survey has been conducted in recent times. They roughly estimated the number of new ponds in the five districts to be more than 36,000 in the last 20 years. New ponds are necessary for fulfilling the growing demand for fish, said Md Tofazuddin Ahamed, divisional deputy director at Department of Fisheries. “But that doesn’t mean we have to turn three-crop yielding land into ponds. We discourage it,” he said.

Crop Fields Converted

“Unplanned digging of ponds is affecting agriculture,” said Md Sirajul Islam, additional director of the Department of Agricultural Extension Rajshahi regional office. This is echoed by local farmers who The Daily Star spoke to in these areas. Nawshad Ali, of Beel Nepalpara, is one of the farmers planting Boro paddy late as his land remained waterlogged for longer than normal. He said farmers lease out their cropland for ponds when they suffer losses in their yearly crops. Pond diggers offer them around Tk 20,000-Tk 30,000 per bigha a year. In the initial years, the farmers were offered more than Tk 50,000 for a bigha. “The lease money comes easily whereas farming paddy involves investment and labour and no guarantee of profit,” he said. Nawshad leased out one bigha, of his three bighas in the beel, for a pond to be dug three years ago. “That one bigha in the pond fetches me annual lease money, which is half the price of what I used to get cultivating paddy on three bighas,” he said. Farmer Rohidul Islam said, “The recent increase in paddy prices have made us enthusiastic, but we have no cropland left. Some crop fields were converted and other fields remain waterlogged for the whole period of Aman paddy and mustard

cultivation.” He alleged that pond diggers are “tricking” villagers by digging ponds at the lower corners of beels, causing waterlogging on adjacent land and then forcing the owners of the waterlogged land to lease it out for ponds. “When farmers see their land becomes one or no-crop yielding from three-crop, they find no way out but to lease it to pond diggers,” Rohidul said.

Local farmers said Boro Beel, Nepalpara, Faliar, Anulia, Piarpur, Dhuroil, Kantar, Ratoal, Pompara, and Fariar in Rajshahi’s Paba, Mohonpur and Durgapur upazilas, as well as Chakoler Beel, Beel Dhahar, and Chinidanga Beel barely have any farmland left. Most fields in seven mouzas — Moharajpur, Achariya Chapila, Gozendra Chapila, Paikpara, Chapila, Bripathuria, and Sadhupara out of 27 mouzas of Natore’s Gurudaspur have been turned into ponds. A local of Moharajpur in Gurudaspur upazila said he and many others have to move to their relatives’ houses in higher areas or to the city during the monsoon as their homes get filled with water. “Those who don’t have anywhere to go, make a macha [an elevated bamboo platform] to take shelter,” he said. During a visit to Harian union in Paba upazila on April 12, this correspondent saw one pond was already dug while four excavators were digging another in the Nolkhola-Digori beel. Locals said the land where the pond was dug has been laying fallow for five years because of ensuing waterlogging while the land where the new pond is being dug yielded paddy and other crops till a month ago. They added hundreds of ponds have dotted the beel stretching four kilometres to Parila from Nolkhola. Although ponds have become a major cause of woe for farmers, the upside is that these have been hugely profitable for fish farmers as demand for fish remains high and rising. Fish farming on a pond of ten bighas can fetch a tidy profit of at least Tk 5 lakh against a Tk 10 lakh investment on land lease and fish cultivation, Amjad Hossain, a fish farmer in Mohonpur. But Md Belal Hossain, a fish trader, expressed his anxiety that these new ponds will bring fish prices down. He said the number of ponds being dug this year is higher than that in previous years. “Pond diggers are taking the opportunity of coronavirus outbreak when the administration is very busy and has other priorities.”

Loss Of Livelihood

Mainul Islam and his three brothers used to earn from three crops a year cultivated on their four-bigha land in Paschim Beel in Paba upazila. Their land has been yielding only one crop, Boro paddy, since ponds were dug around it three years ago. The family’s financial situation has accordingly deteriorated. “We have to move to towns looking for jobs to survive the crop-less period,” he said. Farm labourers are losing their livelihood with crop fields decreasing as ponds don’t need as many labourers. The entire process of producing crops on a bigha of land, he said, requires around 30 labourers. But two caretakers are sufficient for a pond, be it on 10 or 50 bighas of land, according to local farmers. The number of jobless farm labourers is increasing, and jobs in towns have become scarce too, said Habibur Rahman of Parila village in Paba upazila. Habibur is one of hundreds of farm labourers who brave cold, rains, and summer heat travelling to Rajshahi city seven days a week for work. This correspondent met him at the Qamaruzzaman square in the city one morning recently. “I didn’t find any job today. Usually, I get a job twice or thrice a week. Sometimes, I go through two weeks without a job,” he said. “My family and I have to endure half-fed days in those weeks.”

URL: <https://www.thedailystar.net/frontpage/news/ponds-eating-crop-fields-2086533>

Bangladesh: Indonesia for early signing of PTA

Bangladesh and Indonesia on Thursday stressed early signing of Preferential Trade Agreement (PTA) within the ambit of which potential export items from both countries would be allowed to enter duty free, reports UNB. The two countries agreed to complete the signing of pending MoUs and agreements on a fast-track basis, pursue sector specific agenda and do the needful to expand the volume of bilateral trade and investment. Bangladesh sought Indonesia's continued support for Rohingya repatriation and appreciated the last ASEAN leaders' meeting which also called for early repatriation of Rohingyas to Myanmar. Indonesia assured to stand beside Bangladesh on Rohingya issue.

Bangladesh and Indonesia held their first ever Foreign Office Consultations (FOC) on Thursday and discussed the issues. Bangladesh foreign secretary Masud Bin Momen and director general for Asia Pacific and Africa, ministry of foreign affairs, Republic of Indonesia, Abdul Kadir Jailani led respective delegations at the consultations. The two sides comprehensively reviewed the present status of bilateral relation between the two countries. Bangladesh requested Indonesia to offer its readymade garments duty free benefits and not to impose safeguard measures on its textile products as has been notified by the Indonesian side. With regard to the huge trade imbalance which is in favour of Indonesia, the two countries agreed to exchange business delegations and organise frequent single country and single product trade fairs. Bangladesh sought market access to Indonesia's Halal trade and investment from Indonesia in the agro processing.

Foreign secretary Momen also suggested that the two countries can expand technical cooperation in extraction of marine resources, deep sea fishing and protection of coastal zones. Both sides agreed to promote cooperation on matters such as combating corruption, counter-terrorism, science and technology, export promotion, defense cooperation, climate change adaptation and mitigation, ethical migration, parliamentary exchange and pursuing sustainable development goals. It was noted with satisfaction that ordinary passport holders can now visit both countries "free" which stands to contribute immensely to the broadening of the tourism sector. The two countries agreed to jointly celebrate the golden jubilee of the diplomatic relations in a befitting manner and jointly organise events, such as cultural programmes, seminars, high-level visits, trade fairs, introduction of direct flights in the Dhaka-Bali route and translation of biographies of the Father of the Nation of the two countries into Bahasa and Bengali languages. On the same day, the two foreign ministries also signed an MoU on Cooperation on Diplomatic Capacity Building.

URL: <https://en.prothomalo.com/business/bangladesh-indonesia-for-early-signing-of-pta>

Bangladesh: Seasonal fish drying seeing bright prospect in Netrakona

Hundreds of families in Netrakona haor areas have been drying fishes in traditional way and there is a bright prospect of this produce if this business is supported and properly monitored by the government, said the fishermen. It is an ancestral profession for many families for survival

and this business is profitable one as the demand of dry fishes, especially of country varieties is ever increasing, said Md Mujibur Rahman, upazila fisheries officer in Khaliajuri of Netrakona. The families involved with this business mainly belong to fishermen families and they both catch and buy fishes to dry up. Local Dingaputa Haor, Boali Haor, Chhayer Haor, Kirtankhola Haor; and the rivers- Dhanu, Moghra, Satmadhalai and Kongsha flowing through the haor areas are the sources of fishes. The dry fishes are mainly prepared in Boali, Ziakhara, Khaliajuri Bazar, Lepsia Bazar and Ballabpur in Khaliajuri; in Borokashia, Gaglajur, Borantor in Mohanganj upazila, and Singdha and Alokdia of adjacent Barhatta, sources said. In September, there are huge catches of indigenous varieties of fishes in the haor areas. The season is the peak hours for the fishermen to start drying up fishes. They also buy fishes to gear up their business. The season continues till February. For drying up the fishes in traditional way, the fishermen set up bamboo platform in the open field adjacent to their houses and spread the fishes on the mats on the platforms. The fishes on the platforms are covered with nets so that the birds, especially crows cannot eat up the dry fishes.

After drying the fishes, these are taken to local bazaars where buyers coming from different areas of the country including Mymensingh, Sherpur, Jamalpur, Kishoreganj and Dhaka come to buy the delicacy, said the farmers. As the dry country fishes of different varieties are very tasty, they have a good demand in Mymensingh region and outer districts for decades, said Mohsin Mia, a journalist in Khaliajuri. Fishermen sell the fishes between Tk 200 to Tk 400 per kg according to the variety but the fishes are sold in the markets at high prices, said the journalist. As there is no way for the poor fishermen to manage the cost to transport the fishes to different districts, so the middlemen eat up the lion's share of their profit, the journalist said. If the government helps the fishermen, they will get a fair price of their produce. They are involved in this profession for decades but there is no change in their lives due to the absence of a proper marketing system, said the fishermen. Ashraful Kabir, senior fisheries officer in Netrakona's Mohanganj said the farmers are advised to produce quality dry fishes in hygienic atmosphere. If the farmers could use dryer machines in tin-shed house, they could be able to dry fishes in many folds, accelerating their business, said the official. Around 300 metric tonnes of dry fishes of different species like puti, chingri, shol, boal, batashi, tengra, chanda and other species are produced in Khaliajuri, Mohanganj and a part of Barhatta every year, said the official. Talking to this correspondent, Moti Barman of Gaglajur village said he has been involved with the profession since his boyhood. "I have so far prepared 350 maunds of chayapashutki this season. The demand is four times higher but I could not meet the rest of the demand due to financial crisis", said a 55-year-old Moti. Over the profit, the fishermen said the profit depends on the weather condition of the year. If the farmers can harvest a good boro production, the business sees a better way as dry fishes have also a good demand in Netrakona, said Moti.

Billal Hossain, 65, of Dewkhan village said though it was not his ancestral profession but he has been involved with this for 14 years. Actually, the people involved with this profession are poor and have to depend on money from local middlemen and they enjoy the maximum profit, said Billal, a father of three children. Many have to take loan from different non-government organizations (NGOs) to support the family and the business and it deprives them of a good profit, said a 55-year-old Banu Begum of Borantor. If the government provides loan on soft interest and easy terms, the farmers can make a good profit every year, said the fishermen. Hundreds of women are also involved in cutting and cleaning fishes and they earn Tk 40,000 to

Tk 50,000 per season (six months), said the fishermen. MdShahjahan Kabir, senior assistant director of Department of Fisheries in Netrakona said over 1200 families are involved in making dry fish in Mohanganj, Khaliajuri, Kendua, Barhatta, Madan, Kalmakanda and Purbadhala in the district. We are planning to support the fishermen with facilities of cold storage, dryer machines and sheds so that they can get benefited. Asked if they have any plan to give soft loans to the fishermen, the official said they are considering the matter seriously.

URL: <https://www.thedailystar.net/country/news/seasonal-fish-drying-seeing-bright-prospect-netrakona-2087285>

Bangladesh: Embankment breach at Koyra: Saltwater intrusion worries coastal people in Khulna

The already dilapidated Kopotakkho River embankment protecting Koyra upazila of Khulna has now developed multiple breaches, causing tidal water to enter the region. Fear has gripped the coastal people of the area as they worry that the embankment might suddenly collapse, impeding their ceaseless struggle to protect their lives and property from natural disasters every year. In May last year, tidal waters flooded the homes of thousands in Maharajpur union after the Super Cyclonic Storm Amphan hit coastal Koyra upazila and breached its Kopotakkho River embankment. Although 11 months have passed since then, a sustainable embankment has yet to be built in the region to protect its people from another potential disaster this monsoon. Allegations have surfaced that a certain quarter with vested interest has been delaying the construction of a sustainable embankment despite a sufficient fund allocation from the government. According to several local sources, the 3km dam from Koyra's Dashalia to Hogla is currently extremely vulnerable. The embankment has been breached at multiple points and tidal water has been entering the area, seeping through several small and big holes. Some locals were seen working at several points of the embankment to plug the leaks on Tuesday.

A local fish farmer Matiar Rahman said he was extremely worried about the structural integrity of the embankment. "At any moment the embankment could collapse and inundate the region, washing away all the fish from my fish enclosure at a moment's notice," he added. Md Nasir, another fish farmer, said he had suffered a loss of Tk2 lakh when the super cyclone Amphan struck the region in May last year. "I have yet to recover from last year's losses. On top of that, if another disaster strikes the region this time I will suffer big time," he added. Wishing anonymity, some locals said the government had allocated sufficient funds for the repair of the embankment following the cyclone Amphan but the work had been delayed for 11 months. As a result, people remain vulnerable to flooding. Bangladesh Water Development Board (BWDB) Koyra Section Officer Mashiul Abedin said he was aware of the embankment breach and the intrusion of saltwater in the region. "The BWDB has already launched emergency measures to repair the breach. Hopefully, there won't be any serious repercussions," he added.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/04/29/embankment-breach-at-koyra-saltwater-intrusion-worries-coastal-people-in-khulna>

Bangladesh: How can pond aquaculture producers get ahead?

So argue the authors of a paper, recently published in the Journal of the World Aquaculture Society, who have analysed farm-level data from Bangladesh's aquaculture industry, hoping to identify areas where the sector can improve. Since the industry contains both small-scale, subsistence farmers and intensive and industrialised operations, the researchers focused on areas where fish farmers could reduce production risks and improve overall efficiency. The team found that if pond farmers could increase feed, labour and capital inputs during the production cycle, they would limit production risks and improve yields. The data also suggests that farmers who lowered stocking densities but intensified feeding would see an efficiency boost. The other major conclusion focused on university extension services. The researchers found that farmers who used the services when faced with a water quality challenge or disease outbreak faced fewer production risks and had more successful farm cycles.

Bangladesh's aquaculture sector

Bangladesh's fisheries and aquaculture sector has been a development success story for the last 20 years. Since 2000, aquaculture production has increased threefold and the country's "blue growth" strategy has made it the world's fifth largest aquaculture producer. Most fish farmers use outdoor earthen ponds to culture finfish like carp, tilapia and pangasius. Though production and productivity indicators show massive gains for the industry, these gains aren't evenly spread across Bangladesh's farm sites. Fish farmers and policymakers are identifying ways to improve farm-level efficiency, hoping that this will raise the industry's profile. One way to make aquaculture more efficient is to reduce on-farm production risks. The theory is that ill-managed risks can lead to inefficient use of farm resources, which translates into poorer yields at the end of the farm cycle. If the overall risk is reduced, fish farms become more efficient and outputs become more reliable and profitable.

The nature of pond aquaculture

Bangladesh's pond aquaculture sector is diverse – producers grow a variety of species and farm sizes vary from family-run plots to intensive operations. It's a high-risk business as well. Overall productivity can be influenced by external factors that aren't always within the farmer's control. There is plenty of scope to make the sector less risky and more efficient – but producers need to know what changes to make. To get a better picture of the industry, researchers from Bangladesh Agricultural University surveyed 225 pond aquaculture producers from Mymensingh district, the country's largest fish-producing region. The team asked the respondents about their management practices, farm inputs and labour. Their analysis used the stochastic frontier production (SFP) method to estimate the farm's potential efficiency and capacity in a best-case scenario. This let the researchers identify the combination of farm inputs that would optimise production and reduce risks, letting the farms become more efficient.

Key trends in the data

Initial survey data shows that the biggest farm input was feed, followed by fingerlings, labour and capital investments for equipment and farm infrastructure. Feed was the biggest driver of operating costs by far, especially for intensive and semi-intensive grow-out operations. The data

suggests that most farms spend 60 to 70 percent of production costs on feed. The researchers found that labour accounted for 5 percent of farm expenditures. Interestingly, researchers found a positive relationship between farm size and overall productivity – implying that larger farms are more productive than smaller ones. This goes against trends observed in other aquaculture-producing countries where smaller farms were found to be more productive. The researchers believe that large farms in Bangladesh have greater economic advantages, are more mechanised and have access to technical expertise. This would give them a leg up when compared to smaller farms. The data reveals that larger farms tend to have lower stocking densities but higher feeding intensities than their smaller counterparts. This translates into higher yields at the end of the farm cycle. The researchers also suggest that when producers increase feed, labour and capital inputs on their farms, overall production increases. Moderately increasing feed volumes and investing in farm capital and infrastructure reduced production risks as well, especially for small-scale farmers. On a basic level this makes sense – since many fish farms in Bangladesh are small-scale and use less-than-optimal amounts of feed, additional investments in these areas would curb production risks. A similar explanation holds true for labour inputs: since many farms rely on family labour for day-to-day tasks, an increase in work hours might well translate into improved yields. If farmers across the sector can use optimal amounts of feed and labour, yields could increase substantially.

The researchers noted that farms with higher risk scores tended to have increased fingerling density. In this case, it appears that farmers may opt for high fingerling volumes in hopes of gaining a production advantage down the line. However, if the stocking density is too high, ammonia levels may spike and levels of dissolved oxygen in pond water can become too low, leaving the fingerlings vulnerable. The data suggest that improving access to university extension services and networking would help pond farmers de-risk their operations and become more efficient. Extension services are typically staffed by specially trained members of Bangladesh's Department of Fisheries, making them an excellent resource for farmers who experience challenges during the culture period. If extension services are more widely available, small-scale farmers would gain the technical knowledge that is usually available to larger aquaculture operations.

URL: <https://thefishsite.com/articles/how-can-bangladeshs-pond-aquaculture-producers-get-ahead>

Bangladesh: Exports, local market supply of poultry, fish feed face setback

The export of quality poultry and fish feed and its supply to the local market is allegedly being affected due to the stringent standardisation policy and regulation. Its complex certification procedure is also making the way for sub-standard feed production and supply in the local market, insiders alleged on Saturday. They stressed the need for transferring of the Certification Marks (CM) licencing authority from Bangladesh Standards and Testing Institution (BSTI) to the Department of Livestock Services (DLS), which issues all licences and certificates to the poultry sector.

Poultry and fish feed producers said that they have to face complex procedure and needed to pay Tk 5.0 million to Tk 40 million as fees for taking CM licence from the (BSTI) for each of their nearly 100 types of feed items. They also sought simplification of the procedure for obtaining CM licence at reduced fees for the growing poultry and fish feed industry in Bangladesh.

Meanwhile, the fisheries and livestock ministry last month wrote to the industries secretary to waive the mandatory CM licencing from the BSTI as the DLS is now capable enough to issue the standardisation certificate. The livestock ministry claimed that as it is looking after all the policy and regulatory issues relating to the country's poultry and livestock industries, it should have the authority of feed production and standardisation certificates too. It also claimed that the Bangladesh Livestock Research Institute (BLRI) has recently set up a quality control (QC) lab at Savar in Dhaka with an investment of nearly Tk 1.05 billion for testing all the livestock products including the feeds.

However, the industries ministry is yet to give any feedback to the livestock ministry, resulting in delays of standardisation of the feeds, produced by different local companies. Industry insiders said few hundreds of local poultry, fish and livestock feed producing companies were reluctant to take the CM licence from the BSTI as it is a very complex and costly process. Under a SRO in 2018, the Industries Ministry has added the poultry and fish feeds in the lists of mandatory CM licence to be attained from the BSTI. Currently, the poultry and fish feed manufacturers produce nearly 100 types of feeds in their factories across the country. Some of the medium to large companies have more than one factories at different areas in the country. Those companies need to take CM licence for each of their factories and for each of the 100 items separately. So, many small, medium and even big companies are not taking the certificate from the BSTI, industry insiders said. President of World Poultry Science Association-Bangladesh Branch Abu Lutfu Fazle Rahim Khan told the FE that they were in trouble with the present policy on taking the CM licence from the BSTI as this complex and costly procedure affecting the country's quality feed production and exports. "I have some poultry and fisheries feed export orders from India. But the certification and other government policy issues are affecting my shipments," Mr Rahim, also Managing Director of the Aftab Bahumukhi Farms Limited said. "There are hundreds of small, medium and large poultry and fish feed industries, mostly infant, across the country. They are struggling for continuing their productions.

In addition, the complex policy with huge payment for getting certificates is a big blow for them," he added. He said: "The local poultry and fish feed producers make nearly 100 items of feeds. They need to take CM licence for each of the production plants and each of the items separately. It is not only costly, also a complex procedure." He urged the government to bring the CM licencing under the lone regulatory authority-the fisheries and livestock ministry – to avoid the present hassles and complexities of taking the certificate from the BSTI. Bangladesh Poultry Industries Central Council (BPICC) president Mashiur Rahman said that it was very tough to take CM licence from the BSTI for each of their feed items and for each of the productions plants. BSTI director (CM) Sajjadul Bari said that they were working on the request. "We've prepared our observation and sent it to our DG, who will examine send to the line ministry. The inter-ministerial authorities or the government will take the decision on it," he added.

URL: <https://thefinancialexpress.com.bd/trade/exports-local-market-supply-of-poultry-fish-feed-face-setback-1619410782>

Bangladesh: Khulna shrimp industry taking severe hits due to Covid-19

The countrywide strict lockdown has forced the supply chain system to come to a halt. Shrimp export has been hit by the Covid-19 pandemic, preventing farmers from getting fair prices. Matters have been made worse as farmers were busy renovating and/or expanding their shrimp enclosures at the beginning of harvesting season this year, adding to their overhead cost which they cannot recuperate now.

Additionally, the countrywide strict lockdown has forced the supply chain system to come to a halt, freezing shrimp distribution across the country as well. This has led to the surge in shrimp prices in local markets, who are forced to sell Galda and Bagda variants of shrimp locally at Tk600-1,400 per kilo, depending on its size and quality, which were less than half its retail price before the second wave of the pandemic arrived. According to the Khulna Fisheries Inspection and Quality Control Office, 85% of the frozen shrimps exported from Bangladesh go to Europe, while the rest are exported to the United States.

However, the second wave of the pandemic has forced them to bar imports from other countries, bringing shrimp export to a standstill. Shrimp farmers and traders said that apart from rising enclosure prices, the price of baby prawns, or clutches, along with its feed, have also gone up, adding to processing, labour, and packaging costs. But the pandemic has caused shrimp prices to go down in the local market, due to lack of availability.

In Fayalhat of Rampal upazila of Bagerhat, traders used to sell crores worth of shrimp each day, but things have become quiet in recent times. The workers involved in the warehouse have been sitting idle due to the transport crisis caused by the coronavirus. According to the warehouse keeper and shrimp clutch counting workers, about 4,000 to 5,000 people, including traders and workers involved in the trade, have become unemployed due to the severe lockdown that began on April 14. On the other hand, if such a situation continues, the shrimp farmers will suffer if they are not able to meet the demand at the beginning of the season. Storekeeper of a shrimp farm Md Moniruzzaman said that Bagda and Galda clutches come to Khulna from Chittagong, Feni, Noakhali, and Cox's Bazar. However, due to the pandemic, there is no supply of shrimp clutches life before, the farmers are not getting as per the demand. Due to this, 95% farmers will be affected.

URL: <https://www.dhakatribune.com/business/2021/04/25/khulna-shrimp-industry-taking-severe-hits-due-to-covid-19>

Bangladesh: Days of enchanting fishing experience gone forever

For a small country like Bangladesh to rank 3rd in the world for producing inland fish is an enviable feat. Not long ago, many indigenous fish species were on the verge of extinction. But

different methods of culturing those in controlled conditions developed here have brought the more popular among those back. The response from the fisheries department to the critically low production of fish has been exceptionally vigorous and to the point. Thus, an average Bangladesh citizen today consumes 62.58 grams of fish daily as against the requirement of 60 grams.

If this is an achievement for great celebration, the memory of catching wild fish during the four months starting from Ashad to Aswin before the 90's can take one on an enchanting journey. This happened to people living in plain lands that experienced regular inundation every year. Today's young generation cannot even imagine the time when only two—and in some low-lying areas even one—crops were grown. Aus and Aman paddy were sown not planted and the harvesting times were Shrabon and Agrahayan respectively.

In Ashad the rivers swelled and water flowed from their tributaries and canals to hinterlands down the plain basin. It was a sight to behold when water came creeping and flooding the perched lands. There was no system of irrigation at all. With the onrush of water came fish of local varieties. The water table continued to rise inch by inch. At some point the path between two village homesteads came under water. It was pure delight to see the crystal clear water and the delight increased several times more by the arrival of large flocks of fish such as puti, khalse, chanda and boicha (smaller version of khalse). Amateur fish hunters lay in wait with what is called a khepla or jhaki jal (net flung deftly to spread in a round shape over the targeted flock of fish). The silvery or greenish reflections visible within the net were so enjoyable! One such net casting would have been enough for a moderately large family's whole-day need.

The other delightful experience was when water was allowed to enter a pond through a narrow channel which otherwise would be left closed by bamboo fences or even a barricade of heaps of earthen mound. As the water ran into the pond, it produced a temporary sight of a waterfall. Fish in the pond could sense the fresh water and started dancing and jumping. A bamboo trap kept dexterously slamming the two sides of the channel closed would be full of all kinds of fish eager to get out of the pond.

But perhaps the most enchanting fish hunting device was the contraption of a net that is manoeuvred instantly to capture large fish such as Rui, Katla and other big fish. This net is called bhuti jal which is an inland edition of the hilsha net with the only difference that this net uses a thin bamboo pole instead of a rope to close the gaping arms together. Also the set of strings attached to the net's upper layer that carries the vibration produced when hilsha dashes against the net 30-40 feet underwater is irrelevant here. Instead, the catcher looks down through the transparent water to keep watch of the gate left open in the middle of what is called a 'gahra', a barricade of fences constructed with bamboo files or even date leaves placed side by side and erected at a convenient place of natural water flow. Usually the depth of water would be 10 to 15 feet and the catcher would either lie in wait on a platform specially made for the purpose or on boat motionlessly. Sometimes a shoal of large fish would come sprightly and entered the net. The catcher has to know when he has to close the bamboo arms that came together when pulled up.

Sometimes it was a long wait for a fish to enter the net. Even a few clever fish would come close to the gate, closely surveyed the place and then slowly retreated. In the peak season, though,

there were records of catching more than a hundred rui fish in one pull of the net. To watch fish entering the net in a large body was thrilling. Sometimes the sight of a huge flock was so spell-binding that the man in wait completely forgot to pull up his net in time. To an amateur fish hunter, capturing a large fish may be a life-time experience. The seasoned catchers, though, had far greater exploits under their belt. There are various other methods of fishing. But apart from a long net more like a shari but longer than it used for catching ‘koi’, mini, shing, taki etcetera; the others need different types of expertise. So those are not for amateur fish catchers. Gone are those days when fishing turned out to be a passion and an enchanting experience.

URL: <https://thefinancialexpress.com.bd/views/days-of-enchanting-fishing-experience-gone-forever-1619200907>

Bangladesh: Sector-wide impact assessment on coastal small fishers

This was a 31-month action research project. The Danish Institute of Human Rights (DIHR) invited us to collaborate with them in implementing a project on sustainable oceans.

The whole idea behind the project was to undertake a sector-wide impact assessment of the marine artisanal fisheries, the small fisherfolks. These fisherfolks collect fish in the oceans and face huge physical and mental obstacles. These groups are marginalised both in terms of the geographic location and the income they receive. MJF has collaborated with COAST Trust and Bangladesh Institute of Labour Studies (BILS) to undertake this project. The work was challenging not only in terms of gathering data but also in terms of coming up with policy recommendations for the government. The idea from DIHR was to look at the human rights condition of these people involved in the fisheries sector. So many of these fisherfolks actually perish while fishing and many come back injured. They then face further challenges of big trawlers coming in with electric nets to catch fish, leaving the livelihoods of the small fisherfolks in great peril.

Marine fish are a great source of protein and the coastal areas have huge potential that has not been fully realised until now. If we can properly manage this sector and address the needs and challenges of the fisherfolks, it would be a win-win situation for our entire population. There are various challenges and we primarily need policy support to overcome the present hurdles. The government has committed to form a National Marine Policy but it was delayed due to the current pandemic. But, we hope the policy will be formed and it should include the issues of the small fisheries. Women are especially marginalised in these areas and policy formulation in this sector must take into account the gender dimension as well.

Md. Mujibul Haque Munir, Joint Director-Education, Food Security, Development Communication & Projects, COAST Trust

The SWIA has been carried out in Chile and in Bangladesh. The main objective of the project was to document the human rights implications and impacts pertaining to fisheries and aquaculture and address these in selected national and global dialogues, policies and strategies for sustainable development and responsible business. With the SWIA, we tried to capture five

areas: impact of climate change on the Bay of Bengal, legal and policy analysis, rapid situation assessment during COVID-19 and 65-day ban, human rights situation in the shrimp sector of Bangladesh, and industrial marine fisheries sector in Bangladesh.

We surveyed 1,400 men and 600 women with 19 focus group discussions. We have tried to gather information under four specific criteria. This includes labour conditions, standard of living, situation of women, and the right to a healthy environment.

Our study found that 80 percent of the fishermen feel that they have insufficient life-saving equipment on board and half of the fishermen said that they have no warning system that reaches them at sea. 39 percent fishermen reported having no communication equipment whatsoever on board while 35 percent relied on mobile phones for as far as they could reach. 97 percent fishermen reported that harbour facilities are not safe. Approximately one-third of the fishermen said that they are underpaid.

Almost all the fishermen reported fishing as their main source of income which does not generate enough money to cover their families' basic expenses. In 2020, the 65-day ban, coupled with COVID-19, caused a series of shocks in the artisanal fisheries sector with 70 percent reporting that they lost half of their income or more during this period. 33 percent of the respondents reported having no income at all during the ban. 75 percent of the female respondents who have experienced loss or grave injury of their husbands, fathers, or sons at sea, did not receive any compensation. 68 percent of the female respondents reported that they have experienced problems and harassment when male family members went to sea. On the other hand, 93 percent male respondents agreed that the women involved in the business do not get equal pay.

We need to clearly define the rights and responsibilities of fishers, including small-scale fishers in relevant national labour legislation. We need to amend the Bangladesh Labour Act 2006 to include provisions on fishers employed in the small-scale coastal fisheries sector and adopt regulatory instruments on Occupational Health and Safety that address the particular situation and needs of small-scale fishers or amend existing instruments to adequately address their needs. A minimum wage board and minimum wage for fishers need to be established. For women, we need to recognise their vital role in small-scale fisheries and promote their equal rights and opportunities as per the FAO's guidelines for Sustainable Small-Scale Fisheries as well as promote and protect women's right to equal pay for equal work.

Prof. Abdul Wahab, Team Leader, Ecofish project, World Fish

The study has come up with a long list of recommendations. But, we cannot go after so many recommendations as it would not be efficient. Marine fish are not just a source of protein but also of many necessary micronutrients which are essential for our population. For artisanal fishers, the boats going to the seas should be registered and there should be checkpoints ensuring that the boats are equipped to be at sea. The boats must firstly be physically equipped to be at sea and then it must have the necessary equipment such as life-jackets and GPS apps. We also need to look at insurance for the people going out to sea. One issue here is that of the payment of the

insurance premium. The women should also have the opportunity to organise themselves. Lastly, we need an artisanal fisheries framework for the Bay of Bengal.

Begum Nurun Naher, National Operations Officer, FAO, Bangladesh

The policy recommendations are quite generic. We must find the correct way to put in place the target mechanisms so that the recommendations are actually being implemented. The lack of a proper communications system in the fishing vessels is a huge issue. The communication system and the early warning system need to be improved. The compensation packages offered by the government to fisherwomen usually never reach them due to a lack of accessibility. This needs to be looked into. Coastal communities of women are far more vulnerable than the women in plain lands because of the very high level of death rates of their male family members. This leaves them with a lack of safety and security. At the policy level, monitoring must be ensured along with implementation.

Dr. Samiya Ahmed Selim, Associate Professor and Director of Centre for Sustainable Development, University of Liberal Arts Bangladesh (ULAB)

There is a need to seek out alternate livelihoods particularly for the women. During our assessment of the period of the ban, we found that the women who had access to growing their own food or had other ways of meeting their economic needs, fared better. But not many women had other forms of income.

Dr Md. Niamul Naser, Professor & Chairman, Department of Zoology, University of Dhaka

Climate change is taking place. Policy formation in this issue will take time. Through the encroachment of big trawlers, all the resources, including fish, will be exhausted much quicker than before. Sustainability will be lost, and the fishers will be in trouble. It would be best to create a solid plan or put in place a strong demarcation for small-scale fishers and commercial fisheries as soon as possible.

Pollution is a big issue. Pollution on land is moving towards the sea, and entering the small-scale fishers' fishing grounds. The number of fish in these areas will drop. Their resources, income, and livelihoods will be adversely affected. There is no policy or even sufficient economic strength to support fishers who will be negatively impacted by pollution and climate change. We need a backup plan that focuses on education. Most fishers' villages lack educational facilities. If we succeed in educating the people of these villages, within five years, fishers will know about their rights and will be able to shift to other income-generating sources. Monetary investments will not produce as many returns as education.

Rezaul Karim Chowdhury, Executive Director, COAST Trust

Small-scale fishers are producing over 60 percent of our nation's protein. Our average per capita GDP income is over 2,000 dollars, but this is only around 1,000 dollars in the coastal areas. The national adult literacy rate is 75 percent, whereas it is only 37 percent in the coastal regions. We must address this disparity. The licensing system is very centralised. Boats up to 50 horsepower

should be decentralised to the Upazila level because it's not very technical. This would lead to a need for monitoring who goes into the sea and whether they have life jackets, radios, etc.

We tried to break the cycle of “dadon” which can be considered a slavery system. However, we failed because the power structure from the centre to the grassroots is very rigid. The government can provide subsidies to the small-scale fishers to form cooperatives, marketing channels, and cold storage at the grassroots level so that a sustainable marketing system of fish caught by small-scale fishers can be achieved.

Technical education should be emphasised. 50 percent of total dropouts occur at the intermediate level. The dropout rates are worse in the coastal areas. The government plans to commission many technical schools and colleges, which will be very expensive. Why can't we instead introduce technical courses from class eight to the intermediate level? By 2050, 70 to 80 percent of Bangladeshi people will be living in urbanised towns. This urbanisation will require many electricians, drivers, and sanitary mechanics. If trained from class eight, the coastal people migrating to urban areas will have increased work opportunities. A study in Bhola found that 63 percent of child marriages are of students up to class eight. If we invest in free education for adolescent girls up to the intermediate level, especially in the coastal areas, child marriage rates will drastically fall.

Naimul Ahsan Jewel, Advisor-BILS, General Secretary-Jatiyo Sramik Jote Bangladesh

Although we mention ten lakh fishers, many more lakhs of workers are also part of the value chain. These workers are involved in processing, grading, transporting, loading and unloading trucks, exporting fish products, etc. If all workers are taken into account, this is a vast and promising sector. If the government pays more attention to this sector, we can ensure social security for the workers.

There should be a database of all fishers who are working in the deep sea. All of them should have individual ID cards. Workspaces of female fishers have no occupational safety or health measures. The government must focus more on these vulnerable areas.

When fishers trapped in the “dadon” system are killed or lost at sea due to storms and hurricanes, their families are left as hostages forever. The government should provide SME loans to groups of fishers. Most fishers in the dadon practice lose most of their profits from the fish they catch and sell. However, if they were given SME loans, they could break out of the dadon system. They would be able to keep all their profits and gradually repay the loans. During the 65-day fishing ban period, neighbouring countries trespass into our waters and catch tonnes of our fish. There needs to be more robust monitoring in this regard. Vietnam, India, Cambodia and Bangladesh, who share maritime boundaries, should create a law that stops fishing during this period. Adequate use of coastguards is required as well. The government should establish a tripartite committee for the development of the National Marine Policy. The three parties involved should be the government, the employers, and fisher representatives.

Sille Stidsen, Senior Adviser, Human Rights and Development, Danish Institute for Human Rights (DIHR)

We are fortunate to have the SDG Agenda 2030, which carries many commitments to address several of the issues identified in the sector-wide impact assessments. Under SDG 14, we have targeted limiting pollution, conserving fish, controlling illegal, unreported and unregulated (IUU) fishing, and securing small-scale artisanal fishers' access to their livelihood resources. Regarding social security and livelihood issues, we have relevant SDGs such as SDG 1 on ending poverty. For education, we have essential targets, including technical and vocational education. Bangladesh was a champion in the Millennium Development Goals (MDGs) and gained world recognition. We know that the Bangladeshi government also has a strong commitment to achieving the SDGs. Therefore, we have a good framework within which to address these issues.

Towfiqul Arif, Additional Secretary, Ministry of Fisheries and Livestock, People's Republic of Bangladesh

In the fiscal year 2019-20, our fisheries sector's total production was nearly 45 lakh metric tonnes. Of this, 6.71 lakh metric tonnes were by marine fisheries, making up 14 percent of our total fish production. The production by artisanal fishers is 5.56 percent, and only 1.1 percent is industrial. Therefore, around 90 percent of our total marine production is contributed by artisanal fishing.

There are around 500,000 coastal small-scale fishers. We have provided food support to 440,000 fishers by delivering 40 kilograms of rice per month. In Cox's Bazar, 48,342 fishers and in Barguna, 39,800 fishers have been provided food support. Therefore, it is evident that the government supports small-scale artisanal fishers during the 65-day fishing ban period. During the peak breeding season, to protect mother Hilsa, there is a seven-day ban on fishing during which all coastal families are provided with 40 kilograms of rice. During the pandemic, the fisheries sector was provided 100 crore taka of financial support. 78,074 people were given cash incentives. The Marine Fisheries Act 2020 has simplified the process for small-scale artisanal fishers to obtain fishing licenses. 12 lakh fishers have been given ID cards, but the process is still ongoing. A database exists for these ID cards as well. Fishers going to the deep sea don't even carry compasses to guide them. We will include a condition during registration that all fishers must have early warning GPS and life-saving instruments.

A management plan for artisanal fishers is required. A chapter on this can be included in the National Marine Policy. Our Sustainable Coastal and Marine Fisheries Project has a 500 crore taka component solely for artisanal fishers under which around 18,000 fishers will be given vocational and technical training. The project will also create 100 producer groups that will work on developing the marketing channel.

Shaheen Anam, Executive Director, Manusher Jonno Foundation

We realise that the ban on fishing has resulted in increased production of fish. However, the critical issue is figuring out the extent of the negative impact the ban has on fishers. Is the government providing sufficient support to the fishers during these periods? Our concern is whether the fishers have a proper livelihood with the support that is offered to them. In a country

like Bangladesh, there is always more need than we can fulfil. Therefore, it's essential to maintain transparency and accountability in delivering support to the fishers.

Shamsuddoza Sajen, Commercial Supplements Editor, The Daily Star & Moderator of the session

Bangladesh has achieved self-sufficiency in fish production. Within the marine fisheries sector, artisanal small-scale fisheries still account for the biggest share of production. The marine industrial fisheries sub-sector is growing and we can expect it to continue growing in light of the recent settlement of the marine boundary dispute. Marine fisheries constitute an important economic activity in Bangladesh and it is estimated that around 0.5 million fishermen earn their living from artisanal marine capture fisheries and although they make a significant contribution to the country's fisheries production and food security, artisanal marine fishermen are generally considered to be a poor and marginalised population group. Through this roundtable we want to create a dialogue so that initiatives can be undertaken and tools can be applied for mitigating and monitoring human rights impacts in the fisheries sector and aquaculture in Bangladesh—thus ensuring sustainable development and responsible business in the marine capture fisheries sector.

URL: <https://www.thedailystar.net/round-tables/news/sector-wide-impact-assessment-coastal-small-fishers-2083373>

Bangladesh: Pandemic hits hard Bangladesh's aquaculture sector: Study

Despite having potentials, the aquaculture sector in Bangladesh has been affected badly in the wake of the pandemic mainly due to the increased cost of fish feed and sluggish demand, according to a study. The majority of respondents said the supply of fish feed and aquaculture-related goods were disrupted due to restrictions on vehicular movement.

The findings of the study titled 'Opportunities in the aquaculture sector in Bangladesh' were released at a virtual programme recently, said a press release on Friday. Light Castle Partners and Larive International jointly conducted the study during the period between January and March this year with the participation of over 50 people, including fish cultivators and other stakeholders. The study projected the per capita fish consumption of Bangladesh to grow to 23.1 kilograms per day by 2025 from 21.8 kgs per day in 2019, facilitated by a projected growth in fish production to 5.67 million tonnes by 2024, signifying an annual production growth of 5.2 per cent. According to the study, 64 per cent farmers said the supply of fish feed, fish related goods and shrimp were disrupted due to irregular movement of vehicles during the pandemic, resulting in disruption of fish production.

Besides, cultivators have been forced to sell their fish at low price as the purchasing power of people decreased, the report said, adding that cost of fish feed increased excessively while production cost increased manifold than the usual period earlier. The virus outbreak caused immense trouble for the fish market, farms faced increased loss for delayed harvest, markets are still volatile due to repercussion of supply chain disruption, local demand increased, shrimp export plummeted and seed prices went up, the study observed.

Bangladeshi fish farmers produced 4.38 million tonnes of fish in the fiscal year 2018-19, the study said. It suggested providing bank loan to fish cultivators, increasing the government incentives and their proper implementation, reducing prices of fish feed, imparting proper training to cultivators, maintaining the supply chain and ensuring smooth market management. The study identified a lack of quality seeds, poor animal health, low availability of high-quality feed, post-harvest loss and less-developed cold chain facilities as major bottlenecks of the sector. The study also presented opportunities for Dutch stakeholders in the aquaculture sector ranging from facilitating training programs, setting quality and regulatory protocols, expanding use of improved technology, and technical assistance in identification and prevention of diseases.

URL: <https://thefinancialexpress.com.bd/economy/pandemic-hits-hard-bangladeshs-aquaculture-sector-study-1619240291>

Bangladesh: Dutch investors urged to invest in aquaculture sector

Experts on Wednesday urged Dutch investors to invest in Bangladesh's aquaculture sector for steady growth and diversification, as the country faces trouble in its aquaculture sector due to the Covid-19 pandemic. Larive International, on behalf of the Embassy of the Kingdom of the Netherlands in Dhaka, and LightCastle Partners jointly held a webinar titled "Opportunities in the Aquaculture sector in Bangladesh" to disseminate the findings of a study, said a press release. The study was titled "Opportunities in the aquaculture sector in Bangladesh." The study projected the per capita fish consumption of Bangladesh to grow to 23.1 kilograms per day by 2025 from 21.8kg a day in 2019, facilitated by a projected growth in fisheries production of 5.67 million tons by 2024, an annual production growth of 5.2%. But Covid-19 has greatly disturbed the fisheries market, increasing its consumption while also increasing prices of fish feed drastically, the study said. Farms faced increased loss due to delayed harvest, markets are still volatile due to repercussion of supply chain disruption, local demand increased, shrimp export plummeted and seed prices increased, the study said, calling for taking necessary steps. The study also identified a lack of quality seeds, poor animal health, low availability of high-quality feed, post-harvest loss and less-developed cold chain facilities among some of the critical bottlenecks of the sector.

It also presented opportunities for Dutch stakeholders in the aquaculture sector ranging from facilitating training programs, setting quality and regulatory protocols, expanding use of improved technology, and technical assistance in the identification and prevention of diseases. The report contended that Dutch stakeholders can also support the sector's growth by investing in agro-logistics, building cold chain solutions, and strengthening capacity throughout the value chain by providing technological, business development, and knowledge-sharing support. The study's outcome will be to help match and connect Bangladeshi and Dutch partners to act upon the study's recommendations and jointly address the sector bottlenecks to achieve the full potential of Bangladesh's aquaculture sector. Harry Verweij, ambassador of the Netherlands to Bangladesh; M Riaz Hamidullah, ambassador of Bangladesh to the Netherlands; spoke on the occasion. The key speakers were Matthias Brienens, director of Larive International; Zahed Amin, director of LightCastle Partners; and Saif Nazrul, senior business consultant and project

manager at LightCastle Partners. “Time is indeed ripe for the Dutch actors to engage in Bangladesh as we strive to scale higher as a key aquaculture powerhouse,” said M Riaz Hamidullah, ambassador of Bangladesh to the Netherlands.

URL: <https://www.dhakatribune.com/business/2021/04/21/dutch-investors-urged-to-invest-in-bangladesh-s-aquaculture-sector>

Bangladesh: WorldFish to improve harvest management by procuring 160,000kg fish

WorldFish has initiated the process of procuring 160,000kg of fish from farmers in Farmer-to-Farmer (FtF) zones as part of its response to poor harvest management amid Covid-19. The target is the betterment of poor fish farmers as well as the betterment of the aquaculture industry of Bangladesh, said speakers at a virtual program on Monday. This initiative is part of the USAID funded project, “Feed the Future Bangladesh Aquaculture and Nutrition Activity,” which has a fund of \$24.5 million. The FtF zone consists of 21 southern districts under three divisions and two other districts of Chittagong. The million-dollar project, starting on February 6, 2018, has so far invested \$2.42 million in the aquaculture sector, engaging 236,530 producers, including 3.76% of women and 4.11% of youth, the keynote report read. Some 9694 farmers (77% women) were trained on Carp Mola polyculture technology, improved hygiene and nutrition practices. Fish sales earned in 2020 after using improved technology and management practices amounted to \$155,213,875, the report noted.

Although the project is running well despite the risks posed by Covid-19, there are challenges, such as access to finance and slow technology adoption. Some other challenges include difficulty accepting women as sellers, farmers not accustomed to supplying fish according to specifications (size, piece), poor post-harvest management, storage and processing, supporting women to achieve gender equality, said speakers at the program. The goal of the project is to achieve inclusive aquaculture sector growth through a market system approach. Md Nurul Bhuiyan, senior manager (Market Systems, Aquaculture Activity) of WorldFish said: “We are trying to have good relations develop between the government and aquaculture farmers. We will continue to fulfill our duty for the betterment of the fisheries sector.” Muhammad Khan, acting director of USAID Office of Economic Growth, and Maksudur Rahman, country director of USAID, spoke among others. Since the inception of this five-year project, WorldFish has been collaborating with 68 partners ranging from financial institutions, fisheries feed, input suppliers, retailers, fisheries and aquaculture machinery manufacturers at the local and national levels.

URL: <https://www.dhakatribune.com/bangladesh/2021/04/19/worldfish-to-improve-harvest-management-by-procuring-160-000kg-fish>

Bangladesh: Khulna shrimp farmers fighting to regain business amid pandemic

The shrimp farmers in Khulna district are struggling to cope up with the Covid-19 pandemic effect amid the low price of shrimp. At the beginning of the pandemic, the shrimp farmers were counting a huge loss due to the high price of fish fry and fish feed and the drop in shrimp prices

also added to their woes during the outbreak. Fisheries officials, frozen shrimp export organizations and shrimp farmers said frozen shrimp export is the second largest sector in the country and shrimp is being cultivated in Khulna, Bagerhat, Satkhira and other districts in the country. The frozen shrimp organisations have stopped collecting shrimp from the farmers. As a result the prices of shrimp have fallen in the local market, which affected the shrimp farmers badly. Toufique Mahmud, fish inspection and quality control inspector, said a total of 29,540 tons of shrimp has been exported from Khulna region in the 2019-2020 fiscal year. The market value of the shrimp was Tk 2,360 crore. But in the current 2020-2021 fiscal years, some 21,490 metric tonnes of shrimp has been exported and the price of the shrimp was found Tk 1,571 crore, which showed a good sign in the export sector, he said. According to the sources from Fish inspection and quality control office under Khulna region, the government earned Tk 2,290.20 crore after exporting 29006.82 tons of shrimp in the fiscal year 2018-2019, Tk 2,488.66 crore after exporting 29200.78 tons in 2017-2018, Tk 2588.24 crore after exporting 30,217.07 metric tons of shrimp in 2016-2017 and Tk 2,542.74 crore after exporting shrimp of 31686.74 tons in the 2015-2016 fiscal year. In 2014-2015 the government earned Tk 2,542.89 crore after exporting 31,686.74 metric tonnes of shrimp, and Tk 2,700.22 crore in 2013-2014 by exporting 32,802.81 tons of shrimp.

Mohammad Mazinur Rahman, deputy director of fish inspection and quality control office, Khulna, said “The shrimp export has declined in a remarkable position in the first two to three months due to Covid-19 pandemic but later it came to normal and the overall export number is better now.” Koushik Bagchi, a shrimp farmer in Dumuria upazila, said “I have started to cultivate shrimp in my enclosure since 1997 as Galda and Bagda shrimp cultivation has proved to be a profitable business. Though we have suffered a loss due to pandemic as the price of 20 grade shrimp was sold at Tk 520-530 which was Tk 830-840. My monthly income at the beginning was Tk 1.5 lakh but during the pandemic period it comes down to Tk 50,000.” “Now I have taken preparation to cultivate shrimp to earn profit and developed fish enclosures,” he said. Hridoy Sing, another fish farmer, said “We have been going through some problems in selling shrimps during the pandemic and counted a huge loss in the past several months. I hope that we can earn more in the New Year but it did not happen.” Mohammad Abu Bakar Siddique, upazila fisheries officer in Dumuria Upazila, said “The farmers have to purchase the shrimp fish fry at a high price. In the past, one thousand fish fry was being sold at Tk 1000 but now it is being sold at Tk 3,000. Besides, the price of fish feed is also high which is responsible for the loss.” Now one kg good quality shrimp is being sold at Tk 500-700 which was earlier Tk 1600-1800, he said. Already the government has disbursed a stimulus package among the affected farmers and Tk 6.22 crore has been provided to 4,114 farmers under six categories in Dumuria upazila. Mohammad Abu Syed, Khulna district fisheries officer, said “The fish farmers failed to collect shrimp in the right time due to covid-19 pandemic situation. Besides, there were some barriers in the shrimp cultivation including feed crisis and labour crisis which causes a loss in this sector.”

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/04/19/khulna-shrimp-farmers-fighting-to-regain-business-amid-pandemic>

Bangladesh: Hilsa production growth may face threat

The hilsa production might face serious threat in future for the degradation of the water quality of major rivers like the Padma and Meghna caused by siltation, pollution and sea level rise. The Bangladesh Fisheries Research Institute's ongoing research found that the decrease in the depth in the rivers, pollution of their water and intrusion of brackish water for sea level rise are threatening the hilsa production. In the fishing season in September 2020, the BFRI researchers found no hilsa in the Meghna near Gajaiya and Satnalini in Munshiganj for fall of the water quality of the river water in these regions even though the nation had a record hilsa production of 5.5 lakh tonnes in that year. BFRI researchers found fall of number of hilsa in the upper part of the Meghna and increase of migration of the fish towards the Padma through Sharaitpur district where the pollution and siltation level of the Padma were lower than that of the Meghna flowing through industrial zones like Munshiganj, Narayanganj and Narshingdi. 'The hilsa is a hyper sensitive and highly migratory fish. It changes routes very frequently if it senses a little change in its habitat,' BFRI chief scientific officer Md Anisur Rahman told New Age on Saturday. 'Water quality samples collected from Gajaria and upstream of the Meghna indicated the existence of high level of contaminants dumped into the river or carried into by the Buriganga and Sitalakhya from the industrial zones of Gazipur, Narshingdi, Dhaka, Narayanganj and Munshiganj,' Anisur Rahman said.

The depth of the river near Gajaria also decreased due to a huge volume of sedimentation, Rahman said, adding that his recent study revealed that 39 per cent fall in water flow was caused by sedimentation, which led to 26 per cent fall in the landing of hilsa. But in September 2020, BFRI researchers found hilsa even in the River Mahananda near the Indian border of Chapai Nawabganj following an increase in the flow of the River Padma as India opened the Farakka Barrage. Between 1997 and 2003, however, no hilsa was found in the Padma. 'The fish species again started migrating to the river after their production increased by giving protection to the mother hilsa, jatka in the rivers and at the sea,' Anisur Rahman said. But, such artificial intervention would not give much benefit in future unless quality of water of the rivers continues to worsen and their depths kept decreasing, said Rahman. The BFRI data shows that the production of the national fish hilsa dropped down to less than two lakh tonnes during the early years of the 21st century. After giving protection to mother hilsa fish and jatka for five months in the rivers and in the sea by providing food incentives to the fishermen, hilsa production increased by almost 7.11 per cent in the past one decade. In 2020-2021 Fiscal Year hilsa production stood at 5.5 lakh tonnes, the BFRI data showed. The environmentalist, however, demanded the government strictly enforce laws for controlling the production of current nets and river pollution and ensure the navigability of the rivers allowing tides to increase. The government, they said, must review the development of power plants in the coastal belts as those would have a serious impact on hilsa landing and breeding as the fish migrates towards Bangladesh from the bay through some major rivers located in the Barishal division just for breeding and feeding purposes. 'The government took suicidal decisions one after another without considering their consequences.'

Development of so many power plants and the resultant pollution of the river water will force the hilsa to further migrate their routes towards the west which would seriously affect hilsa production in the country,' Bangladesh Paribesh Andolan general secretary Sharif Jamil said. Fisheries and livestock minister SM Rezaul Karim claimed that the incumbent government initiated continuous and effective programmes under the Hilsa Fisheries Management Action

Plan for giving protection to the mother hilsa, spawning and jatka for five months in the sea and in the rivers of Bangladesh. In the past 11 years since 2009, the fisheries and livestock ministry distributed 3.55 lakh tonnes rice among fishermen in 36 districts only for giving protection and the coverage limit further increased this year, he said. The government also declared six hilsa sanctuaries in the Padma, Meghna, Kalabadar, Harmanik and Tentulia rivers and increased the period of ban of hilsa netting, said Rezaul Karim. 'The ministries concerned have also been requested for taking measures to address river pollution, ensuring navigability and mitigate the impact of climate change,' Rezaul Karim said. Deputy minister for water resources AKM Enamul Hoque Shameem said that the government under the delta plan would control pollution and bring back navigability to all the rivers. 'No power plants were developed after conducting the environmental impact assessment,' Shameem said. The government, he said, was seriously dealing with the climate change issue and water sharing with India.

URL: <https://www.newagebd.net/article/135651/hilsa-production-growth-may-face-threat>

India and Bangladesh: John Kerry appeals to Bangladesh to stop coal- fired power plant near mangrove forest

The Bangladesh government has taken up various initiatives to protect the Sundarbans mangrove forests. But at the same time, it is setting up a coal-fired power plant at Rampal near the forests. Experts have repeatedly said that the power plant will put the mangrove forest at risk, but the government has paid no heed. During his six-hour trip to Dhaka on April 9, US President Joe Biden's special envoy for climate change, John Kerry, bluntly raised the Rampal plant issue during his official talks with Foreign Minister AK Abdul Momen, according to sources present at the talks. Present at the meeting were the State Minister for Environment, Forests and Climate Change, Md Shahab Uddin, the State Minister for Foreign Affairs Shahriar Alam and Foreign Secretary Masud Bin Momen

However, Kerry didn't raise the Rampal plant issue in his talks with Prime Minister Sheikh Hasina. But he did say in a general way, that coal-fired power plants are one of the main causes of environmental damage. He drew attention to the US opposition to coal-fired power plants. The Bangladesh Foreign Minister, Abdul Momen, on his part, highlighted the various steps taken by Bangladesh to tackle threats from climate change and to protect the Sunderbans. At this point Kerry said that he was confused about Bangladesh's stance on the Sundarbans. On the one hand it is taking steps to protect the forest, and on the other it is taking up projects like the Rampal coal-fired power plant. 'How is this possible', he asked. Several sources present at the meeting said that John Kerry raised the Rampal issue again towards the end of the talks. 'Can I ask an outrageous question? Can you stop Rampal?'

John Kerry was then told that Bangladesh has always given importance to environmental protection. Despite resource constraints, various steps have been taken to face the climate change challenge. The protection of the Sundarbans is being given due importance in the construction of the Rampal power plant, the Bangladesh Foreign Minister said. Several sources in the government, on condition of anonymity, told Prothom Alo that at present, work on the Rampal power plant has advanced considerably. The government would not be able to do anything about

it now, even if objections were raised, they added. Earlier in 2017, the former US Vice President, environmentalist Al Gore, had appealed to Prime Minister Hasina to halt the construction of the Rampal power plant. He had made this appeal in June that year while sitting next to Sheikh Hasina at a working session in the World Economic Forum held in Davos, Switzerland. Prime Minister Sheikh Hasina asked Al Gore to visit Bangladesh to see the Sundarbans and see if the project is harming the environment.

In 1997, the United Nations Educational, Scientific and Cultural Organization (UNESCO) declared the Sundarbans as a World Heritage Site. The Bangladesh Power Development Board and India's National Thermal Power Corporation are jointly constructing the 1320 MW power plant at Rampal in Bagerhat, next to the Sundarbans, amidst opposition from environmentalists at home and abroad. UNESCO has been raising objections to the project since 2018. A study carried out by UNESCO and the International Union for Conservation of Nature (IUCN) on the project says that it will do irreparable harm to the Sundarbans. This may also cause the Sundarbans to lose its status as a World Heritage Site, UNESCO has repeatedly warned. Speaking to Prothom Alo a member of the national committee for the protection of the Sundarbans and general secretary of Bangladesh Paribesh Andolan, Sharif Jamil, said that top scientists of the world have observed that the technology used in the Rampal project is of low standard. In most countries coal-fired power plants are being closed down.

URL: <https://menafn.com/1101916537/John-Kerry-appeals-to-Bangladesh-to-stop-coal-fired-power-plant-near-mangrove-forest>

Bangladesh: Strict policy on importing wild life a must

THE reported commercial farming of invasive fish is likely to further endanger the aquatic biodiversity unless the government takes immediate steps against it. A probe report of the Department of Fisheries has found that the highly invasive suckermouth catfish, globally recognised for rapidly degrading aquatic ecology and biodiversity, is in commercial production in Bangladesh. The protracted breeding period, its ability to survive in low oxygen and high toxicity in water has allowed the fish to establish natural population in Bangladesh. The probe conducted in and around the capital found evidence that hatchers are farming certain varieties of the species alongside *Telapia* for commercial purposes. The report concludes that the species has colonised the local fish habitat as the problem has for long been overlooked and recommends an immediate ban on commercial farming. The probe report of the fisheries department acknowledges its own negligence in recognising a problem that was detected decades ago and highlights the regulatory failure and lack of guideline in importing and cultivating wildlife specimen for commercial purposes.

The suckermouth catfish, a native fish of South America, was originally imported to Bangladesh as an ornamental fish for the household aquarium and was first sighted in open water during the early 1990s. Experts consider the fish as a major threat to aquatic lives and biodiversity as the rapid propagation of the catfish can trigger an immediate food crisis for native algivores. The invasion may eventually threaten the survival of indigenous fish varieties including ruhi, catla, mrigel and hilsa. This is, however, not the first case of invasion of alien fish in the water bodies

of Bangladesh. Earlier, the farming of omnivorous African catfish and South American piranha created similar concern. The government, three decades after its introduction, banned farming of African magur in 2013. The decision to ban the farming of invasive alien species was welcomed by many, but it also highlighted a lack of foresight of the government. A thorough aquatic biodiversity impact assessment was needed, but the government has introduced a new fish variety for commercial farming without a long term assessment. In general, the agencies concerned are not proactive in preserving the indigenous fish varieties that are common source of fish protein for the working class people in Bangladesh.

It is commendable that the fisheries department has taken a proactive role and conducted a probe to investigate the scale of the invasion of suckermouth catfish. Since the scope of the study was geographically restricted, the government must immediately arrange a nationwide assessment to have a better understanding of the scale and number of hatcheries involved in commercial production of the hazardous species. It must also quickly enforce a ban on the commercial farming of the fish as recommended by the probe committee. However, there is an urgent need for a legislation to prevent the release of ornamental fishes that can damage the aquatic ecology of Bangladesh.

URL: <https://www.newagebd.net/article/135204/strict-policy-on-importing-wild-life-a-must>

Bangladesh: Commercial production of Suckermouth Catfish causes concern

The highly invasive suckermouth catfish, globally recognised for rapidly degrading aquatic ecology and biodiversity, is in commercial production in Bangladesh, revealed a government probe. The alien fish, once introduced for ornamental purposes for aquarists, is now naturally breeding and is found in almost all water bodies except in the coastal areas, a government probe said. ‘Fries of suckerfish (suckermouth catfish) are being produced at hatcheries in Mymensingh, Noakhali, Lakshmipur, Cumilla, Bogura and Naogaon and through individual initiatives who are farming at their houses,’ read a paragraph of the report on the probe conducted by the Department of Fisheries. The investigation was launched in late December 2020 after the strange-looking armoured catfish was frequently spotted in rivers, sparking social media concerns and mainstream media coverage of the alien fish. The probe report submitted on February 28 made half a dozen recommendations including an immediate ban on the import, production and marketing of the catfish.

The report discussed evidence, including interviews of hatchers and ornamental fish traders of Dhaka’s Katabon, regarding the fish’s secret but widespread commercial farming. Focused on field inspections confined to Dhaka and adjacent areas, the probe, carried out by two fisheries officers, also considered reports from their local offices. ‘We do not know how many hatcheries or individuals are involved in Suckermouth catfish farming. A countrywide study is needed to get a complete picture of it,’ said Sarker Mohammed Rafiqul Alam, who headed the probe. One of the hatchers interviewed in Feni admitted to the government investigators about producing and marketing a certain variety of the species other than the one with black stripes. There is also evidence of the catfish being farmed alongside Tilapia in Keraniganj, where the presence of the catfish can be seen around the year in rivers and canals. The fish is also found year-round in the

River Buriganga and the Turag, though its presence dramatically increases between June and November, according to the government report. The government investigators went searching in a number of rivers, canals and ponds in and around Dhaka and found the fish in five of the 11 spots. They caught the biggest one measuring over 1.5 feet in a Badda pond. The catfish was also found in Uttara, Dhaka Cantonment, DND canals and Savar.

The presence of the fish was also confirmed by district offices of the fisheries department in Narayanganj, Netrokona, Kishoreganj, Moulvibazar, Sylhet and Habiganj. Bangladesh Fisheries Development Corporation confirmed that they found the fish in Kaptai Lake with the largest one caught in 2017 measuring nearly 1.5 feet. Citing individual studies, the government probe said that the fish was also spotted in the River Padma, the Meghna and many other rivers and canals in Bogura, Gaibandha, Rajshahi and Jhinedah between 2007 and 2012. ‘The invasion has occurred over the years as we overlooked and neglected the problem, allowing it to grow out of proportion,’ the report concluded. On the characteristics of the catfish, the report said that it burrows as deep as 1.5 meters into banks of water bodies for laying eggs over a prolonged breeding season extending from March to September. A female can lay up to 3,000 eggs with males guarding their burrows until the eggs are hatched but their fries learn to move around in the water on their own, according to the report. The fish feeds on phytoplankton, detritus, algae and eggs of other fishes, the report said, adding that it loves to scrape floors of water bodies for food, turning water turbid and uprooting aquatic plants, home to aquatic lives and local fishes.

Covered in bony plates, the report said, the fish is the last target of predators and it can easily kill water birds by moving its bony dorsal fin. The fish can survive with minimum oxygen for its blood contain high levels of glucose and lactate, said the report. In 2018, the USA categorised a species of the catfish, *Hypostomus plecostomus*, highly risky considering its ecological impacts, including the ability to rapidly monopolise nutrient resources. The government probe said that the mostly found species of the catfish in Bangladesh is *Pterygoplichthys pardalis*, also known as the Amazon sailfin catfish. Individual researches reported spotting two more species of the catfish, including the one the USA consider highly risky. In Mexico the annual loss from disrupted freshwater fishing stood at \$16.4 million after the proliferation of the catfish. The UK-based Centre for Agriculture and Bioscience International said once established in nature the removal of the catfish is likely to become impossible. The government report recommended consumption of the catfish as food for a measure to control its population citing its high food value in its native South America.

URL: <https://www.newagebd.net/article/135124/commercial-production-of-suckermouth-catfish-in-bangladesh-causes-concern>

Bangladesh: Jatka fishermen mend ways, now guard fish population

Fishermen who previously caught ilish fry, called Jatka in Bangla, have renounced their previous ways and are trying to motivate others to follow suit. A total of 330 selected fishermen from 15 upazilas of 6 coastal districts, including Bhola, Barishal, Patuakhali, Chandpur, Laxmipur and Shariatpur, are working to save Jatka Ilish. Rechristened as community fish guards in 2016, their force is increasing in number each year. They were formed under the USAID-funded ECOFISH

Project, jointly implemented by the Department of Fisheries and WorldFish. It is contributing significantly to protect the Jatka ilish during the sanctuary ban period, between March to April, and brood Ilish during the peak spawning season. An official of WorldFish told Dhaka Tribune that at first, there were only 20 community fish guards, but now it has reached 330. They get training on co-management activities of Jatka and brood Ilish (Ilish) safeguarding, Ilish conservation policy and fisheries law, importance of Ilish sanctuary, implementation of their duties and responsibilities, role of fisheries department and law enforcement agencies, and coordination & communication, he also said. They have also been provided with identity cards, trousers, towel, umbrella, apron, shoes, and flashlight from the project for effective delivery of their duties, said the official. “I was not aware about Jatka conservation earlier, but I have received training about various aspects of fish and biodiversity conservation through CFGs. Now I am working actively to conserve Ilish and raise awareness to save Jatka and its sanctuaries,” said Roman Bepari, a fisherman from the community fish guard program of Kedarpur village, Shriyatpur district.

According to the Department of Fisheries, like the previous years, this year, the government is observing a ban on fishing for all kinds of fish, including Ilish, in five Ilish sanctuaries in six districts of the country for two months (March 1 to April 30) to protect Jatka. Under this ban, all kinds of fishing, including Ilish have been stopped in the five sanctuaries located in the Meghna-Kalabador-Gajaria rivers in Hizla-Mehendigonj, Barishal, the Meghna river in Chandpur, Laxmipur, Bhola, the Tentulia River in Bhola, and the Padma river in Shariatpur. The ban period in the Andharmanik river, Patuakhali is observed during November-January. The director general of the department recently sent a letter requesting the concerned fisheries officials to add community fish guards as assistants of the fisheries department to protect Ilish and Jatka during the ban periods. Honorarium will be provided to these fishermen working for the protection of Ilish from the ‘Ilish Conservation and Development Fund’ created from the USAID ECOFISH project jointly implemented by the Department of Fisheries and WorldFish. “The government banned all types of fishing, including Ilish, for a total of 22 days from October 14 to November 4, last year during the main breeding season. During that time, community fish guards assisted the Department of Fisheries and law enforcement agencies,” said Masud Ara Momi, deputy chief (Ilish) of Department of Fisheries Bangladesh. She added that this community participation initiative of the government will play a pivotal role in protecting the sanctuary of Ilish and developing fishery resources.

URL: <https://www.dhakatribune.com/bangladesh/2021/04/07/jatka-fishermen-mends-ways-now-guards-fish-population>

Bangladesh: 80pc marine fishers don't have enough safety equipment

Speakers at a virtual discussion yesterday underscored the need for providing technological, financial and educational support to those working in artisanal marine fisheries to ensure their human rights and enrich their livelihoods. Pointing out the contribution of coastal areas' fisher folks who risk their lives to provide highly nutritious seafood to the market, the speakers called for recognition of people employed in the small-scale coastal fisheries sector as labour force by amending the Bangladesh Labour Act 2006. They made the remarks at a virtual discussion titled

“Sector-wide impact assessment (SWIA) of artisanal marine fisheries sector of Bangladesh” organised by Mansher Jonno Foundation (MJF) and The Daily Star. The SWIA was carried out between September 2018 and March 2021 under a project of the Danish Institute for Human Rights (DIHR) and MJF. The assessment — consisting of a survey, focus group discussions, interviews and analyses — was carried out among 1,400 men and 600 women in Cox’s Bazar and Barguna. Brief findings along with some recommendations were presented in the discussion.

“About 80 percent fishermen feel they have insufficient safety equipment on board and half of the fishermen said there is no warning system that reached them at sea,” reads the assessment, adding that 97 percent fishermen found harbour facilities unsafe. They go fishing with fear of violent encounters with robbers at sea and death by drowning. During fishing, they lack adequate food, drinking water and spaces to rest. One-third of respondents said they are underpaid and caught in cycles of debt. Fishers are not recognised as labourers under the existing labour law and that is why they could not undergo the official registration procedure required for trade unions. Almost all the fishermen reported fishing as their main source of income, but it does not generate enough money to cover their families’ basic expenses, reads the assessment. About 70 percent reported having lost half or more of their income during the Covid-19 pandemic, while 74 percent did not receive any social security allowances. Wives of fishermen live with a high degree of insecurity, and according to the report, 68 percent of women respondents report that they have experienced problems and harassment when family members go to sea.

MJF Executive Director Shaheen Anam requested the government to take the recommendations of the SWIA into cognisance and incorporate those in the appropriate policies. Professor Abdul Wahab, team leader of Worldfish’s Ecofish project, said the women are the worst sufferers as many fishermen face disastrous accidents while fishing at sea. He suggested women of the fishing villages form co-ops and communities to help each other at the time of need. National Operations Officer of Food and Agriculture Organisation, Begum Nurun Naher, said fishermen often go out to sea without any proper communication system, and as a result they often encounter disastrous weather at sea. Dr Samiya Ahmed Selim, associate professor and director of Centre for Sustainable Development, University of Liberal Arts Bangladesh (ULAB) suggested facilitating alternative livelihoods for women in fishing villages to overcome their financial insecurity. Emphasising the need for pollution reduction at sea, Dr Md Niamul Naser, professor and chairperson of Dhaka University’s zoology department, said valuable fishing grounds are being lost to pollution, adding to the misery of fishermen. Saying that many fishermen get trapped by dadon (loan) system, Rezaul Karim Chowdhury, executive director of COAST Trust called for an integrated plan to ensure human rights in the small-scale fisheries sector. Jatiya Sramik Jote General Secretary Naimul Ahsan Jewel said fishermen of coastal areas must be included in the development process if the government wants to carry on its pledge to leave no one behind. Sille Stidsen, senior adviser of human rights and development at Danish Institute for Human Rights (DIHR) and Towfiqul Arif, additional secretary at Ministry of Fisheries and Livestock also spoke at the event.

URL: <https://www.thedailystar.net/city/news/80pc-marine-fishers-dont-have-enough-safety-equipment-2074025>

Bangladesh: Experimental vannamei shrimp cultivation underway

Bangladesh has finally started to farm vannamei shrimp on pilot basis following pleas from exporters as locally grown black tiger shrimp and freshwater prawn are unable to compete with cheaper varieties in western markets. Purchased from Thailand, the first 10-lakh batch of vannamei was released in four ponds of Bangladesh Fisheries Research Institute (BFRI) in Paikgachha upazila of Khulna. The project will test whether whiteleg shrimp can cope with the local environment. If successful, the initiative is expected to breathe life back into the ailing industry. “One of our main challenges is the shortage of raw materials. We will get raw materials for processing in my factory if our pilot farming is successful,” said Shyamal Das, managing director of MU Seafoods. MU Seafoods partnered with Sushilan, a local non-government organisation, in 2019 to begin the experiment on vannamei farming. The Department of Fisheries (DoF) gave the go-ahead to culture whiteleg shrimp in the southwestern division of Khulna, a major farming region for export-oriented shrimp, after years of concerns that foreign species may have a negative impact on their native counterparts such as black tiger shrimp. The project, set to begin last year, had been delayed by early rainfall and the ongoing coronavirus pandemic. Last year, the fisheries office permitted the Chattogram-based Agribusiness Enterprise Development and Services to cultivate vannamei shrimp in an isolated location at Khuruskul of Cox’s Bazar under the supervision of the DoF and Bangladesh Fisheries Research Institute (BFRI). The firm is yet to complete its procedural documentation to start the pilot farming.

The move comes after repeated pleas from shrimp processors and exporters to allow vannamei cultivation as export earnings from local varieties have fallen consistently since fiscal 2014-15. This is because local varieties are priced higher than the vannamei farmed in huge quantities mainly in China, Southeast Asia, India and some Latin American regions. Grown by more than eight lakh farmers on 2.72 lakh hectares of land in Bangladesh’s Southwest region to serve consumers in EU and US markets, shrimp fetched Bangladesh about \$550 million through its export in fiscal 2013-14. The receipts dipped to \$333 million in fiscal 2019-20, showed data from the Export Promotion Bureau (EPB). During the July-February period the same year, shrimp exports fell 18 per cent year-on-year to \$224 million. Das said the pilot project gives hope for shrimp processing plants and farmers for better productivity. MU Seafood invested nearly Tk 1 crore to prepare the ponds for the project.

Company officials said before they released the postlarvae vannamei, samples were sent to the Bangladesh Fisheries Research Institute (BFRI) and Bagerhat Shrimp Research Center for testing. “The test results will actually tell you when to start the next phase in their growth,” said Pabitra Kumar Das, senior fisheries officer of Paikgachha. He also said the nursing was done at the BFRI ponds to prevent it from coming in contact with the environment and harming it. Processors said farmers can grow shrimp once a year whereas vannamei can be cultivated three times a year. At the same time, productivity of vannamei is much higher than shrimp grown in ordinary ponds. Regular shrimp cultivation yields 300-400 kilogrammes per hectare but in case of vannamei, the yield per hectare is 7,000-8,000 kilogrammes. “We do not have an alternative to run exports without vannamei cultivation and I think it won’t have any effect on the environment,” said Mostafa Nuruzzaman, chief executive officer of Sushilan. Kazi Belayet Hossain, former president of the Bangladesh Frozen Foods Exporters Association, said the

production cost of black tiger shrimp is higher than that of vannamei. “And we are unable to cater to the global market at this price. People want shrimp at cheaper rates,” he said. Hossain added that vannamei was produced in 67 countries and accounted for 77 per cent of the global shrimp production in 2017.

URL: <https://www.thedailystar.net/business/news/experimental-vannamei-shrimp-cultivation-underway-2072853>

Bangladesh: IPRS technology brings new hope in fish farming

In the first week of February this year, I went to Akbar Hossain’s fish farm in Chapainawabganj’s Bulonpur where no one had to go down to the pond to catch fish and get wet. Everyone was fishing from the concrete platform on the banks of the ponds. Workers standing beside the makeshift channels beside the ponds were bringing the fish up using different nets, used for different varieties of fish from different channels and you would have been really surprised to see that. We are now at the age of the fourth industrial revolution. With the advancement of technology, revolutionary changes are constantly taking place in the field of production. Agriculture is becoming an important chapter in this century. With the advent of the internet of things (IoT), artificial intelligence technology (AI), farmers are looking forward in producing more by spending less from a small space or land. Landmark changes are taking place, especially in the farming sector. The practical application of technology that could not have been imagined even five years back is surprisingly becoming effective today through flourishing applications. The information about advanced technology in developed countries is spreading in every corner of the world. The educated young entrepreneurs of our country are also getting the latest news on the internet. It can be said that agricultural technology is constantly knocking on the farmers’ door. From fruits to poultry, dairy and fisheries, all sectors of farming are changing with the touch of technology. In recent times, the youth’s interest in fish farming is showing the dream of a new silver revolution. Fish farming technologies like Biofloc technology (BFT), Recirculating Aquaculture System (RAS) for indoor fish farming have become very popular. The bottom clean raceway system also became popular in time’s course. The main obstacle in fish farming is excess ammonia and lack of oxygen in the pond water or reservoirs. Somehow, if the amount of oxygen can be increased by removing ammonia waste from the water, it is possible to produce more. Akbar Hossain of Chapainawabganj has brought a new technology in fish farming, which is entirely a different one indeed, known as, in-pond raceway system (IPRS). Akbar is counting more profit by cultivating more fish in a small space.

Dear readers, you may remember, in November 2016, I visited Akbar’s fish farm and wrote about it. I was surprised to see the changing agricultural initiatives in the Barind region. Akbar was highly inspired by watching my programme Hridoye Mati O Manush (Soil & People in Heart) and built a huge fish farm with 36 ponds on 20 hectares of land. He has many other trees and fruit plants on his agricultural farm. He planted 400 malta plants right beside the ponds while 500 Vietnamese coconut plants are also there. There are 600 dragon fruit trees, papaya trees as well as lots of banana trees on the farm. He gets Tk 2 lakh (USD 2360) every year by selling the bananas. Akbar also has his rice mill in his agricultural compound. A beautiful pigeon house is there. In 2016, I was surprised to see his farm. Because, he started many new practices,

especially in fish farming. An aerator was used to provide adequate oxygen to the fish in all the ponds. When feeding fish, there was an auto-feeder and it was not a manual method of feeding the fishes. As a result, food wastage was prevented and a certain amount of food was given to the fishes at specific times. This time, when I went to Akbar's fish farm, known as Nawab Hi-Tech Fish Farm, I was amazed to see his new technology and great progress in fish farming. Akbar has revolutionized fish farming using in-pond raceway system technology. As far as I know, this is the first-ever fish farm in the country that is using IPRS. There are two farms in India and three in Pakistan that are using this technology, alongside the big game-changers like China. Akbar's farm is the largest in South Asia in terms of size. IPRS is an American fish farming technology. China has made great strides in fish farming over the past few years using technology and became quite successful. The speciality of this fish farming method is more quality fish can be produced in less water.

In these few years, the farm has become even bigger. Earlier, there were 36 ponds. Now they increased up to 43. Thirteen concrete channels have been already made in a 60 bigha (8 hectares) pond which follows the IPRS system. Rest of the ponds in the increased area are doing the regular fish farming. Artificial currents are being produced in the channels through raceway technology connected to the pipeline. Oxygen is always being created in the flowing water. The fish of the channel is getting the current and environment of the river. As a result, six times more fish can live there than that the usual one. There are different types of fish in each channel. Akbar said due to the provision of food and proper care with the help of technology, the fish grows fast and there is no outbreak of disease. Organic manure is made by filtering fish waste and leftover food from the water with the help of a machine, which is being used in the cultivation of vegetables on the banks of the pond. Each stage of fish farming is so transparent that the quality of the fish is always at the top. The fish bears a river-grown look and tastes the same as the river. I was talking to Akbar while walking along the paved edge of the channel. He said he went to China to check out the IPRS technology. Then he returned to the country and built a fish farm with this technology, imported from China last year. Chinese technicians and engineers came to Bangladesh and installed the equipment and tools, necessary for the IPRS. The investment for technology in the farm is more than Tk 5 crore (USD 560,000). Akbar wanted to start fish farming using IPRS technology from the beginning of 2020. But the impact of the coronavirus outbreak has delayed the process. He was saying that the amount of fish that can be produced in 600 bighas of water will be produced now in 60 bighas by using IPRS technology. It is possible to produce fish three times a year from each channel. In other words, fish can be farmed three seasons in a single year. Akbar's calculations say, for two seasons a year he will get 2,000 tonnes of fish from 60 bighas. Its market value will be about Tk 10 crore (USD 1120000). It means, he is expecting a profit of Tk 5 crore (USD 560000) in the first year.

In addition to food security, we now have to think about safe food. There is no alternative of using technology in the farming sector. In the last few decades, we have seen a trend of fish farming in different regions of the country and farmers are digging ponds on their cultivable lands. Although, we are moving onward to fish farming, we're losing croplands for agricultural production. If the farm is built with IPRS technology, more fish can be found in less space. It will not be necessary to dig thousands of ponds by destroying croplands. To make the fisheries sector more profitable, the government should take necessary steps for facilitating these technologies first and it would certainly open the door for fish export. Like Vietnam and

Myanmar, we can earn foreign exchange by exporting fish. During 1990 to 1995, we had to import Rui-Katla fish, worth crores of taka from India and Vietnam. Now there is no need for that. We have succeeded in meeting the country's demand. Fish farmers like Akbar are completely prepared to capture the quality fish market abroad. Now the first step is most required and that is to secure the international fish market through both public and private initiatives showcasing such brilliant efforts from Bangladeshi entrepreneurs working in this sector with the latest technologies the world has offered.

URL: <https://www.thedailystar.net/country/news/iprs-technology-brings-new-hope-fish-farming-2070833>

Bangladesh: Could floating gardens protect flood-prone communities ?

In flood-prone regions of Bangladesh, farmers and their families utilize a centuries-old tradition to reduce their vulnerability to climate change. Floating gardens — known as dhap, or locally as baira — have been used in south-central Bangladesh for 300-400 years, BBC reported. Farmers build their own floating gardens out of plants, and like rafts, the gardens fall in and out with the moving water, according to Ohio State News. In a study published recently in the Journal of Agriculture, Food and Environment, researchers interviewed families who use this farming method to determine how the gardens could provide food and income security, despite the impacts of a changing climate, like heavier rainfall and stronger cyclones, Ohio State News reported. “We are focused here on adaptive change for people who are victims of climate change, but who did not cause climate change,” Craig Jenkins, a co-author of the study and academy professor emeritus of sociology at The Ohio State University, told Ohio State News. “There’s no ambiguity about it: Bangladesh didn’t cause the carbon problem, and yet it is already experiencing the effects of climate change.” Two-thirds of Bangladesh is wetland and large parts of the land can be underwater for up to eight months a year, BBC reported. The country also suffers from poverty, where 48 percent of its population is landless. As climate change grows more severe, bringing stronger tropical storms to the region, it is estimated that one in seven people will be displaced by 2050, the Environmental Justice Foundation found, BBC reported.

But despite these challenges, farmers have implemented this sustainable, low-cost option as a means to survive. In their study, researchers suggest these floating gardens can provide both food security and income for rural households, Ohio State News reported. “It is very environmentally friendly – all the necessary inputs and resources are natural, and it does not create any waste or byproduct which can impact the environment negatively,” Fahmida Akter, a senior research fellow at the James P Grant School of Public Health at Brac University in Dhaka, told BBC about the floating gardens, which rely on water hyacinth, an aquatic plant, for support. Once farmers layer these aquatic plants about three feet deep to mimic a raised-garden bed, they then plant vegetables, such as okra, some gourds, spinach and eggplant, according to Ohio State News. The practice also contributes to local economies, giving middlemen a chance to buy and sell seedlings, villagers a chance to earn wages from building the beds and creates an income strategy for households, the researchers wrote. “In Bangladesh, a lot of small farmers that had typically relied on rice crops are moving away from those because of the effects of climate change and better returns from alternative crops,” Jenkins added. One floating garden farmer told

the researchers that he now earns four times the amount he did at the rice paddies, Ohio State News reported.

Floating gardens are not exclusive to Bangladesh. In southern Mexico, for example, farmers in the city of Xochimilco are reviving a similar practice that was first built by the Aztecs to meet food demand — a struggle ever since the beginning of the COVID-19 pandemic. “Now the virus is revealing the strength of this model in the midst of a crisis,” Atlas Obscura reported. While the gardens provide a reliable source of food for farmers impacted by both the climate and covid crises, the floating gardens are still in need of improvement. According to Pravash Mandal, a farmer in the Barisal district of Bangladesh, the gardens cannot withstand waves or heavy currents, BBC reported. Researchers call on NGOs and the government to provide support to help farmers develop floating gardens efficiently, noting their ability to create a “sustainable and lucrative income strategy for rural households,” in increasingly vulnerable, flood-prone communities in Bangladesh.

URL: <https://www.ecowatch.com/floating-gardens-bangladesh-flooding-2651320228.html>

Bangladesh: Fish production declined in Rangamati Kaptai Lake

The fish production in different lakes of Rangamati hill district has drastically fallen during last few years as the pollution has increased. The breeding of fish fries has been destroyed for the pollution of the lake. According to the Bangladesh Fisheries Research Institute (BFRI) Rangamati River Substation, the production of big fishes like Rui in the Kaptai Lake in 2002-03 was around 258 metric tonnes, which came down to 53.2 metric tonnes last year. On the other hand, the production of small fishes in 2002-03 was around 3,400 metric tonnes, which stood at around 7,374 metric tonnes last year. Currently the lake abounds with small fishes like Kechki, Chapila, Kanta Mailya, Desi Mala abound, while big fishes like Tilapia, Kalibaus Ayr, Bata and Foli fish are also found there. Other fishes which are found in the lake include Grass Carp, Silver Carp, Rajputi, Mozambique Tilapia, GIFT Tilapia, Mahashol, African Magur, Bighead Carp and Thai Pangas. According to the latest data from the BFRI, Kaptai Lake is home to 75 species of fish. Of these, 67 species of fish are local and eight are foreign. Goutam Chakma, a resident of Rangamati, relished fishes caught in Kaptai Lake, but he can't satiate his craving for fresh fishes from the lake anymore as many of the species which were previously available there cannot be found now. Goutam said, “Even around 10-12 years ago, big fishes like Chital, Mahashol could be found in different points of Kaptai Lake. I used to send fishes from the lake to my relatives across the country. But now we do not find big fishes in the lake, so I cannot send fishes even when my relatives request for them.”

Local traders and fishermen said filling up the bottom of the lake with wastes is destroying the fishes' breeding grounds. Meanwhile, the ban on catching fishes in the lake is not effective in preventing the fishermen from catching the fry released by the Bangladesh Fisheries Development Corporation (BFDC) in the lake every year. Asked about the extinction of various species of fish in Kaptai Lake, BM Shahinur Rahman, senior scientific officer at the BFRI Rangamati River sub-center, said although 75 species of fish were mentioned in the latest official report of the BFRI, not all of them are now found in Kaptai Lake. “Various species of fish

including Desi Mahashol, Madhu Pabda, Poya, Faisya, Tele Gulsa and Sada Ghaniya have disappeared from the lake. Meanwhile, Rui, Katla, Mrigel, Bacha, Pati Pabda and Bara Chital are among the species which are disappearing gradually,” said BM Shahinur Rahman. Meanwhile, the BFDC’s recent data mentions 42 species in the lake. Among them, several species of fish are no more found in the lake. For example, the annual account of the fishes caught in the lake does not include species like Shada Ghaniya, Mahashol, Sarputi, Magur, Common Carp, Poya, Faisya, and Kakila fish. Fishes like Silan, Desi Sarpunti, Ghaura, Baghair, Mohini Bata and Desi Pangas have almost disappeared from the lake. In the sixties, the Karnaphuli Hydropower Station in Kaptai was built by constructing a dam on the Karnaphuli River. As a result, a vast area in the Rangamati went underwater and created the lake, the largest man-made freshwater body in Bangladesh. The Bangladesh Fisheries Development Corporation (BFDC) started fish farming in the newly created Kaptai Lake. The Kaptai Lake has been contributing to the fish production and socio-economic development of the local people in Rangamati. About 22,000 fishermen make a living by fishing in this lake. Hari Jaldash, who has been fishing in the lake for the last 30 years, said, “The big fishes that I used to catch in Kaptai Lake in the past are no longer available. Fishes like Chital, Mahashol, Baghair, and Silver Carp are rarely found in the lake nowadays. Now the lake has become a sanctuary of fishes like Kechki and Chapila. We now mainly catch smaller fishes now.”

Destroyed breeding

The number of illegal establishments in the lake area is increasing, while the waste from Rangamati town is being dumped in Kaptai Lake, reducing the optimum depth of the water body. These are ruining the fish breeding sites there. Supriya Chakma, chairman of the Department of Forestry and Environmental Science at Rangamati Science and Technology University, said, “Earlier, there were many safe places for fish in the lake, but now the safe grounds for fish have been destroyed due to various man-made reasons including massive fishing, and increase in the presence of motor boats in the lake.” He also said, “Disposal of contaminated waste in the waterbody reduces the taste of fish, reduces its size, destroys natural breeding grounds and renders sensitive fish species extinct.” “At the same time, the lake’s size decreases and the fish habitat becomes smaller if grabbing the lake continues and the bottom of the lake becomes filled up. Dumping waste in the lake and erecting illegal establishments must be stopped if we want to save Kaptai Lake and its fishery resources,” he added. Rangamati Nagorik Odhikar Andolan’s Member Secretary Jisan Bakhtiar said, “The construction of residential and commercial buildings by grabbing the lake area, and dumping all the city’s waste into the lake is putting it at risk. If we cannot stop this now, there will be a difficult situation ahead.” Harunur Rashid, president of the Rangamati Fish Traders’ Cooperative, said, “There is a huge demand for big fishes in the market, but these fishes have become rare in Kaptai Lake.

The number of big fishes or deep-water fishes has been decreasing due to filling up the bottom of the lake.” Ineffective ban on catching fish is also harming the biodiversity of Kaptai Lake, alleged the traders. Harunur Rashid said, “If fries are released in the lake during the dry season, they get caught in the fishermen’s nets due to the scarcity of water in it,” said Harunur Rashid. The business leader opined that the three-month ban on fishing every year could be extended if necessary. In addition, the BFDC will have to take measures to prevent the fishermen from destroying the fry. “We want the number of big fish in Kaptai Lake to increase as before. But it

is not happening due to lack of adequate supervision of the authorities concerned,” Harunur Rashid added. Lieutenant Commander Touhidul Islam, manager of the BFDC Rangamati Marketing Center, said, “Currently there is an abundance of small fishes in Kaptai Lake. The main portion of our revenue comes from the small fishes. However, we have been releasing fish fry every year to increase the production of big fishes like Rui in the lake.” BFRI Rangamati River Sub-Station Chief and Senior Scientific Officer Md Azhar Ali said, “The average fish production in the lake has increased, but the abundance of big fishes has decreased. We are researching how production of fishes like Carp can be increased as it was in the past.” According to fishermen and traders, fish was produced in five channels of Kaptai Lake earlier but now it is being produced mainly in Kattali-Maini channel in Langdu upazila, while fish production in the other four channels has become relatively low. They said the breeding grounds in the channels of the Chengi and the Raingkhyang Rivers are almost destroyed as the river beds get filled up, reducing the water flow.

URL: <http://www.dailyindustry.news/fish-production-declined-rangamati-kaptai-lake/>

Bangladesh: Compliance certificate for exporting crab, eel mandatory under Chinese protocol

Export consignments of live crabs and eels to China will not be allowed without ‘clinical compliance certification’ by the state veterinary office, according to a protocol prepared by a Chinese authority. The General Administration of China Customs (GACC) has recently communicated this to the Bangladesh mission in Beijing. The Chinese side has agreed to register the five enterprises recommended by the Bangladesh side to export the eels and crabs to China, according to a letter sent by the Bangladesh mission in Beijing to the Ministry of Fisheries and Livestock. However, GACC urged the Bangladesh authorities to strengthen supervision of the export items and to implement various epidemic prevention systems in the export process, added the letter. The Chinese state entity also requested the Bangladesh authorities to conduct a study and give feedback on the draft protocol of quarantine and health requirements for edible aquatic animals to be exported to China, as per the letter. Contacted, deputy director of fisheries department Dr Md Neazuddin (fish inspection and quality control) said a process was underway to start the export of eels and crabs to China. The Chinese authorities recently sent a protocol in this regard, he said, hoping that the exporters would be able to send their consignments after signing the protocol.

The fisheries and livestock ministry is responsible for the inspection and quarantine of edible aquatic animals to be exported to China and the issuance of health certificates, mentioned the protocol. The FE has obtained a copy of the protocol. “The edible aquatic animals shall be examined clinically by an official veterinarian before export and confirmed to be healthy, and that no clinical symptoms of contagious diseases are found and they are suitable for transportation,” read the protocol. The protocol has mentioned that Bangladeshi exporters need to be more cautious about standards for exporting live crabs and eels to ensure uninterrupted supply of aquatic products to China, a senior official at the fisheries department said. China earlier imposed a ban on import of live mud crabs and eels from Bangladesh since, the Chinese authorities said, harmful bacteria were found in some consignments along with forged certificates. Some firms allegedly submitted such papers to the Chinese authorities while

exporting crabs and eel fish. The Chinese authorities found presence of contaminated substances, estradiol and cadmium in particular, beyond the acceptable limit for human health, the senior government official added. Live mud crabs and eels are usually exported by air. There are three labs to test the different export consignments of fish and other related products. The volume of export of eels and crabs to China was over Tk 2.33 billion in the last fiscal year. China is Bangladesh's largest trade partner with annual bilateral trade of over \$13 billion. In the fiscal year 2018-19, Bangladesh imported goods worth \$12 billion from China, as against exports valued less than \$1.0 billion to China.

URL: <https://thefinancialexpress.com.bd/trade/compliance-certificate-for-exporting-crab-eel-mandatory-under-chinese-protocol-1617166372>

Bangladesh: Ranks third, globally, in the production of freshwater fish

Despite being small in size and burgeoning in population, over the past 50 years since its independence Bangladesh has managed to overcome all odds to clinch the envious position of being among the world's top 10 in 13 sectors. This position has been created by the policies and decisions of the consecutive governments as well as the enthusiastic efforts of the people. And notwithstanding innumerable obstacles, the entrepreneurs have created a thriving private sector upon which the economy now stands. And the world watches this amazing economic growth in wonder, owing to the concerted efforts of all concerned. In some areas, Bangladesh's name comes immediately after China and India. And in some cases it even surges ahead of China and India to emerge at the top. Data and information from the UN Food and Agriculture Organisation (FAO), the Department of Agricultural Extension, the Export Promotion Bureau (EPB) and the Information and Communication Technology (ICT) department reveal Bangladesh's position among the top 10 in the world in 13 different areas.

Fourth in rice production

Rice is the staple food of Bengalis. When the population was 75 million after independence, there was a food shortage in the country. Food grains had to be imported. Now even though cropland has shrunk in area, Bangladesh is now self-sufficient in rice production. According to the US department of agriculture, in the 2019-20 fiscal Bangladesh produced 52.6 million (5 crore 26 lakh) tonnes of rice, the fourth highest production in the world. China ranked first, producing 148.5million (14 crore 85 lakh) tonnes and India drew up second 116.4 million (11 crore 64 lakh) tonnes. In a message on 22 February, Agriculturist Day, the prime minister Sheikh Hasina said, "The agro-friendly policies and incentives of the present government and the concerted efforts of the farmers and the agriculturalists, have contributed to achieving food autarky. Land is shrinking in this densely populated country. Even so, the increase in agricultural production has amazed the world."

First in hilsa

Bangladesh produces 86 per cent of the world's hilsa, that is, 533,000 tonnes. And in all likelihood it will be possible to produce 700,000 tonnes. Even four years ago Bangladesh would

produce 65 per cent of the world's hilsa. India ranks second in producing this fish and Myanmar third. Hilsa is also found in small amounts in Iran, Iraq, Kuwait and Pakistan.

Second in readymade garments

Bangladesh ranks second in the world in readymade garment exports. In the 2019-20 fiscal, Bangladesh exported readymade garments worth USD27.5 billion (USD 2,750 crore), which is 6.8 per cent of the entire world's readymade garment exports. China is the top exporter in this sector, accounting for 30.8 per cent of total readymade garment exports globally. Vietnam draws up third, accounting for 6.2 per cent.

Eighth in remittance

Over 10 million (one crore) Bangladeshis live in different countries all around the world. Most of them are migrant workers. They send their hard-earned wages to their families back home. Bangladesh ranks eighth in remittance. Last fiscal this remittance totaled around USD20 billion (USD 2000 crore). In the same fiscal, India earned USD78 billion (USD 7800 crore) in remittance, ranking at the top. China was second with remittance of USD67 billion (USD6700 crore).

Third in vegetables

Bangladesh ranks third in vegetable production, producing 16 million tonnes (1 crore 60 lakh) annually. China is the top vegetable producer in the world and India second. This success and variety in Bangladesh's year-round vegetable production has been possible due to the hybrid and high yield seeds produced by the private companies. Presently 16.2 million (1 crore 62 lakh) farmer families are involved in the production of 60 types of vegetables.

Sixth in potatoes

Bangladesh is now sixth in the world when it comes to potato production. In the year before independence, the country produced 900,000 tonnes and over the past 50 years this has gone up 11 times. According to FAO, last fiscal Bangladesh produced 12 million (1 crore 2 lakh) tonnes. China produces the most potatoes at 91.4 million (9 crore 14 lakh) tonnes and India second with 49.7 million (4 crore 97 lakh).

Second in jackfruit

Globally, 3.7 million (37lakh) tonnes of jackfruit are produced annually, and Bangladesh is the second highest producer of the fruit, producing 1 million (10 lakh) tonnes of the fruit in a year. India produces the highest amount of jackfruit at 1.8 million (18 lakh) tonnes. Indonesia and Thailand come up third and fourth respectively.

Eighth in mangoes

Bangladesh now ranks eighth in mango production. It produces 2.4 million (24 lakh) tonnes of the fruit a year. Ten years ago it was at the tenth position with a mango product of 1,255,000 tonnes. In 2018 it even took the seventh position. India tops the list in mango production, producing 15 million (1.5 crore) tonnes. China is the second. Mangoes are now cultivated all over Bangladesh. Previously the himsagar, gopalbhog, langra and fazli mangoes were grown in Rajshahi and Chapainawabganj. Now amrapalli is being extensively grown in the south and southwest districts of the country.

Eighth in guava

Bangladesh produces 10,47,000 (10 lakh 47 thousand) tonnes of guavas a year, placing at eighth position in the world. India comes first with 17.6 crore (1 crore 76 lakh) tonnes a year, and China second with 4.4 million (44 lakh) tonnes. Previously only local guavas would be grown in Bangladesh, but the Thai and Kg variety of guavas brought about a revolution. Bangladesh Agricultural University's Germplasm Centre has come up with 10 varieties of guavas. Guavas are mostly grown in the south and southwest districts of the country.

First in jute export, second in production

Bangladesh was once renowned for its jute, the 'golden fibre'. It is now the second largest producer of jute and produces 42 per cent of the world's jute, at 13,35,000 (13 lakh 35 thousand) tonnes. India produces around 2 million (20 lakh) tonnes, that is, 55 per cent of world production. China comes third with 45,000 tonnes. But Bangladesh ranks at the top in jute exports. It exports 285 types of jute products.

Second in goats' milk

After the BJP government came to power in India in 2014, cows no longer came from there to Bangladesh. This resulted in increased livestock farming in Bangladesh. Bangladesh is now self-sufficient in cows and goats. Bangladesh has clinched a position in global livestock rearing. According to the FAO report, Bangladesh is steadily faring well in the number of goats, goat meat and milk production. It ranks second in goats' milk production, and fourth in the number of goats and goat meat production. India and China are the top goat producers.

Freshwater fish

Bangladesh ranks third, globally, in the production of freshwater fish. Despite the pitiful state of its rivers and streams, FAO says Bangladesh produces 10 per cent of the world's freshwater fish. China is first, making up 16 per cent and India second with 14 per cent. According to FAO, by 2022 Bangladesh will be among the four countries in world which will see huge success in fish production. The others are Thailand, India and China. Over the past 10 years, fish production went up by 53 per cent. And fish export went up by 20 per cent.

Second in outsourcing

Educated youth have taken up freelancing and outsourcing as a profession. They take up contractual work for individuals or companies online. There are 600,000 freelancers in Bangladesh's IT sector, which is around 27 per cent globally. That puts Bangladesh in second position. India ranks at the top.

URL: <https://en.prothomalo.com/business/bangladesh-among-worlds-top-10-in-13-sectors>

Bangladesh: Dried fish gaining popularity at home and abroad

With an ever-growing demand for freshwater “shutki” or dried fish, traders of the Chalan Beel region in the northern district of Natore have now been enabled to earn a fair amount of foreign exchange by exporting the delicacy while at the same time satisfying local markets. According to the Natore District Fisheries Office, 319 tons of dried fish were produced in Singra upazila of the district in 2020. Nannu Miya, a trader from Gurudaspur upazila, said dried fish from Chalan Beel were exported to 10-12 countries, including the US, Malaysia, Saudi Arabia, Qatar, Bahrain and the UAE. “There is a possibility of producing 150-200 tons of shutki worth around Tk50 crore in the current season.” Ningoin Shutkipolli, along the Natore-Bogra Highway in the upazila, has become a major spot for drying commercially native fishes like shoil, boal, baim, chital, tengra, taki, khalisha, shrimp and puti. Shutki varieties made out of fish caught in the Chalan Beel region are quite popular across the country for their taste and quality, according to local residents. Shaidul Islam, a local who is in the business of drying and trading of fish, said the prime time for drying fish was between October and February. Dried fish had been gaining popularity day by day all over the country and dried fish from Chalan Beel was getting popular in foreign countries as well, he added.

However, some traders said the dry fish business depended on luck, as prices of dry fishes did not always remain the same. They also said that they had been suffering due to a lack of dry fish storage facilities in the region, adding that they would benefit if Chalan Beel-based dry fish sales and storage facilities were constructed. A dried fish trader at Ningoin Shutkipolli in the upazila said dried fish prices varied between Tk300 to Tk1,300 for each kilogram — based on its quality, the variety of fish and its size. The price of a kg of shoil shutki now ranges from Tk1,000 to Tk 1,300, boal from Tk 800 to Tk 1,000, gunchi Tk 700 to Tk 1,000, kachki Tk 700, and puti Tk 300. After the fish are bought from fishermen, they are sliced up and covered in salt once their entrails are disposed of, said a local resident. He added that salt was used to preserve the meat. Ningoin resident Abdur Razzak said, “The dried fish of Chalan Beel are tastier than dried sea fish. I often buy shutki from Singra Shutkipolli because it's fresh, hygienic and processed right before our eyes.” In his comments, Jahangir Alam, fisheries officer in Natore, said: “Chalan Beel has both a reputation and a demand for dried fish. So, we are considering providing training and financial assistance to the dried fish traders to increase the quality of the dried fish. Hopefully, once the process starts, the dried fish business in the region will go a long way.”

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/03/24/dried-fish-gaining-in-popularity-at-home-and-abroad>

Bangladesh: Special initiative required for workers of the fishing community

Attention must be increased at a government and non-government level, towards fishermen of the sea in order to exploit the vast resources of fish in the ocean. Special initiatives must be taken for these informal sector workers and their families. These observations were made on Monday at a virtual roundtable evaluating the labour sector impact of the sea fishermen. The event has organised by Manusher Jonno Foundation and Prothom Alo. Funded by Swedish International Development Cooperation Agency, the Danish Institute for Human Rights is running the 'Sustainable Oceans Project,' a research project in Bangladesh and Chile. The project will wind up this month. In Bangladesh, led by Manusher Jonno Foundation, the research is being carried out in Maheskhali, Cox's Bazar and Pathargatha, Barguna by the Institute of Labour Studies (BILS) and Coast Trust. At the roundtable, the participants put forward recommendations based on the preliminary findings of the research. Chief guest at the meeting, head of the parliamentary standing committee for the labour and employment ministry, Mujibul Huq, in an audio message said that there has not been much official planning regarding the rights and other aspects of the fishing community who are outside of the labour law's purview. He promised to convey the recommendations of the discussants to the appropriate authorities and raise the issue in parliament. Presiding over the virtual meet, Manusher Jonno Foundation's executive director Shaheen Anam said the fishermen work in difficult a dangerous places, but are paid a pittance. If any of them are lost or die while fishing on the high seas, their families receive no compensation. The women have to take responsibility of the family then. And the women and children workers in this sector are in an even worse predicament. The moderator of the meeting was Prothom Alo's assistant editor Firoz Choudhury. The opening presentation was made by Prothom Alo's Associate editor Abdul Quayum.

Social welfare secretary of Barguna's Pathargatha National Workers Federation, Zakir Hossain, sad that the workers in this sector lived on the seas in inhuman conditions. They work for 18 to 20 hours at a stretch and still do not get to sleep. There is a lack of drinking water and they spend long stretches without bathing. They have no fixed wages. The trawler owners do not follow 13 of the licence clauses and so the workers have no security. Each family of the fishermen are to be given 40kg of rice when the fishing ban is on, but that is not delivered to them in time. The keynote regarding the state of the fishing community's work was presented by the BILS senior officer (planning and monitoring), Rezwanul Huq. He said, 80 per cent of the workers taking part in the research feel that there is a shortage of life saving equipment on the vessels. There is a lack of modern and effective technology to inform them of cyclones. One third of the workers felt that they had to take loans from the trawler owners for the sake of survival and then ha to repay this through labour. They want an end to this. Alongside trade union complications, the workers had to work with no written agreement and so it was difficult to get compensation or avail other rights. Special guest at the discussion, former vice chancellor of Bangladesh Agricultural University, Abdus Sattar Mandal, said the same things had been said about these workers even 12 years ago. Many projects were taken up, but the workers were never drawn into any large development structure. Since the problem continued, it meant that a different solution had to be devised. Abdus Sattar suggested alternative employment for these workers, vocational and skills training for the youth of these families, optimum use of solar energy and technology, creating entrepreneurs, and capital assistance from a government and non-government level. He felt the administration should step up its assistance and supervision to include these fishing sector

workers in the greater agricultural sector. Executive director of Coast Trust, M Rezaul Karim Chowdhury, stressed the need to register the workers before they went out to sea. As they were not registered, if they died at sea, there was no accounting for them. BILS advisor Naimul Ahsan stressed the need for transparency in healthcare and rationing for the women workers in the fishing sector.

URL: <https://en.prothomalo.com/bangladesh/special-initiative-required-for-workers-of-the-fishing-community>

Bangladesh: Blue economy: The Bay fishermen's story

Faruk, a fisherman from Japoría village of Hatia Island under Noakhali district, travels about 300 kilometres to catch fish in the Bay of Bengal. He enjoys the call of the blue water. He forgets about all the adversities of the journey when he sees close to thirty species of fish with varied colours while fishing in the deep sea. This arduous job pays off quite well, as his yearly sales fetch him Tk 2.0 million (20 lakh). But the irony of the fate is: he still lives from hand to mouth. He has to part with almost the whole amount of proceeds from the sales to repay the installments of his loan from the local money lender, who lends at a high interest rate. Now he has lost all his enthusiasm about going out in the sea to catch fish. He is not alone. Every fisherman in the area has no other alternative but to borrow from these sections of money-lenders at high interest rates. There are huge resources in the Bay of Bengal. About twenty maunds of fish of different species are caught monthly from the Bay of Bengal, reveals Faruk. But the fishermen are finding it difficult to harness the resources as the local money lenders are exploiting them. If the government stands by them with necessary support and takes punitive action against the middlemen, that will aid extraction of the oceanic resources to a great extent, the 50-year old fisherman says. He is also deprived of fair prices for his catches. The local buyers in collaboration with the middlemen purchase the fishes from the fishermen at lower prices. In this situation many fishermen have already switched their profession, he says. The government should uphold the rights of the fishermen in the coastal belt and that will help our economy march forward, tapping the oceanic resources.

It is widely known that a longstanding maritime dispute between Bangladesh and Myanmar came to an end with a judgment of the International Tribunal for the Law of the Sea (ITLOS) in 2012. The judgment was termed as a blessing for Bangladesh, no doubt. With this historic judgment Bangladesh established its sovereign rights to the entire 200 nautical miles of the exclusive economic zone in the Bay of Bengal and a substantial share of the “outer continental shelf” beyond the 200 nautical miles. Without resolving the issue bilaterally, the government of Bangladesh took a bold decision on December 13, 2009 to initiate arbitration pursuant to the United Nations Convention on the Law of the Sea (UNCLOS) to secure the full and satisfactory delimitation of Bangladesh's maritime boundaries with Myanmar in the territorial sea. Bangladesh claimed 107,000 square kilometers while it got 111,000 square kilometres in the Bay of Bengal.” under the judgment. The credit goes to the government in power at that time. Afterwards, the move for resolving the longstanding India-Bangladesh maritime boundary dispute began in full swing. An international court based in the Hague awarded Bangladesh 19,467 square kilometres out of 25,602 square kilometres in the Bay of Bengal in 2018.

Newspaper reports suggest that Dhaka lodged the case against New Delhi with the Permanent Court of Arbitration (PCA) on October 8, 2009 after India unfairly cut off a significant portion of Bangladesh's maritime area in the Bay. With this victory over the maritime boundary, Bangladesh would be able to carry out exploration of several offshore blocks for oil and gas and the blocks show enormous potential. Bangladesh's economy, in the days to come, is set to overcome many challenges through proper utilisation of resources in the Bay of Bengal. By using the sea resources, Bangladesh can go forward very fast economically. What it needs is a good drive in a planned way.

It is estimated that the resources from the sea constitute 81 per cent of the resources existing in its land territory. Experts say fishes account for 500 species in the Bay. Add to them, snails, shell-fish, crabs, sharks, octopuses and other animals. Bangladesh is estimated to catch only 0.70 million tonnes of fish every year out of the total 8.0 million tonnes available in the Bay of Bengal. Experts are of the view that Bangladesh would be able to extract resources worth about Tk 12,000 crore (1.2 billion dollars). It is reported that the country has 75 outer-islands which could be utilised for tourists, both local and foreign. It is worthwhile to mention that 15 per cent of the protein is provided from sea resources for the people across the world. Natural gas and oil constitute 30 per cent of the sea resources and over 50 per cent of magnesium is extracted globally from the seas. Even life-saving medicines can also be obtained from these resources. It is significant to note that Bangladesh's trade is carried out mainly through the sea and it is possible for Bangladesh to do USD 45 billion trade. It is estimated that 5.0 per cent of the country's gross domestic product (GDP) could be acquired by 2030 from the resources of the sea. Bangladesh could be a developed country by 2041 if the resources are properly harnessed and adequately used. It is reported that Indonesia's national economy depends largely on its sea resources and Australia is reported to have earned USD 44 billion from its sea. The economy of the world is estimated to stand at USD 88 trillion, of which USD 24 trillion is acquired from sea resources. Many countries like China, Japan and the Philippines have long been extracting seabed resources. Ultimately, 15 per cent protein for 4.30 billion (430 crore) people globally come from marine fish, plants and animals. Nevertheless, around 30 per cent of the world's gas and fuel are supplied from seaside gas and oil fields. There are 36 species of shrimp and 475 species of different other fishes in the Bay of Bengal. But we are yet to explore the full potential of them. In 1969, the Food and Agriculture Organisation (FAO) in its study on the Bay of Bengal identified that there were 475 species of fish. According to Save Our Sea, about 500 different species of animals live in the sea. It is learnt that approximately eight million tonnes of fish are caught from the Bay of Bengal, of which only 0.70 million tonnes are collected from the fishermen in Bangladesh. Sea fishes account for 15.42 per cent of the country's total fish production and Bangladesh has the ability to fish only 80 lakh tonnes annually. It is possible to earn as much as \$ 250 million every year by extracting oil and gas and fishing.

In 2017, an administrative cell titled "Blue Economy Cell (BEC)" was formed to promote blue economy to address the economic challenges. The cell is rarely noticed to run its extensive operation. A World Bank Group study titled "Towards a blue economy: A pathway for sustainable growth in Bangladesh" said that Bangladesh had not yet adopted a comprehensive policy on the ocean economy. After settlement of maritime disputes with neighbours, Petrobangla, the state-owned oil, gas exploration and production company, inked a deal with the Norway-US joint venture TGS-NOPEC and Schlumberger to conduct a two-dimensional non-

exclusive multi-client seismic survey in the Bay. Due to Covid-19, the deal did not see the light of the day. The joint-venture company is to conduct a survey in 26 blocks in the deep and shallow sea areas of the Bay of Bengal. Myanmar and India have already ended the move for discovery of oil and gas blocks in the Bay successfully. According to Bangladesh Bank's annual report, Bangladesh has a 710km long coastline with an exclusive economic zone of 200 Nautical Miles inside the Bay of Bengal. Marine fisheries contribute 19.40 per cent of the total fish production of the country. Bangladesh's external freight trade is seaborne and it accounts for 90 per cent (2018) of the total freight trade. Globally, coastal tourism represents 5.0 per cent of the world's Gross Domestic Product (GDP) and contributes 6.0-7.0 per cent of total employment. In 150 countries, it is one of five export earners. Among the Sustainable Development Goals (SDGs), the SDG-14 focuses on sustainable use of the oceans, seas and marine resources for sustainable development. In addition, the Seventh-Five Year Plan (7FYP) mentioned a dozen actions for harnessing a prosperous and sustainable blue economy. The actions included fisheries, renewable energy, human resources, transshipment, tourism and climate change among others.

Bangladesh is set to face many challenges after graduation from the least developed country (LDC) club. To overcome the challenges, utilisation and extraction of marine resources are badly needed. The ready-made garment (RMG) sector risks its tariff facilities in the European market following the LDC graduation. Bangladesh now should think about expansion of dry fish export market globally. Among many countries in the world, Bangladesh is placed in the first row in terms of exporting dry fish. There is high demand for dry fish in the UK, the USA, Oman, Qatar, Kuwait, Saudi Arabia and the UAE. Dry fish worth Tk 3.0 billion (300 crore) is exported from Chattogram each year. The decision of importing dry fish from India, Pakistan and Myanmar should be shelved. If the government extends its helping hand towards the people fishing in the bay, Bangladesh can raise its earnings from fish export many times. Alongside extraction of sea resources, the islands in the Bay need to be tourist-friendly. The islands have to be turned into attractions for tourists. More research centres dealing with oceanic resources have to be set up. The government needs to scale up the activity for exploring the precious marine resources. The fishermen fishing in the Bay must be brought under institutional credit facilities. The state has to extend timely facilities to them. The country's financial institutions also can devise a way to support them. The fishermen, who take loans at high interest rates, must be brought under the banking channel. The Bangladesh Bank can come up with a set of guidelines for them in this connection. Any failure to extract sea-bed resources shortly is not acceptable after the extension of the maritime boundary thanks to the two landmark judgments.

URL: <https://thefinancialexpress.com.bd/views/blue-economy-the-bay-fishermens-story-1616175772>

Bangladesh: A fishing community lives and dies on boats

“This river is our life,” said 38-year-old Jobeda Khatun, as she looked at the vast body of water known as the Meghna river. Her boat is also her home, as it floats on a canal connected to the river in an area called Sluice Gate, about 7-km south of the district headquarters of Bhola in the southern part of Bangladesh. There are 50 families living in the 40 or so boats in this canal –

around 200 people in total. The locals call these fishers “Babajia” but they call themselves the “Sardar”. Many confuse these fishers with the nomadic community called “Bede”, a marginalised community who make a living by catching snakes. However, these boatmen of Bhola are mainly fishers. They have no other occupation. Except for some special cases, they have no other relationship with the people from the mainland. More than a thousand such families live in boats in the entire Bhola district. Most of them are victims of river erosion. After losing their houses to the river, the boats have become their last refuge.

Empowered women

Jobeda, who lost her home to river erosion in another southern district, Shariatpur, joined the fleet when she was just seven years old. This is where she grew up, got married and gave birth. Jobeda’s husband is also a fisherman. Fishing is the occupation of men, while most of the women are housewives. But even if they are not in any formal occupation, women are quite empowered in these families as they carry the wealth of the community. During the peak of the fishing season, the floating people of these villages buy gold with the surplus cash since they do not have any bank accounts – an activity largely carried out by women. Most of these ornaments are placed in more than one piercing in the nose and ears of the women, who have multiple piercings. Rani Begum boasts many gold earrings. “The gold is very useful in times of hardship,” she said, smiling. “As the valuables are in our hands, the men obey us. We are in charge of protecting our assets. Maybe that is the reason why we enjoy more freedom in our society.” In fact, all the men and women of the Sardar community are quite independent and self-reliant. Everything the family needs is in the boat floating in the water. They are poor but their belongings – which include cooking utensils, pillows, beds, chairs, even small shelves – are stored inside the boat.

Strangers to land dwellers

The locals consider them to be lower caste people. The land dwellers are the main customers of these fishers, as they do business with the “Babajia”. It is a relation of monetary transactions, not one of kinship. The boat people cannot establish a marital relationship with the mainstream people. “I understand that mainstream people look down on us,” said Alif, headman of the boat village. “But to be honest, we have no enmity with them for this.” The Sardars buy rice, pulses, salt and other daily necessities from the local shops of the land dwellers and sell fish, this is their relationship. The people of this boat village decorate their only refuge – the boats – with great care. They carve the wood on the bodies of the boats to draw various colourful designs. Many others draw alpona or colourful motifs on the walls of the boat. They remove their footwear before entering the boats. Recently, an NGO gave solar panels to the boat people. Alif, the headman, said that this helped charge their mobile phones. While it is impossible to raise animals on the small boats, almost every boat boasts a shelter for doves, a poignant symbol of peace and freedom.

Deprived of assistance

Every adult boatman has a national identity card. They also vote. Without a permanent address or residence, one is usually not allowed to become a voter. But the local politically influential

people have enlisted the boat people as voters for their own interest. “When an election comes, the boatmen get to meet all these ‘important’ people,” said Mohammad Yunus. “We may fulfil our civic duty to vote but no one comes to forward to protect our rights later. No one comes to meet us after the election.” There is no effort to provide health, education, or sanitation facilities for the Sardar. About 50 children of different ages were found in this “boat village”. None of them had a chance to go to school. “When boys grow up, they become fishers like their fathers,” Salam Mia, a fisherman, said. “And the girls are married off. This is the destiny of our children.” Sixteen-year-old Rupsha Begum was bathing her child in this fleet of fishers. She was married off at the age of 14. Rupsha said that child marriage is a commonplace here. Each married couple has three to four children. “If our boys and girls had access to education, child marriage would not have been so prevalent,” Rupsha said. They also do not have access to healthcare and sanitation facilities alongside education. They themselves try to cure diseases with home remedies. However, they keep some emergency medicines in the boat for fever or stomach ailments. They buy these from the nearest pharmacies. Most people do not take any birth control measures. Almost all the children are born inside the boats. The women of the boat village suffer the most due to the lack of toilets. “Men can go to the toilet wherever they want,” said Josna Begum, a housewife. “We cannot do that. The women here go to toilet very early in the morning for privacy. We can’t go to the toilet during the daytime. During menstruation, we use old rags.”

Natural disasters

For this community, natural disasters add insult to injury. Bangladesh has endured big cyclones like Sidr, Aila, Amphan in the last decade and a half. Many of the boats were destroyed in the latest cyclone Amphan. The land-based fishers received a lot of help but the Sardar were ignored. “When there is a cyclone, we go to a nearby shelter,” Rustam Sardar said. “It saves our lives. But our boats, the source of our livelihood, are damaged. After the storm, we have to rebuild the boats. No one comes to help us.” Microfinance is a major part of the economy of Bangladesh. But no one comes to these this community to give them loans either. Bhola is the only island district in Bangladesh. It is 200 km away from Dhaka by river. But it seems that the boat people are inhabitants of another planet. Any government opportunity is elusive to them. All they have are national identity cards.

When asked to show his Bangladeshi national identity card, Mosharaf Sardar, a boat resident, ran to get it. “I take good care of it,” said Mosharaf. “It gave us an identity. Maybe I do not get any opportunity from it now but one day I definitely will.” As with many identity projects in South Asia, his name in English is spelt slightly differently on his ID card. The colourful, though straitened, conditions of the Sardar are now burdened further with the impact of climate change. Salinity is increasing in the coastal districts of Bangladesh as the sea rises. Bhola district – home to these fishers – is one of the 19 coastal districts of the country. The Meghna river, which is home to the fishers, flows into the Bay of Bengal. The fishers said that the fish are slowly disappearing. “Before you could catch fish during most times of the year,” lamented Rustam Sardar. “Now there is no fish like before. The change has happened so fast, it’s shocking.”

URL: <https://scroll.in/article/987543/in-photos-a-fishing-community-in-bangladesh-lives-and-dies-on-boats>

Bangladesh: Halda river to be renamed ‘Bangabandhu Biodiversity-rich Heritage Halda’

The government has decided to rename the Halda river ‘Bangabandhu Biodiversity-rich Heritage Halda’. Halda river is the country’s largest water body for carp fish breeding. The decision was taken at the first meeting of the National Committee on Biodiversity, held at the Ministry of Environment, Forests and Climate Change on Thursday. Environment Minister Md Shahab Uddin presided over the meeting. He said the National Biodiversity Committee constituted under the ‘Bangladesh Biodiversity Act- 2017’ will give advice for identifying and declaring important areas of biodiversity and give regular instructions on how to manage the declared areas. The minister said necessary steps will be taken to facilitate the reproduction of carp fish, dolphin conservation, pollution reduction and overall biodiversity and environmental conservation in the Halda river. “The government is responsible for the conservation and development of biodiversity as per Article 18A of the Constitution of Bangladesh,” he added.

URL: <https://thefinancialexpress.com.bd/national/halda-river-to-be-renamed-bangabandhu-biodiversity-rich-heritage-halda-1616074930>

Bangladesh: Dry fish trade thriving in Dublar Char

Dried fish production becomes a big seasonal business at Dublar Char, an island of the Sundarbans located 75 nautical miles south from Mongla and Sarankhola upazilas. Annually, Dublar Char supplies dried fish worth Tk 1.75 billion (175 crore) and live fish worth Tk 1.50 billion (150 crore) to different markets in the country. The peak season of the business ranges between October and March when the sea remains comparatively calm. In a recent visit to the island, Prothom Alo correspondent found that dried fish production was going on in full swing at the Aalorkol, Majherkella, Narkelbaria, Shelarchar and Meher Ali Char areas. Fishermen were seen busy either in laying processed fish on bamboo racks for drying in the sun or taking preparation for their next sailing or returning to the shore with huge catches. During the season, they collect fish from the sea, sort out the catch according to their varieties and then lay them for drying in the sun. More than 20,000 people migrated from Khulna, Bagerhat, Satkhira, Pirojpur and other neighbouring districts are involved with the business. Dried and live fish from the island is supplied to the big storages in Dhaka, Chattogram, Syedpur and Rangpur. Sources said nearly 100 mahajans (people who own 3 to 5 trawlers each), 30 bahardar (people who own many trawlers) have received permission to catch fish and process dried fish. Several mahajan and bahardar said usually liatal, telafesa, churi, boiragi, chaka, shrimp and rupchanda fishes are processed for drying at Dublar Char. It takes three to five days. Wholesalers purchase, on average, 400kg dried fishes daily.

According to mahajan and bahardar, dried fish worth Tk 1.79 billion (179 crore) was sold at Dublar Char in 2020 and Tk 1.65 billion (165.21 crore) in 2019. They hope sales will reach Tk 2 billion (200 crore) this year. Besides, live fish worth Tk 1.50 billion (150 crore) were supplied to different markets across the country via wholesale godowns in Khulna and Bagerhat. Dublar Char falls under the jurisdiction of Sarankhola rang of Sundarbans east forest department. Records of the range shows that a total of 41,000 quintal dried fish were produced in the island

in 2018-19 fiscal and the forest department earned Tk 24.7 million (2.47 crore) in revenue. In 2019-20 fiscal, the forest collected Tk 31.7 million (31.7 crore) in revenue against the production of 44,713 quintal dried fish. This year, the revenue target has been set at 32 million (3.2 crore). Electricity is supplied in the island centrally from 5:00pm to 10:00pm by generator. However, each chatal (flat space for sun drying) has solar power system. People live in huts built with straws. The island looks like a city at night. Though there are several mosques in the island but music is played in loudspeaker at chatals for entertainment. A mahajan, Jahan Ali Sardar, who came to Alorkol from Bagerhat's Rampal, told Prothom Alo that he has been doing business in the island for 35 years. This year, he invested Tk 2.5 million (2500,000) and hope to sell dried fish worth Tk 3.5 million (3500,000). Speaking to Prothom Alo at Alorkol transport jetty, the manager of Khan Shafiullah Transport, Md Kutubuddin Molla said eight to 10 agencies transport dried fish from Dublar Char. Mahajans, bahardars and fishermen said dried fish worth thousands of dollars could be exported if freeze drawers and cold storage is set up at Dublar Char. Currently, only prawn in ice pack is supplied to the factories in Khulna and Bagerhat for exporting aboard after processing.

Living with calamities

Storm and tidal surge from the Bay of Bengal strike first on Dublar Char. Most of the natural calamities occur in September-December. Dried fish processing continues during this period. So fishermen and traders demanded setting up of several cyclone centres. In a recent visit, Dublar Char is found to have facing acute crisis of drinking water. There are several wells but these don't have water. According to fishermen and traders, these wells supply water for a month, but it's not safe. As a result, they have to face problem over foods and drinking water always. They demanded digging several ponds and installing 8 to 10 wells to the government. There is no health facility at Dublar Char. So, people don't get treatment after falling ill. They take primary treatment. They demanded setting up of a mobile or floating hospital for six months on the island. President of Dublar Char's Fisherman Group Kamal Uddin Ahmed said this island meets a major portion of demand for fish in the country and the government also earns millions of taka in revenue. But those who come to the island have to work amid immense suffering for six months, he added.

Six-month market

A market is set up in Dublar Char's Alorkol area for six months. All kinds of shops including grocery, saloon, workshops, restaurants, cosmetics, cloth and mobile servicing, have opened business. Fishermen called it New Market. The owner of Uttam Hairdresser in the market, Biplob Roy from Khulna's Dumiria said he has been doing business here for 10 years and earns enough in every six months. A grocer and restaurateur, Suraj Roy, from Bagerhat's Mongla upazila, said they stock goods at their shops as per the demands of the islanders. They bring goods by trawler again when supply ends. Hundreds of trawlers are operated in the island for fishing. There are several workshops with lathe machines there to repair the trawlers. These workshops run on power from generators.

URL: <https://en.prothomalo.com/business/local/dry-fish-thriving-in-dublar-char>

Bangladesh and Maldives: Dhaka, Male sign 4 deals focused on connectivity, trade

Bangladesh and Maldives on Thursday reached a consensus to strengthen connectivity by establishing direct commercial shipping and air links and sign a preferential trade agreement aimed at increasing trade between the two countries. The two countries also signed four memorandums of understanding to boost cooperation in different areas including fisheries and cultural affairs. The agreements were reached at talks at the level of the heads of the governments of the two sides — Maldivian president Ibrahim Mohamed Solih and prime minister Sheikh Hasina — at the Prime Minister's Office in Dhaka. Foreign ministers of the two countries — Abdulla Shahid of Maldives and AK Abdul Momen of Bangladesh — briefed journalists about the outcome of the talks. The two top leaders decided to establish a direct commercial shipping link between Male, the capital and seaport of Maldives, and the three seaports of Bangladesh by signing a shipping agreement. Biman Bangladesh Airlines would operate regular commercial flights between Dhaka and Male, Sheikh Hasina announced during the talks. The four MOUs signed between the two countries, after the talks, were on setting up of a foreign minister-level joint commission for comprehensive cooperation, launching an annual bilateral foreign office consultation at the level of foreign secretaries, cooperation in the field of fisheries and pelagic fishing and on a cultural exchange programme for 2022-2025. President Solih and prime minister Hasina witnessed the signing of the MOUs, PM's press secretary Ihsanul Karim said in a briefing after the talks, according to Bangladesh Sangbad Sangstha.

Both the countries agreed to hold regular commerce secretary-level meeting to negotiate PTA and expedite the finalisation of the proposed agreement on customs cooperation and signing an agreement on avoidance of double taxation. Bangladesh iterated its policy of extending continued support towards the development of human resources in the Maldives in different fields including higher education in medicine and dentistry. Bangladesh also offered training courses to the Maldivian peacekeepers at the Bangladesh Institute of Peace Support Operation Training. 'Bangladesh is a potential trade partner of the Maldives and the PTA will be signed in the near future,' Karim said, quoting the Maldivian president. On the Rohingya issue, president Solih said that his country wants to work jointly with Bangladesh at the International Courts Justice to protect the rights of the Rohingyas. Solih appreciated significant contributions made by Bangladeshi expatriate workers in the two economies. The two leaders reviewed the entire gamut of bilateral relations and agreed to expand mutual cooperation in multiple prospective areas, including trade, commerce, investment, youth development, healthcare, education and pharmaceuticals. Sheikh Hasina called upon the Maldives to import various products from Bangladesh to address the bilateral trade issues in details.

Solih and Hasina held a one-on-one meeting before the delegation-level talks with participation from foreign minister AK Abdul Momen, commerce minister Tipu Munshi, LGRD and cooperatives minister Md Tajul Islam, fisheries and livestock minister SM Rezaul Karim, state minister for foreign affairs M Shahriar Alam, PM's principal secretary Ahmad Kaikaus and foreign secretary Masud Bin Momen from Bangladesh side. From the Maldives side, foreign minister Abdulla Shahid, economic development minister Fayyaz Ismail and foreign secretary Abdul Ghafoor Mohamed were present. Maldives foreign minister said the two sides also agreed to regularise Bangladeshi workers for ensuring their rights and protections from exploitations.

The two countries also agreed to work together for maintaining peace in the Indian Ocean region, he said. Solih was set to join a reception hosted in his honour by president Abdul Hamid at Bangabhaban. Maldivian president Solih reached Dhaka on Wednesday morning to attend the celebrations of the birth centenary of Bangladesh's founding president Sheikh Mujibur Rahman and the golden jubilee of the country's independence. He was set to leave Dhaka for Male on early Friday.

URL: <https://www.newagebd.net/article/133060/bangladesh-maldives-sign-four-mous-on-bilateral-cooperation>

Bangladesh: Produces 86 pc of global hilsha

Bangladesh has produced 86 percent of hilsha in the world, a few years ago, 65 percent hilsha came from Bangladesh, according to the world Fishers Research Organization. In the last 10 years, hilsha production has increased about 79 percent in the country. According to statistics in the financial year 2008-09, the production of national fish hilsha was 2 lakh 98 thousand tons which has reached at 5 lakh 33 thousand tons in last fiscal year 2018-19. At this time the production has increased by 2 lakh 35 thousand tons and its average growth 6.20 percent in last 10 years. According to the hilsha production data, in 1998-99 produced 2 lakh 14 thousand tons, In 1999-2000, 2 lac 29 thousand tons, in 2001-02, 2 lakh 20 thousand tons. In the financial year 2002-03, the production of hilsha was decreased, during the period produced less than 2 lakh tones.

In the fiscal year 2003-04, the production of hilsha increased by a maximum of 29 percent over the previous year in Bangladesh. The officials of the fisheries department think that the production of hilsha may exceed 5 lakh tones in the 2019-20 financial year. According to the data of Ministry of Fisheries and the department of Livestock, the production is increasing due to various measures including protection of Jatka and mother hilsha. New projects have taken in the form of previous projects to make the production sustainable. A district fisheries officers Maud Ara Momy said, "We have taken various projection to increase hilsha production. Such as, we control the fisherman when the time of born of Jatka, we have to bound using for at least 6 mm net for catching the hilsha in order that the Jatka can pass in the net."

Beside we have to take a step for fisherman in the egg lying season they refrain for catching fish. An official of the ministry said, "We are strictly enforcing the law to protect hilsha. For hilsha production rise, government has taken various initiatives. I think the production of hilsha will be about 6 lakh tons in the future, he added. An Official said of the Department of Fisheries, "Hilsha contributes to economic development, job creation, export income and supply of meat is immense. About 12 percent of the total fish produced in the country comes from hilsha. Hilsha contributes 1 percent to the total gross domestic product (GDP). According to the Fisheries Department, about 5 lakh people are directly involved in hilsha harvesting and 20 to 25 lakh people are directly or indirectly involved with hilsha trading. In 2016 hilsha has been recognized as a Geographical Indication product of Bangladesh. Hilsha Resource Development and Management Project PD of Department of Fisheries Mohammad Zia Haider Chowdhury said, as

the previous project on hilsa resource development has expired and a new project has been taken up.

URL: <http://www.dailyindustry.news/bangladesh-produces-86-pc-global-hilsha/>

Bangladesh: Frozen fish exporters in a fix over Saudi embargo

The country's frozen fish exporters were in dire straits, as the Saudi Arabia was not allowing shipment of fishes from Bangladesh without prior enlistment by the Saudi Food and Drug Authority (SFDA), sector insiders said. Traders said they could not export fishes to the Kingdom of Saudi Arabia (KSA) since November 2020, as the kingdom had tightened its enlistment policy although it was flexible for the exporters. Saudi Arabia, a vital market for Bangladeshi fish exporters, issued a circular at the beginning of 2017 regarding bringing meat, poultry and fish exporters under the SFDA registration. On the other hand, the KSA banned import of cultured fishes from the country in 2018, raising question over quality issues. A team of the SFDA was scheduled to visit Bangladesh in 2018 to inspect fish farming management system, processing plants, and quality control etc. But the team ultimately did not come to Bangladesh. At the same time, the SFDA teams visited other frozen fish exporting countries including India, Pakistan and Myanmar, and lifted the embargo on cultured fish export from those countries, the sector insiders also said. The main consumers of frozen fishes in the KSA are Bangladeshi expatriates. More than 2.0 million Bangladeshis are working in the Middle-Eastern country. The frozen fish processors said they had already faced a severe blow because of the coronavirus fallout. The obstacle regarding shipment to Saudi Arabia brought another setback to the sector. Bangladesh exported fishes worth US\$ 10 million in fiscal year (FY) 2013-14, whereas the amount dropped to \$5.11 million in FY 2019-20 mainly because of the embargo.

Ashraf Hossain Masud, senior vice president of the Bangladesh Frozen Foods Exporters Association (BFFEA), said the local exporters would not be able to export fishes to the KSA without the SFDA registration. They communicated with the Department of Fisheries (DoF) several times since they had faced the obstacle in shipment to the KSA. They also sent lists of suppliers to the DoF to take necessary steps to get them registered with the SFDA. But so far, they had not seen any notable progress to solve the problem, he noted. "We've sought immediate steps from the government. Otherwise, our market share might be lost to others countries like Myanmar, Thailand and India. These countries have already got the SFDA enlistment," he added. Meanwhile, the DoF sent a list of 34 exporters to the Ministry of Fisheries and Livestock (MoFL) last month to take necessary actions. The DoF, in its letter to the ministry, said Saudi Arabia was a major frozen fish importing country from Bangladesh. As the local exporters were not registered by the SFDA, they were facing barrier to send their items to the Arab country. Besides, the Ministry of Commerce, in a letter in January, also requested the MoFL to solve the complications regarding the SFDA enlistment as early as possible. Dodul Kumar Datta, managing director of Pacific Sea Food Ltd – a leading exporter to Saudi Arabia, said his export declined by 50 per cent after the KSA had imposed the embargo. He also requested the government to discuss with the Saudi authorities concerned, so that the KSA resumed import of cultured fishes from Bangladesh. Local fish traders opined that the problems regarding export to Saudi market were not solved only because of bureaucratic complications. If the ministry and

departments concerned had communicated with the Saudi authorities, the barriers did not exist, as the exporters maintained quality of their items, they added. The MoFL officials could not be received to comment over the issue, despite repeated attempts by the FE correspondent.

URL: <https://thefinancialexpress.com.bd/trade/bangladesh-frozen-fish-exporters-in-a-fix-over-saudi-embargo-1615691880>

Bangladesh: Exploring untapped resources of blue economy

With the approval of the Bangladesh Maritime Zones Act, the country is now free to explore and exploit the rich marine resources of the Bay of Bengal and exercise the country's right over the extended maritime boundary. The Act has 14 chapters and 137 sections dealing with a number of maritime related issues which were absent in the previous Act. It has several new and contemporary issues such as maritime terrorism, ocean governance, exclusive economic zone, submarine cable, anti-piracy, criminal and civil jurisdiction in sea vessels and nuclear waste transportation etc. According to the Act, Blue Economy is comprised of economic activities that directly or indirectly take place in the seas, oceans and coastal waters using sea/oceanic resources, exploration and exploitation of ocean resources in a sustainable manner. There is also the provision for appropriate use of ocean and coastal waters and ocean products as main inputs, making use of goods and services to support activities of the oceans and seas and protection of the ocean environment. Bangladesh will also have exclusive right for the construction, maintenance or operation of artificial island, offshore terminals, installations and other structures and devices necessary for the exploration and exploitation of the resources of the zone or for the convenience of shipping or for any other purposes.

According to the Act, Bangladesh government may make regulations to provide for the authorisation of persons or organisations to explore natural resources, or to recover or attempt to recover any such resources, in accordance with such terms and conditions as may be determined by the government. With the adoption of the Act, the government has, of late, given utmost importance to blue economy and set a time-frame to start exploring the marine resources within the next few years. The concept of the blue economy was, in fact, conceived at the Rio+20 United Nations Conference on Sustainable Development held in Rio de Janeiro in 2012, viewing the idea as an alternative economic model for sustainable development that puts the oceans at the centre of this approach. Analysts, however, believe that the concept of the blue economy is complex and it will take time to develop human resources and technological capacity to discover marine resources. The government has set up Bangladesh Institute of Marine Technology (BIMT) and introduced oceanography in the curriculum of two public universities to carry out research in the Bay of Bengal. There were only two marine academies in the country in 2009, currently there are 22 such academies. The government has also commissioned a survey vessel to conduct a study on fisheries in the Bay of Bengal. The government is also taking up a plan for exploring marine resources in the Bay of Bengal within the next two years.

The country's first ocean research and survey ship is conducting the survey since 2016 to find out marine resources in the Bay of Bengal. Under the move, the Ministry of Fisheries and Livestock launched a project titled Bangladesh Marine Fisheries Capacity Building at a cost of

Tk 1.65 billion. The government is keen to complete the initial survey in the Bay of Bengal to ascertain the marine resources within a short time. The WB consultants are expected to prepare a development project proposal (DPP) for an investment project based on the survey results where the clear path of exploring potential resources in the Bay and their contribution to the macro-economy would be detailed out. The WB will also help Bangladesh under its ‘Sustainable coastal and marine fisheries project’ in exploring the untapped resources of blue economy. While geographical borders divide the countries in the sub-region, analysts believe that friendship across the ocean can unite them in a more desirable way. The IONS is not only a ray of hope for the Indian Ocean Region but also a forum of immense importance for the Asia-Pacific and the adjoining regions. A healthy ocean is essential for leading a better life but oceans are at risk now due to over-fishing, marine pollution and global climate change. Overcoming those challenges and sustainable development of marine resources are the key to global economic growth.

URL: <https://thefinancialexpress.com.bd/views/exploring-untapped-resources-of-blue-economy-1615385962>

Bangladesh: World Bank approves \$120m to help improve food security

The World Bank has approved 120 million US dollars to help Bangladesh improve food security by enhancing climate resilience and productivity of irrigated agriculture and fisheries. The Climate-Smart Agriculture and Water Management Project will rehabilitate and modernise public Flood Control, Drainage, and Irrigation (FCDI) infrastructures, reports UNB citing a press release. This will help improve irrigation and drainage service over 115,000 hectares where flood damage to crops will be reduced by 60 per cent. The project will also help increase the incomes of 170,000 poor people who are vulnerable to climate change. Half of the beneficiaries will be women. “In Bangladesh, more than 70 per cent of the population is dependent on agriculture for their livelihood but their exposure to climate change and natural disasters makes them vulnerable,” said Mercy Tembon, World Bank Country Director for Bangladesh and Bhutan. “Climate-resilient water management provided in this project combined with increased agricultural productivity will ensure income growth, protect livelihoods and build resilience of the local communities to climate change.”

The project has identified 19 FCI schemes in poor and climate change vulnerable areas for rehabilitation. It will also provide training to farmers on climate-smart technologies, experimentation with new crops, and post-harvest management. The project will also support the promotion of coastal aquaculture, including the integration of rice and fish/shrimp farming; setting up of cold storage facilities; and, improvements of local markets. This will improve the productivity of fisheries by almost 40 percent and rice by 7.5 per cent, it said. “Flood control and drainage systems play a critical role to ensure agricultural productivity and growth,” said Abel Lufafa, World Bank Senior Agriculture Specialist and task team leader for the project. “Repairing and upgrading of the selected schemes will improve their capacity to regulate the excess water during the monsoon and water deficits in the post-monsoon period.” The credit is from the World Bank’s International Development Association (IDA), and has a 35-year term, including a five-year grace period. Bangladesh currently has the largest ongoing IDA programme totalling over \$13.5 billion. The World Bank was among the first development partners to

support Bangladesh and has committed more than \$33.5 billion in grants, interest-free and concessional credits to the country since its Independence.

URL: <https://thefinancialexpress.com.bd/economy/world-bank-approves-120m-to-help-bangladesh-improve-food-security-1615363119>

Bangladesh: Local fish being exported to many countries

Various species of local fish cultivated in ponds, canals and water bodies in Bogura, Joypurhat are being exported. These fish include pabda, gulsha, shing, tengra etc. These are exported to different countries in Europe and America as well as China, Japan, Canada, Singapore, Thailand, Malaysia, Myanmar, Saudi Arabia, Kuwait, Qatar, India and Nepal. According to the local fisheries department, on average, 1,000 tonnes of local fish are produced in ponds, canals and water bodies in Bogura region every month during the peak season. Fish become exportable four months after releasing fries. About 300 tonnes or a little over 30 per cent of the total fish production are exported. In total, fish worth Tk 120 million (Tk 12 crore) to Tk 150 million (Tk 15 crore) is exported from the Bogura region. More than 1,000 fish cultivators and farmers have been commercially producing fish in ponds, canals and water bodies in Kahaloo, Dhupchanchia, Adamdighi and Shibganj upazilas of Bogura, and Kalai, Khetlal, Akkelpur and Panchbibi upazilas of Joypurhat for a decade. Besides, more than 100 hatcheries have been set up in the two districts to produce fish fries. Fish farming had started with catfish. As it proved profitable, cultivation of various species of fishes including shing, tengra, koi, pabda and gulsha began. Exporters purchase one-third of these fishes from ponds, canals, water bodies and warehouses. The rest of the fish goes to the local markets as well as different places including Dhaka, Chattogram and Khulna.

Many educated young people are trying their luck at fish farming. Farmer Zakir Hossain from Hatior village is one of them. He said he has been cultivating fish in a pond on an area of 120-bighas. He has spent Tk 12 million (Tk 1.2 crore) to date. If everything goes fine, he hopes to produce 4,000 maunds of fish. He said he started cultivating the local variety of catfish in an 80-decimal pond with a little capital eight years ago. Later he was hugely successful in farming other fish too. The owner of Khulna-based exporting company KBC International, Gopal Biswas, said, “He has been exporting huge amounts of pabda to different cities of West Bengal, including Kolkata, every month for the past three years after purchasing those from Bogura and Joypurhat.” Visiting Station Bazar in Bogura’s Kahaloo upazila recently, it was seen that pabda covered in ice was being packed in cartons for export. Each carton contained 21 kg of frozen pabda. Fish farmer Fakhrul Islam told Prothom Alo that pabda of the size that makes 20 to 25 fish per kg, is in demand the most. Now pabda is sold at Tk 10,000 a maund (40 kgs). Prior to the coronavirus pandemic, he sold this at Tk 16,000 a maund.

National award-winning farmer Shafiqul Islam produces fries of different fishes, including shrimp, pabda, tengra, koi (climbing perch), catfish and gulsha, at a hatchery in Bibirpukur of Kahaloo upazila. He said he is currently producing fries of various local species of fish as the demand increases. They have even produced 3,000 kg fries of pabda amidst the coronavirus pandemic. Fish wholesaler Bikash Roy told Prothom Alo that he sells large (A grade) pabda at

Tk 330 to 340 a kg and gulsha at Tk 525 to 540 a kg to the exporters of Chattogram. Besides, he supplies to wholesalers and various companies, including Daraz Bangladesh, Chaldal.com, Shwapno, Andaj, BD Foods and Mashud Foods, in Dhaka. Milon Bhattacharya, an exporter from Chattogram, said he collected pabda, gulsha and fishing from Bogura and Joypurhat and sends those to Europe and America and the United Arab Emirate (UAE). Bogura district fisheries officer Sarakar Anwarul Kabir Ahammed said this year the demand for fishes stands at 74,000 tonnes in the district. Some 33,000 fish cultivators and farmers produce 84,000 tonnes of fishes annually. Some 20 to 25 per cent of the farmers and fish cultivators produce local species of fish, he added.

URL: <https://en.prothomalo.com/business/local/local-fish-being-exported-to-many-countries>

Bangladesh: Fish farmers in Mymensingh recovering from pandemic losses

The aquaculture industry in Mymensingh is starting to bounce back from the coronavirus fallout as cross-country transportation facilities have returned to normal. The government had imposed a nationwide shutdown on all economic activities between March 26 and May 30 last year in a bid to curb the spread of Covid-19. As a result, thousands of fish farmers in the division, one of Bangladesh's main fish producing hubs, faced significant losses due to a lack of smooth transportation facilities, according to industry insiders. In 2018-19, inland aquaculture grew by about 3.46 per cent year-on-year to 24.89 lakh tonnes, accounting for around 56.76 per cent of the country's total fish production. At the same time, Mymensingh contributed roughly 23 per cent or 5.5 lakh tonnes, posting a 2.97 per cent year-on-year growth, according to data from the Department of Fisheries. There are around 112,000 fish farmers in the division that mostly hailed from the Trishal, Gouripur, Phulpur, Tarakanda, Bhaluka and Muktagacha upazilas. There are also some 295 hatcheries and 1,043 nurseries in the district. "Local farmers were unable to supply their fishes to various parts of the country due to a lack of transport facilities during the countrywide shutdown," said Dilip Kumar Saha, district fisheries officer of Mymensingh.

As the fishes remained unsold while feeding and maintenance costs increased, the farmers incurred serious losses. "So, they (farmers) were forced to sell their fishes at throwaway prices in local markets," he added. Mymensingh's aquaculture industry faced losses of Tk 400 crore amid the ongoing pandemic. In order to help local fish farmers tackle the Covid-19 crisis, the government rolled out a Tk 5,000 crore stimulus package, of which around Tk 19 crore has been disbursed so far. However, it is a good sign that the hatchery and nursery owners still managed to cut a profit despite the economic downturn. "We supported the hatchery and nursery farmers in a coordinated way amid the shutdown so that they can deliver their products to various destinations," Saha said. Mymensingh produced around 3.95 lakh tonnes of fish each year against local demand of 1.26 lakh tonnes. The surplus is supplied to different districts in the country, including Dhaka, according to Md Zakir Hossain, deputy assistant director of District Fisheries Office.

"In some cases, farmers are producing fish in massive quantities but do not get fair prices for their hard work," Hossain said. For example, catfish is sold at Tk 150-170 per kilogram at the farmer's level while it is sold at Tk 300-400 in retail markets. Similarly, other fishes are sold for

nearly half their retail value as middlemen eat up a lion's share of the profits, local farmers said. For sustainable and safe production, a fair price for farmers should be ensured. Besides, a fish processing zone and cold storages should be set up in Mymensingh as well in order to support the local farmers, they added. Fish is gaining popularity in the global fast-food market and since Bangladesh is one of the world's leading producers with a total production of 43.84 lakh tonnes in 2018-19, the country could tap into this mostly unexplored sector. While speaking to this correspondent, Deputy Assistant Director Md Zakir Hossain said they test two or three samples of fish feed at the Fisheries Inspection and Quality Control (FIQC) in Savar every month to detect if heavy metals were used as part of efforts to ensure safe fish production. They also ensure that the feed contains the desired fat and protein levels.

Depending on its result, the fish feeds are allowed to be sold in the markets and officials of the department make farmers aware of the tested products, Hossain said. Tofail Ahmed, senior fisheries officer of Trishal upazila, said around 7,500 fish farmers faced losses amid the pandemic, but only 50 hatchery and 104 nursery owners in the area could made profits. Shale Siddique Suzon, a fish farmer of Panchpara village in Trishal, said he faced a loss of Tk 10 lakh. "I have been cultivating fish in full swing at three ponds to recover this loss," said Suzon, adding that being cash poor has become a challenge for many farmers. Mujibur Rahman, a fish farmer of Boilor Banskuri village in the same upazila, said he started cultivating fishes in his three ponds and if he gets fair prices, he could recover the losses. The aquaculture industry in Mymensingh employs around seven lakh people. This means that many workers might lose their jobs and face a financial crisis if the industry is severely affected. "So, this industry's issues should be addressed on priority basis, identifying the present crisis," farmers said. Besides, access to finance on easy terms is needed for farmers to cope with the situation, they added.

URL: <https://www.thedailystar.net/business/news/fish-farmers-mymensingh-recovering-pandemic-losses-2057353>

Bangladesh and India: Trade talks turn barren

Bangladesh's proposals have received a lukewarm response from the Indian side at the bilateral meeting on trade issues held in Dhaka on Monday. Dhaka could not derive any concrete result from the meeting on its two main concerns— anti-dumping duty and Indian new customs rules on Bangladesh's export items, officials said. "The discussion will continue..." an official, who took part in the Bangladesh-India commerce secretary-level meeting, told the FE after the meeting. Asked whether any assurance came from the meeting on the issues of concern, another participant answered in the negative. "No, no, no," he uttered. Asked, commerce secretary Dr. Md. Jafar Uddin, the Bangladesh team leader, however, expressed the hope that India would review the anti-dumping duty that it slapped on jute goods, hydrogen peroxide, and fishing net back in 2017 and afterwards. "We've tabled the issue very strongly. They'll let us know after reviewing it because there are some technical matters," he said. While addressing the anti-dumping duty issue, Mr. Uddin said, the Bangladesh side referred to some articles and provisions of the World Trade Organisation and the South Asian Free Trade Area (SAFTA) agreement. "They will examine it." Regarding new customs rules of Indian, he said Bangladesh requested India not to send a large volume of 'country of origination' certificates together for verification.

“We told them that the new customs rules were not in conformity with the SAFTA rules,” he said.

Asked about the Indian response, Mr Uddin said that in most cases immediate decision does not come from such types of meetings. “They will go back to their capital and examine (our arguments) and will let us know (the decision). You can write, they have assured us and may look into the matters positively,” he said. He said the meeting also discussed about the signing of Comprehensive Economic Partnership Agreement (CEPA) between the two countries. “After graduation, the CEPA with India as a big trading partner will be very positive one,” the secretary said. “We have to sign the deal as soon as possible.” The meeting, according to a press release, also discussed harmonisation of standards and mutual recognition of standards, cooperation under different common regional forum, facilitation of trade by removing non-tariff barriers, and import and export restrictions. Enhancing the number of border markets (haats) and volume of trade through the haats, and expansion of port facilities were also discussed in the meeting. The Indian new Customs Rules-2020 now administers the rules of origin under all trade agreements signed by India. The new rules have made the getting of tariff preference in its market tough for the countries having preferential deal with it. Bangladeshi exports, officials said, are facing new types of barriers since the new rules came into effect in last September.

India slapped the anti-dumping duty on Bangladesh’s jute yarn, hessian and bags, ranging between US\$19 and \$352 per tonne, in January 2017. A similar duty, ranging between \$27.81 and \$91.47 per tonne, was also imposed on export of hydrogen peroxide to India from Bangladesh in April 2017. In 2018, India also put anti-dumping duty, \$2.69 per kilogramme, on fishing net, exported from Bangladesh to its domestic market. Bangladesh failed to get the duties removed despite scores of consultations with India for years.

URL: <https://thefinancialexpress.com.bd/economy/bangladesh-india-trade-talks-turn-barren-1615256259>

Bangladesh: Minister for end to fishing with poison in Sunderbans

The environment, forest and climate change minister, Md Shahab Uddin, at a discussion on Wednesday asked the department of forest to stop fishing using poison by unscrupulous fishermen in Sunderbans. The department of forest organised the event marking World Wildlife Day at its auditorium where he, as chief guest, also asked the department to save wild elephants as its population continued to decline every year. Deputy minister of the ministry Habibun Nahar said that fishing using poison continued in Sunderbans over the years which endangered wild animals specially aquatic animals in the world’s largest mangrove forest. As special guest, she said that poisonous fishing continued not by the fishermen but a vested group of people in the area.

She observed that the forest department was not much aware of protecting forests as much as it interested to conserve wildlife. ‘Without forest we cannot protect wild animals. Forests are decreasing gradually for necessary and unnecessary activities,’ she said. Secretary of the ministry Ziaul Hasan said that forest resources were trafficked unabatedly from all the forest. ‘Without

foresters-traffickers nexus forest wealth cannot be looted,' he disclosed. Chief conservator of forests Md Amir Hosain Chowdhury said that the number of tiger population in the Sundarbans increased to 114 in 2019 from 106 in 2016. He said that common people's participation in the protection of forests and wildlife was essential. Prokriti O Jibon Foundation chairman Muqeed Majumder Babu said that different types of virus spread in the society as human grabbed the animal lands in the forest.

Conservator of forests Mihir Kumar Doe said that Bangladesh is a hotspot for wildlife for its geological and environmental position, but 31 species of wild animals were missing in last 100 years here. He blamed pollution, killing, habitat destruction and trafficking for the decrease of animals and species. Jahangirnagar University zoology department professor Monirul H Khan said that large wild animals could not live in small forest and many of them disappeared from the country. He said that even the reserved forests of the country were misused for the lack of implementation of laws. Sheikh Kamal Wildlife Centre director Md Jahidul Kabir said that at least 11 wild elephants were killed in 2019 and 21 were killed in 2020. 'If the trend continues wild elephant from Bangladesh will disappear within 16 years,' he said.

International Union of Conservation in Nature representative in Bangladesh Raquibul Amin said that 25 per cent species of the country are under threat. He demanded nature-based solution and restoration of forest landscape for the protection of animals. He said that 268 elephants were detected in Bangladesh forests. Additional secretary of the ministry Mahmud Hasan also spoke, among others.

URL: <https://www.newagebd.net/article/131729/minister-for-end-to-fishing-with-poison-in-sunderbans>

Bangladesh: Fed up waiting for WDB, villagers in Jessore tackle waterlogging on their own

Residents of a cluster of villages in Jessore have taken the initiative to drain the water of 27 beels, including Khukshia Beel of their own accord, as the Water Development Board (WDB, Paubo) has not been able to solve the water logging problem in the area for a long time. People of 69 villages organized under the banner of Jolaboddhota Niroshon Bastobayon Committee (Waterlogging Elimination Implementation Committee). They started this irrigation program from January 15 using 129 irrigation pumps, all arranged with their own funds. If the water drainage program is successful, around 3.5 lakh people stand to benefit, with about 24,000 bighas of land to be freed up for paddy farming. The water is being drained with 129 different-sized irrigation pumps in a row along the Hari River dam in Dahuri village of Sufalakati union at Keshabpur upazila. Leaders of the Waterlogging Elimination Implementation Committee said the location of 27 beels, including Bill Khukshia, runs from Dumuria upazila in Khulna district to Keshabpur and Monirampur upazilas in Jessore. Pazia and Suflakati Unions of Keshabpur, and Durbadanga and Manoharpur Unions of Monirampur are among the four unions.

The people of all 69 villages have been suffering from waterlogging for a long time due to the negligence of WDB (Paubo). Awami League leader and treasurer of the Committee Manjur Rahman said in the past, the water from these beels was drained through the Hari River. But as

the river gradually got occupied, the drainage of the beel became blocked. Since then farming has stopped in these beel areas. Then the fish farms of these areas were formed. “Since this problem has not been solved for a long time, we have started draining this year. Each machine owner is being paid TK. 500 per day and the diesel is funded by the committee. A total of 24 people including Abdul Halim, Azizur Member, Fazlur Rahman, Pradeepta Biswas and Mashiur Rahman have been appointed for this work,” said Manjur. For drainage TK 1000 per bigha is being taken from the owners of land and ponds. All expenses are being met with this money. So far, about 13,000 bighas of land has been made cultivable which means over half the work on land is done.

Hopefully it will be possible to drain the water within the next one month. Convener of the committee and president of Keshabpur Upazila Awami League SM Ruhul Amin said their hand was forced in the matter of trying to solve the waterlogging problem on their own. Waiting for the government had only brought suffering for the residents of the 69 villages. Things had reached a point where they could not afford to suffer any more. There are 26 beels linked with this beel. Crops in Keshabpur and Monirampur have not been harvested for a long time. Cows, goats, people were dying. I started this work thinking of them. After learning about the history of the area’s agriculture, it became clear that a mistake had been made by discontinuing the practise of Tidal River Management in the region. TRM had emerged as a technique in the same region of southwest Bangladesh in the late Eighties, after many tidal rivers in the region became filled up with sediment. This led to permanent waterlogging caused by riverbed sedimentation. in areas around Khulna, Jessore and Satkhira, which had detrimental consequences for agriculture.

In 1997, during the Khulna-Jessore Drainage Rehabilitation Project (KJDRP), the local population of Beel Bhaina created a tidal basin by cutting the embankment with the Hari river. This had two effects: firstly, a gradual rise in the level of the land in Beel Bhaina with sediment, coupled with an increased cross section of the Hari River. Drainage of the entire KJDRP area improved after the cut. The strategy of creating temporary tidal basins was given the name “Tidal River Management”. During the period TRM was introduced in Jashore, many lands were harvested. The river Hari regained its depth. But later it was discontinued over some other dispute. Water Development Board Jessore Executive Engineer Tahidul Islam said a big project has been undertaken to reintroduce TRM in the beels. Various experiments are being carried out on its implementation. If it can be implemented, the villagers will at least have a way to ward off waterlogging in the beels.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/03/03/fed-up-waiting-for-wdb-villagers-in-jessore-tackle-waterlogging-on-their-own>

Bangladesh: Marine fisheries policy designed for proper sea fish production

The government has drafted the national marine fisheries policy for the sustainable conservation, management and extraction of marine fish in the country’s vast sea areas. This was conveyed at the 15th meeting of the Parliamentary Standing Committee on Fisheries and Livestock Ministry on Sunday. The meeting was held at the Jatiya Sangsad Bhaban with chairman of the committee Dharendra Debnath Shambhu in the chair. The main objective of the policy is to attain the

desired growth in tapping the potential of marine fish. At the meeting, the committee was also informed that the ministry has taken short-, medium- and long-term action plans to strengthen the country's blue economy.

It was said that the marine fisheries management plan has also been drafted under a sustainable coastal and marine fisheries project. The parliamentary body was informed that a pilot project has been taken to collect tuna and other large pelagic fish commercially from the deep sea of the Area Beyond National Jurisdiction outside the Exclusive Economic Zone (EEZ). The committee recommended assisting small-large farmers to boost fisheries and animal resources and thus create jobs for the young generation. The parliamentary watchdog suggested promoting the real entrepreneurs in the fisheries and livestock sectors. Committee members Fisheries and Livestock Minister SM Rezaul Karim, Choto Monir, Nazma Akther and Shamima Akter Khanam attended the meeting. The Fisheries and Livestock Secretary and other high officials were present at the meeting, said a handout.

URL: <https://www.unb.com.bd/category/Bangladesh/marine-fisheries-policy-designed-for-proper-sea-fish-production/65423>

Bangladesh: A fishing community lives in a boat village, dissociated from mainland, government assistance

This river is our life,” said 38-year-old Jobeda Khatun, as she looked at the vast body of water known as the Meghna river. Her boat is also her home, as it floats on a canal connected to the river in an area called Sluice Gate, about seven kilometres south of the district headquarters of Bhola in the southern part of Bangladesh. There are 50 families living in the 40 or so boats in this canal — around 200 people in total. The locals call these fishers ‘Babajja’ but they call themselves the ‘Sardar’. Many confuse these fishers with the nomadic community called Bede, a marginalised community who make a living by catching snakes. However, these boatmen of Bhola are mainly fishers. They have no other occupation. Except for some special cases, they have no other relationship with the people from the mainland. More than a thousand such families live in boats in the entire Bhola district. Most of them are victims of river erosion. After losing their houses to the river, the boats have become their last refuge.

Women, the keepers of wealth

Jobeda, who lost her home to river erosion in another southern district, Shariatpur, joined the fleet when she was just seven years old. This is where she grew up, got married and gave birth. Jobeda's husband is also a fisherman. Fishing is the occupation of men, while most of the women are housewives. But even if they are not in any formal occupation, women are quite empowered in these families as they carry the wealth of the community. During the peak of the fishing season, the floating people of these villages buy gold with the surplus cash since they do not have any bank accounts — an activity largely carried out by women. Most of these ornaments are placed in more than one piercing in the nose and ears of the women, who have multiple piercings. Rani Begum boasts many gold earrings. “The gold is very useful in times of hardship. As the valuables are in our hands, the men obey us. We are in charge of protecting our

assets. Maybe that is the reason why we enjoy more freedom in our society,” she said, smiling. In fact, all the men and women of the Sardar community are quite independent and self-reliant. Everything the family needs is in the boat floating in the water. They are poor but their belongings — which include cooking utensils, pillows, beds, chairs, even small shelves — are stored inside the boat.

Strangers to land dwellers

The locals consider them to be lower caste people. The land dwellers are the main customers of these fishers, as they do business with the ‘Babajja’. It is a relation of monetary transactions, not one of kinship. The boat people cannot establish marital relationship with the mainstream people. “I understand that the mainstream people look down on us. But to be honest, we have no enmity with them for this,” said Alif, headman of the boat village. The Sardars buy rice, pulses, salt and other daily necessities from the local shops of the land dwellers and sell fish, this is their relationship. The people of this boat village decorate their only refuge — the boats — with great care. They carve the wood on the bodies of the boats to draw various colourful designs. Many others draw alpona or colourful motifs on the walls of the boat. They remove their footwear before entering the boats. Recently, an NGO gave solar panels to the boat people. Alif, the headman, said that this helped charge their mobile phones. While it is impossible to raise animals on the small boats, almost every boat boasts a shelter for doves, a poignant symbol of peace and freedom.

Voters, but deprived of assistance

Every adult boatman has a national identity card. They also vote. Without a permanent address or residence, one is usually not allowed to become a voter. But the local politically influential people have enlisted the boat people as voters for their own interest. “When an election comes, the boatmen get to meet all these ‘important’ people. We may fulfil our civic duty to vote but no one comes to forward to protect our rights later. No one comes to meet us after the election,” said Mohammad Yunus. There is no effort to provide health, education, or sanitation facilities for the Sardar. About 50 children of different ages were found in this ‘boat village’. None of them had a chance to go to school. Salam Mia, a fisherman, said, “When boys grow up, they become fishers like their fathers. And the girls are married off. This is the destiny of our children.” Sixteen-year-old Rupsha Begum was bathing her child in this fleet of fishers. She was married off at the age of 14. Rupsha said that child marriage is a commonplace here. Each married couple has three to four children. “If our boys and girls had access to education, child marriage would not have been so prevalent,” Rupsha said. They also do not have access to healthcare and sanitation facilities alongside education. They themselves try to cure diseases with home remedies. However, they keep some emergency medicines in the boat for fever or stomach ailments. They buy these from the nearest pharmacies. Most people do not take any birth control measures. Almost all the children are born inside the boats. The women of the boat village suffer the most due to the lack of toilets. “Men can go to the toilet wherever they want. We can’t do that. The women here go to toilet very early in the morning for privacy. We can’t go to the toilet during the daytime,” said Josna Begum, a housewife. “During menstruation, we use old rags.”

No help when the storm comes

For this community, natural disasters add insult to injury. Bangladesh has endured big cyclones like Sidr, Aila, Amphan in the last decade and a half. Many of the boats were destroyed in the latest cyclone Amphan. The land-based fishers received a lot of help but the Sardar were ignored. Rustam Sardar said, “When there is a cyclone, we go to a nearby shelter. It saves our lives. But our boats, the source of our livelihood, are damaged. After the storm, we have to rebuild the boats. No one comes to help us.” Microfinance is a major part of the economy of Bangladesh. But no one comes to these this community to give them loans either. Bhola is the only island district in Bangladesh; it is 200 kilometres away from Dhaka by river. But it seems that the boat people are inhabitants of another planet. Any government opportunity is elusive to them. All they have are national identity cards. When asked to show his NID card, Mosharaf Sardar, a boat resident, ran to get it. “I take good care of it. It gave us an identity. Maybe I don’t get any opportunity from it now but one day I definitely will,” said Mosharaf. As with many identity projects in South Asia, his name in English is spelled slightly differently on his ID card. The colourful, though straitened, conditions of the Sardar are now burdened further with the impact of climate change. Salinity is increasing in the coastal districts of Bangladesh as the sea rises. Bhola district — home to these fishers — is one of the 19 coastal districts of the country. The Meghna river, which is home to the fishers, flows into the Bay of Bengal. The fishers said that the fish are slow disappearing. “Before you could catch fish during most times of the year. Now there is no fish like before,” lamented Rustam Sardar. “The change has happened so fast, it’s shocking.”

URL: <https://www.firstpost.com/long-reads/in-bangladesh-a-fishing-community-lives-in-a-boat-village-dissociated-from-mainland-government-assistance-9334611.html>

Bangladesh: Tk 569cr incentive disbursed to fish, livestock farmers

The fisheries and livestock ministry has handed over Tk 568.86 crore in cash incentive to 485,476 livestock and fish farmers who have been hit hard by the coronavirus pandemic, Agriculture Minister Muhammad Abdur Razzaque said yesterday. Some 407,402 livestock farmers and 78,074 fishermen received the incentive as a gift from Prime Minister Sheikh Hasina through their mobile financial service and bank accounts, he said. The government will continue supporting the farmers and entrepreneurs to ensure nutrition for the general mass and pull the marginalised people in the rural areas out of poverty, the minister said. He spoke as the chief guest at a programme in the capital’s Osmani Memorial Auditorium. The fisheries and livestock ministry gave away the cash incentives to the affected farmers at the event, the ministry said in a press release.

The government under the leadership of Prime Minister Sheikh Hasina is taking and implementing timely steps with particular focus on the agriculture sector, helping the country become self-sufficient in granular foods, he said. The government is now extending all-out support to the farmers to boost production of fish, egg, meat, fruits and other nutrition-rich foods to ensure healthy and safe food for the people, Razzaque said. The fisheries ministry is playing a vital role in providing nourishing foods to the people, alleviating poverty of the marginalised groups and creating more jobs, he said. Fisheries and Livestock Minister SM Rezaul Karim

presided over the event, where Planning Minister MA Mannan was also present as the special guest.

URL: <https://www.thedailystar.net/business/news/tk-569cr-incentive-disbursed-fish-livestock-farmers-2046849>

Bangladesh: Disaster-resilient shelters built in Cox's Bazar with IOM support

When the monsoon season started in Cox's Bazar in 2020, boatman Pradip Shah Das in Teknaf Upazila and his family were forced to take shelter at their neighbour's house. "The house where I used to live was flooded. When the storm started, we had to find shelter elsewhere," recounted 37-year-old Pradip. Cox's Bazar is prone to cyclones, regular floods, tidal surges, river erosion and landslides, often affecting farm yields and prices. According to the District Administration, nearly 300,000 of the one million people living on vulnerable hill-areas in Cox's Bazar are at risk of landslides. Among the affected population are also vulnerable fishing communities like Pradip's, whose livelihoods have been negatively impacted by a fishing ban on the Naf River, at the Bangladesh-Myanmar border, due to the recent crisis. Along with natural disasters, challenges related to safety, livelihoods and protection, have commanded a resilience-based multidimensional response for host communities.

Responding to the ongoing crisis, IOM is working to strengthen security and social cohesion between Rohingya refugees and host communities through its 12-month Safe Shelter programme, funded by the Government of Japan. The project aims to strengthen and support shelter initiatives in disaster-prone areas in Cox's Bazar, strengthen protection mechanisms and approaches in both camps and host communities, create livelihoods and women empowerment initiatives, and provide institutional capacity to Bangladeshi law enforcement. Capacity-building activities have been conducted for community members to ensure they make informed decisions on adequate shelter materials and construction techniques, followed by distribution of the first cash grant in order to purchase the shelter materials.

Pradip's house has been upgraded through this programme—one of 1,000 families to have received the same type of support. "Now I have a new house which is stronger than the previous one," Pradip said. "During disasters, I used to take shelter at other people's houses, but now people can take shelter at my house." To support families with the upgradation of disaster-resilient shelters, teams also conducted several technical training sessions for 450 local carpenters on shelter improvement and maintenance, incorporating Disaster Risk Reduction (DRR) features. Mohammad Jamal, a former fisherman in Teknaf, has been trained in carpentry and now upgrading shelters for his fellow community members. "I didn't know much about carpentry when I started, but I learned little by little. Not only do I have a more durable shelter now, but I have an income which helps me support my family," Jamal explained. To complement the activities of the shelter upgrade, IOM's Transition and Recovery Division will provide 500 vulnerable households livelihood activities based on their needs.

This activity will also support market-based livelihoods opportunities and enhance business capacities of existing cooperatives in Cox's Bazar, promoting greater financial inclusion of

women, youth and persons with disabilities. “Upgrading these shelters’ quality is a key part of our continuous support for vulnerable host communities affected by this humanitarian crisis,” said Manuel Marques Pereira, IOM Deputy Chief of Mission in Cox’s Bazar. “We hope that these new disaster-resilient shelters and accompanying livelihoods support will empower host communities and boost the local economy, making those communities more resilient to crisis in the future.”

URL: <https://www.unb.com.bd/category/Bangladesh/disaster-resilient-shelters-built-in-coxs-bazar-with-iom-support/64983>

Bangladesh: Fish markets in Barishal sit idle

Anglers and fisheries officials have reported a decrease in the number of fish caught from Barishal’s rivers, though for different reasons according to each party. As a result, supply of local fish to major fish markets has come down noticeably. On one hand, local anglers said the situation arose as fishing in the river has been banned for the last 15 days, while fisheries officials said fish supply has decreased naturally, as is normal for this season. In addition, officials said anglers are catching less fish than before, as they are using illegal nets, which depletes fish supply and brings fewer catches. Following their claims, this correspondent, while visiting Port Road Wholesale Fish Market — one of the biggest wholesale fish markets of the south region — and other markets and saw very little activity. Traders and labourers were mostly sitting idle, as there is not much work. Some shops were found closed while some store fronts were being used to repair fishing pots. Soleiman Fakir, a worker at the market, told this correspondent that since a lot less fish is coming in every day, their income has decreased by at least six to eight times.

Nirab Hossain Tutul, president of Barishal Port Road Motsho Arottdar Samity, said compared to an inflow of 800-2,000 maunds of fish per day, the number has now come down to 100-150 maunds. Hilsa rarely comes, with less than 50 maunds arriving on Thursday. “Some anglers are afraid of going out to the rivers after thousands of nets were burned in a massive operation to protect jatka, which ran from January 10-16 and January 25 to Feb 1. This is another reason why netting has decreased,” Nirab said. According to the Fisheries Department, the special operation ran on six districts of Barishal division. In total, 761 operation were conducted by 294 mobile courts. Bimal Das, district fisheries officer (hilsa), said as a result of the operation, anglers are not able to use illegal nets, which may give off the impression that less fish is being caught, but he assured that this is normal. “It is normal for fish supply to be low at this point of the year. It will increase from April. There is nothing to worry about,” said Anisur Rahman Talukder, deputy director of Divisional Fisheries Office of Barishal. “The operations seized 1,243 ‘Behundi nets’, 68.09 lakh metres of current nets, 22.707 metric tonnes of jatka, and one tonne of other fishes. In the meantime, 131 cases were filed and 92 anglers were jailed for illegal netting,” he added.

URL: <https://www.thedailystar.net/city/news/fish-markets-barishal-sit-idle-2044493>

Bangladesh: Dhaka keen to sign preferential trade agreement with Maldives

The two countries observed that there is more potential for increased bilateral trade and noted the absence of a formal trade agreement between Bangladesh and Maldives. The two countries have also agreed to establish the Joint Commission for Comprehensive Cooperation led by the two foreign ministers and the annual Foreign Office Consultations (FOC) through signing relevant MoUs during the upcoming visit of Maldives' President to Bangladesh in March. During the visit of Maldives Foreign Minister Abdulla Shahid, Bangladesh and Maldives signed MoUs between Foreign Service Institute of Maldives and Foreign Service Academy (FSA) of Bangladesh; and MoU on Placement of Human Resources.

The two foreign ministers discussed the forthcoming visit of President of Maldives Ibrahim Solih to Dhaka in March 2021 to join the celebrations of the birth centenary of Father of the Nation Bangabandhu Sheikh Mujibur Rahman and the golden jubilee of the independence of Bangladesh. They also agreed that the proposed MoU on cooperation in the field of fisheries would be signed during President Solih's visit to Bangladesh in March 2021.

URL: <https://www.thedailystar.net/business/news/dhaka-keen-sign-preferential-trade-agreement-maldives-2043153>

Bangladesh: Blue Economy Cell falters; no progress in 4 yrs

Official sources said the BEC is neither equipped with required manpower nor it was given any financial support to do any vital work. As a result, they said, the BEC's activities are now confined to just holding meetings. After the settlement of maritime disputes with both India and Myanmar, the government set up BEC in June 2016 and it was formally launched as a new body in January 2017, they said. As per its main target, the BEC was supposed to coordinate the initiatives of different ministries to explore and exploit the untapped resources in the country's maritime areas, said a BEC official wishing to remain anonymous. He said the government approved 25 posts for temporary administrative set-up with an additional secretary as its head.

"So far, only 13 posts have been filled with people from different ministries on deputation," said Zakir Hossain, the head of the BEC. "No fund is allocated through the national budget for us to take any project," said another top official of the BEC. Africa scraps AstraZeneca vaccine, will give J&J jabs 2005 bomb blasts: 17 get different jail terms in Satkhira. They said lack of manpower is the organisation's main problem. "More importantly, other entities hardly listen to its any request since it is a small cell under the EMRD," he said. In this situation, the EMRD, under the Ministry of Power, Energy, and Mineral Resources, made the proposal last year to the PMO to take it as its own body, the official sources added. But the PMO has turned down the proposal and instructed the EMRD to continue with the BEC under the current nature, said Dr Md Sher Ali, a joint secretary at the EMRD.

Meanwhile, the parliamentary standing committee on the Ministry of Power, Energy, and Mineral Resources has recommended turning the BEC into an authority giving more administrative power to it, a suggestion reportedly turned down by the ministry. According to the

sources, there are huge potentials in Bangladesh's maritime areas and the government has identified 26 sectors related to the blue economy, most of which remained untapped for lack of proper initiatives. They said the 26 sectors were identified by the Ministry of Foreign Affairs in two national-level workshops in 2014 and 2017. The sectors are: Shipping, coastal shipping, seaports, passenger ferry services, inland waterway transports, shipbuilding, shiprecycling industries, fisheries, aquaculture, coastal aquaculture and mariculture, marine acquaintance products, marine biotechnology, oil and gas, sea salt production, ocean renewable energy, tidal energy, blue energy (osmosis) and biomass, aggregate mining (sand, gravel etc) and marine mineral mining. The sectors also include coastal tourism, recreational water sports, yachting, and marines, cruise tourism, coastal protection/artificial islands/greening coastal belts, human resource development, marine surveillance and marine special planning.

Bangladesh won 19,467 square kilometres of the disputed 25,602 sq km area along the Indian border in the Bay of Bengal, following the settlement of a maritime dispute with the neighbouring country on July 8, 2014. Earlier, the country won a claim to 200 nautical miles of exclusive economic zone and territorial rights in the Bay of Bengal following the settlement of another dispute with Myanmar on December 18, 2013. The officials said those two settlements have opened the doors of huge blue economy potentials, but no effective initiative has been taken to exploit that. Meanwhile, the government formed a 25-member high-powered committee, headed by the principal secretary, to prepare a comprehensive plan on the blue economy. But, in the last four years, there has been no headway in this regard because of inactivity of the committee, said a top official at the Blue Economy Cell, seeking anonymity. He said the government has prepared a 100-year Delta Plan to exploit the potentials of the blue economy where BEC could play a vital role in implementing the plan.

URL: <http://unb.com.bd/category/Bangladesh/bangladeshs-blue-economy-cell-falters-no-progress-in-4-yrs/64715>

Bangladesh: Cyclone Amphan Emergency relief project report

On May 20th 2020, Cyclone Amphan made landfall in West Bengal and caused significant damage in the coastal areas of Bangladesh. Peace Winds Japan (PWJ) and its local partner Dhaka Community Hospital Trust (DCHT) started emergency relief operations in August in Galachipa Upazila of Patuakhali District and Sarankhola Upazila of Bagerhat District. Fishery and fish/shrimp farming are the most common occupation in this area and were severely affected as heavy rain and high waves caused by the Cyclone have washed away the fish farms and have contaminated the fresh water sources. People's lives had already been affected by COVID-19 before the Cyclone Amphan, and the community is facing a double burden of the negative impact of both COVID-19 and the cyclone damage. Many people have lost their livelihood and opportunity of income earning by this.

PWJ distributed food packages and tarpaulin as emergency relief items to the vulnerable people affected by the cyclone. Many beneficiaries especially appreciated the tarpaulin since heavy rain had continued in this area even after the cyclone made landfall, and many houses had damaged roofs with rain water leaking inside the house. Fishing nets were distributed to those working for

fishery and fish farms that have lost their livelihoods due to the cyclone. COVID-19 cases are increasing in the cyclone affected areas as well as other parts of Bangladesh. Patients with water borne diseases, especially diarrhea, are increasing in the affected areas due to the contamination of water and deterioration of hygiene conditions caused by the cyclone. Soaps, cloth masks and ORS (Oral Rehydration Solution) were distributed and awareness on handwashing and hygiene was provided along with the distribution of relief items.

In order to avoid congestion at distribution points as precautions of COVID-19, relief items and awareness were provided through household visits. Relief items and awareness were provided to the hard to reach households by using boats and walking through muddy roads. Many of the tube-wells had been contaminated due to the cyclone and many people were facing difficulties in obtaining safe drinking water. Two deep tube-wells were constructed to enable safe water provision to the cyclone affected community. Safe drinking water is indispensable for the prevention for water borne and infectious diseases and especially for hand washing. The community appreciated the construction of the tube-well as they do not need to walk a long distance to fetch drinking water anymore.

The tube-well was handed over to the community, and the community committee will be in charge of the management and maintenance of the tube-well. A maintenance training was conducted to the community committee with the participation of community leaders and religious leaders. All activities have been completed on November 30th. Thank you very much for your kind support. *This project is funded with subsidies from the Japan Platform and donations from individuals and corporations.

URL: <https://reliefweb.int/report/bangladesh/bangladesh-cyclone-amphan-emergency-relief-project-report>

Bangladesh: Silent cry of the wetlands

The date 2 January 2021 has been marked as the 50th anniversary of Ramsar Convention—an international collaboration for the conservation and sustainable use of wetlands. The same year comes to Bangladesh as its golden jubilee of independence. What is the condition of flora and fauna in this independent country?

The wetlands are drying up

The territory of Bangladesh has been shaped with wetlands like haors, baors, beels and lakes. A haor is formed as a large bowl after tectonic subsidence, while baor is the dead arm of a river. Beel is a lake-like wetland created from a river. Over the years, the number of wetlands across the north-eastern region has dwindled remarkably. Different studies suggest that once wetlands covered two-third of Bangladesh. Currently, the total area of wetlands has decreased to 45.87 per cent. Around 2.10 million hectares of Ganges-Brahmaputra floodplains have already disappeared due to flood control, drainage and irrigation projects.

Biodiversity under threat even in protected wetlands

Fifty years ago, Iran hosted the Convention on Wetlands in Ramsar. The international treaty became effective in 1975. After 14 years, wetlands of the Sundarbans were entitled as Ramsar site. The mangrove forest and its biodiversity, however, are now at grave risk due to anthropogenic causes. The Tanguar haor in Sunamganj became a Ramsar site in 2000. The wetlands shelter more than 200 species of birds and 150 fish varieties. Although the Bangladesh government oversees conservation of the wetlands with the participation of local communities and other stakeholders, the negative impact of human activities still persist there.

A proposal for enlisting Hakaluki haor—another wetland rich in biodiversity—as Ramsar site is on the table. The haor on 18.38 thousand hectares comprises 238 individual beels. Around 150 species of fresh water fish, 526 species of phytoplankton and 20 species of reptiles make the wetlands their habitat. During winter, around 200 species of migratory birds take shelter there. Bird surveys find that number of migratory birds has been decreasing. Although bird trapping is being checked, poisoning birds still goes on. Marketing of poisoned birds also poses as a threat to public health.

Unprotected wetlands

There is no updated data on wetlands. A total of 373 wetlands in Bangladesh cover 858,460 hectares of land. Most of the wetlands are left unprotected. There is no actual information on the current state of biodiversity in there. According to studies by the International Union for Conservation of Nature (IUCN), migratory birds are now mostly restricted to reserved wetlands only. The 18A article of the Constitution directs the government to ensure reservation of the wetlands for the conservation of environment, biodiversity and natural resources. There are different wings of the government. But their activities are not much significant. Conservation of the wetlands will protect the habitats for migratory birds and other animals. Farmers and fishermen depend on resources of wetlands. The haor areas collectively provide 72 thousand hectares of land for agriculture. Every year, haor-based farmers harvest 5 million tonnes of rice, mostly of Boro variety. Due to discriminatory trans-boundary river water sharing, untimely flashfloods inundate the haor region. Local paddies adaptive to high tide are disappearing fast because of cultivation of high-yielding varieties. As the wetlands are being filled up, dependence on ground water is increasing. There are 140 species of fish available in the haor region. Within the last decade, about 62 species of them are become nearly extinct. Pangash, sarputi, ritha, shishar, maha shol, ekthuti, bamosh and ghainna are among the threatened fish species.

Excessive use of chemical fertiliser also threatens the other aquatic lives. Currently, fish catches dwindle even in the peak season. Water-logging exists for long time due to unplanned construction of dams and wetland grabbing.

Misuse of power and non-compliance

Although leasing out open wetlands is prohibited by law, encroachment of wetlands continues unabated due to illegal influence. Except in Tanguar haor, the leasing business persists in all other wetlands. But the real fishermen don't get the benefits. Earlier, small beels were kept out of leasing for fish breeding. But profit-mongering lease business now grasps everything.

Living entity, community engagement, traditional knowledge

A directive by the High Court entitles wetlands as living entities. This has given hope for wetland conservation. The national parliament also has passed a motion declaring a ‘planetary emergency’ to tackle impacts by climate change. In this context, conservation of wetlands is crucial. Firstly, random leasing out wetlands need to be stopped. Fishermen may be given access of fishing at token fees. Secondly, a part of wetland can be reserved as fish sanctuary rather than bring the whole under paddy cultivation. Thirdly, dams in the haor region must get necessary repairs within February-March so that water can submerge the low land in mid-April. Fourthly, farmers and fishermen must get soft loans if they face credit crunch. Fifthly, trans-boundary waters from upstream need to be examined in order to identify the negative impact of mineral waste on aquatic life. If there is any, inter-governmental solution is a must. Most importantly, there should be a combination of modern technology and traditional knowledge. Otherwise, the wastage of huge amount of money will continue. Local people are the integral part of ecosystem. Utilisation of their traditional knowledge will ensure conservation and sustainable use of natural resources. For example, fishermen used to catch fish in wetlands once in three years. The practice was called ‘pail’ and it helped increase fish production.

New paradigm

Broadly, storage and circulation are the main features of the water cycle. Anthropogenic causes imbalance in the water cycle. Biodiversity and life become threatened if water circulation is hampered. For example, construction of reservoirs cannot ensure water storage. Rather, implementation of tidal river management would be an effective solution. Encroachment and dumping of hazardous waste narrow down the wetlands. Out of 65 canals in Dhaka city, 43 are encroached while 24 remaining are dying. Eighty percent of Dhaka WASA water supply is extracted from underground. Groundwater level has been decreasing, so as the quality of water stored in aquifers.

According to data of World Health Organisation, Unicef and Bangladesh government, 13 percent of people still are deprived of pure drinking water. Only 20 percent of Dhaka city has been brought under sewerage network. Presence of E. coli bacteria was found at 80 percent of the water supply lines. Water of ponds and tube-wells also carry harmful microbes. Despite being neglected, wetlands still serve us silently with resources. Declaration of wetlands as living entity is a timely demand. New provisions are crucial to ensure fair management in every level of water cycle. If the discrimination in trans-boundary water sharing is resolved, environment and ecosystem at downstream will be protected. There is a need of multilateral arrangement to ensure proper river engineering, storage and circulation of water.

URL: <https://en.prothomalo.com/opinion/op-ed/silent-cry-of-the-wetlands>

Bangladesh: Chalan Beel shutki prices seeing sharp decline

Dried fish or shutki, made out of fish caught in Chalan Beel region in Natore, is quite popular across the country for its taste and quality. Driven by the demand, its production in the region is also on the rise. However, dried fish makers are not being able to reap the benefit of the high demands due to falling prices at markets this year.

Dried fish production reached up to 411 tonnes this season so far, from 320 tonnes in the season of 2019-20; and it might even exceed this year's production target, said Nazim Uddin, district fisheries survey officer.

The production in the season 2018-19 was 280 tonnes, he added. Abdus Salam, a dried fish producer in Ningoin area of Singra upazila, said they were able to procure fish at low prices, as supply of fish was more than last year at the markets. But after producing a huge amount of dried fish, they are finding it difficult to make profit from sales due to a fall in demand at the market, he also said. There is only one dried fish market in Syedpur where there are not too many buyers. Their product would sell better if there was an easy way to cater to other markets in the country or overseas, said Nayon Hossain, another dried fish producer from the same area.

Dried fish trader Lutfar Rahman, from Ningoin shutkipolli, said all varieties of dried fish are selling for nearly 50 percent lower prices this year than that in the previous year. However, Lilly Begum, a dried fish consumer, said dried fish from Chalan Beel area are tastier and hygienic, but the prices are high even for a buyer from the middleclass section of the society. Contacted, Jahangir Alam, district fisheries officer in Natore, said, "The government is taking initiatives for export of dried fish to countries in the Middle East. We are providing training to dried fish producers on how to process fish naturally and produce dried fish without using any harmful chemicals." He also said they urged the ministry to provide solar driers so the producers can continue to dry fish during inclement weather.

URL: <https://www.thedailystar.net/country/news/chalan-beel-shutki-prices-seeing-sharp-decline-2037285>

Bangladesh: Blue economy: Prospects and challenges

The Oceanic Economy popularly known as blue economy has emerged as a crucial development issue for optimum use of the oceans, seas and marine resources for sustainable development. Among the sustainable development goals (SDGs), SDG-14 focuses on sustainable use of the oceans, seas and marine resources for sustainable development. Ocean assets provide food and energy which are essential ingredients of human life. By overlooking the three-fourth proportion of the surface of earth, it is tough to achieve sustainable economic development by 2030. Given this, Bangladesh has adopted steps to ensure sustainable use the oceans, seas and marine resources attaining inclusive development and goal related to SDG-14.

Bangladesh has 710 km long coastline with an exclusive economic zone of 200 Nautical Miles inside the Bay of Bengal. Marine fisheries contribute 19.40 per cent of the total fish production of the country. Besides, on an average, 81.0 per cent of the international tourists visit Cox's Bazaar in Bangladesh. The ocean of Bangladesh is contributing a noteworthy role to its overall

socio-economic growth through enhancing the economic activities across the country and especially to the coastal zone at southern part.

A new economic area for Bangladesh is demarcated in the Bay of Bengal. Already, Bangladesh has taken steps to flourish its Blue Economy in order to utilize its new marine resources. Since 2015, the Government of Bangladesh (GoB) has undertaken a number of consultations and workshops on Blue Economy. In addition, Seventh-Five Year Plan (7FYP) of Bangladesh has mentioned twelve actions for maintaining a prosperous and sustainable Blue Economy, which include fisheries, renewable energy, human resources, transshipment, tourism and climate change among others. Moreover, in 2017, the “Blue Economy Cell” under Ministry of Foreign Affairs (MoFA), GoB has been established with the mandate to coordinate Blue Economy initiatives across sectoral ministries. Blue Economy has the prospect to contribute Bangladesh economy on a much higher level. Twenty six potential Blue Economy sectors have been identified by the MoFA which include the fishery, maritime trade and shipping, energy, tourism, coastal protection, maritime safety and surveillance for development of blue economy in Bangladesh.

SHIPPING: Mostly the Bangladesh’s external freight trade is seaborne (2018) which is 90.0 per cent of the total freight trade of the country. Therefore, it appears that our economy may heavily depend on freight trade in future. So, to retain the huge amount of freight charges within the country, incentives might be provided to local shipping companies to add more ships to the existing fleet. Besides, coastal shipping, seaports, passenger ferry services, inland water way transport, ship building and ship recycling industries should get more importance to carry on sustainable economic growth of our country.

FISHERY: Experts opine that fish alone has 500 varieties besides snails, shell-fish, crabs, sharks, octopuses and other animals. It is estimated that Bangladesh catches only 0.70 million tons of fish every year out of the total 8.0 million tons of fish available in the Bay of Bengal. It is worthwhile to mention that 15.0 percent of the protein is provided from sea resources for the people across the world. As many people depend on oceans for their livelihood and foods, increased efforts are needed to save ocean resources. **Oil and gas:** Bangladesh is yet to assess the true potential of its offshore gas prospects. Bangladesh could also have gas fields in its area of the sea. Bangladesh possess some gas fields in the land and like Myanmar, Bangladesh may have the potentials to get more gas fields in the sea which may add to the total reserve of gas of the country. Besides, oil and gas, sea salt, ocean renewable energy, blue energy (osmosis) and biomass, aggregates mining (sand, gravel, etc.) and marine genetic resource should get more attention as ocean resources. Therefore, these plenty of potential may contribute to our sustainable economic development in future.

TOURISM: Globally, coastal tourism is the largest market segment and represents 5.0 per cent of world Gross Domestic Product (GDP) and contributes 6.0-7.0 per cent of total employment. In 150 countries, it is one of five top export earners. It is the main source of foreign exchange for one-half of the Least Developed Countries (LDCs). Coastal tourism includes: (a) beach-based recreation and tourism; (b) tourist activities in proximity to the sea; and (c) nautical boating including yachting and marinas. Sustainable tourism can create new employment opportunities and reduce poverty. So, Bangladesh can earn foreign exchange from tourism industry which may

contribute to GDP growth as well as help achieve SDGs by 2030. It is reported that the country has 75 outer-islands which could be utilised for tourists both local and foreign.

FUTURE OF EXPLORATION: Exploring and exploiting these sea resources through the use of appropriate technology, the economy of Bangladesh can grow rapidly. Bangladesh gained a defined maritime zone in the Bay of Bengal after a long time dispute settlement of maritime boundary with India and Myanmar. Bangladesh may pay attention in advancing its Blue Economy to utilise its vast sea region with sea-based resources through ensuring a sustainable balance between the protection of marine ecosystem and marine resources. Now, Bangladesh can create more spaces to ensure economic growth through fresh investments in marine trade and commerce.

The country has so far, explored only a few number of Blue Economy sectors such as fisheries and aquaculture, shipbuilding, ship breaking, salt generation and port facilities. Besides, most of these sectors are following traditional methods. Therefore, there still remains ample opportunities as well as challenges for exploring large number of blue economy sectors, safeguarding mangrove and ocean grass, addressing environmental changes and managing carbon discharge, and introducing innovative technology for further development to contribute in achieving sustainable development goals.

URL: <https://thefinancialexpress.com.bd/views/blue-economy-of-bangladesh-prospects-and-challenges-1611760062>

Bangladesh: Fishermen's six-point demand

Fishermen living in the coastal areas of Bangladesh have the biggest contribution in hauling in fish resources, hilsa, in particular. We find farmed fish in ponds, ditches and other water bodies. But, these coastal fishermen provide the entire supply of hilsa and sea fish. Sometimes, they fish in the rivers and the sea, risking their lives amidst the storms. According to reports by Prothom Alo's Bhola and Patuakhali correspondents, fishermen are facing all sorts of problems there. They don't get a fair price for their catch. The river mouth silting up and sand bars rising in the rivers hamper fishing. The fishing season stays for only four months in the coastal area. Fishermen are without work for the rest of the year. To resolve this problem, the fishermen come up with a six-point demand including allocation of khas land, adequate assistance during drought session, introduction of life insurance and more. These are justified demands.

The problems that the fishermen in Bhola and Patuakhali are raising are more or less same for all fishermen in the coastal area. Fishermen themselves don't have money. They borrow from the lenders and the owners of warehouses to get boats and buy nets as well to feed their families in the lean season. In return, they sell fish to the warehouse at a low prices. The life of the fishermen is apparently at the mercy of this stockists.

It's good news that fish production, including that of hilsa, is increasing. But the lives of those who fish defying all odds are very uncertain. Sometimes it is very risky. Twenty-two fishermen went missing after going to fish in the coastal area of Bhola in the last one year. Financial

assistance given by the government during ‘drought season’ is quite inadequate. And on top of that, a portion of the government allocation finds its way to the pockets of the local representatives and influential persons. Many chairmen and members of union parishad also served jail terms for embezzling rice meant for fishermen. Yet the situation has not improved.

According to records, nearly 3 million (30 lakh) fishermen live in the coastal region. Not all of them are registered. In Bhola district, 136,000 out of about 175,000 fishermen are registered. So, it is necessary to bring all fishermen of the district under registration to provide financial assistance. The practice of usury has been abolished in Bangladesh for quite some time. But coastal fishermen are forced to borrow from the lenders at a high interest as they don’t get loan from banks. The government should give adequate loans to fisherman to overcome the situation. For this, establishing banks in remote area is not essential. They can be provided with loans through mobile banking and agent banking. Many fishermen don’t have permanent homes. If they were given khas land they will earn something by farming in the dry season.

While the population of the country is on the rise, it’s declining in the coastal area. A Prothom Alo report was published on this a few days ago. There is no reliable source of income there except fishing. To solve the problem, the government should give special attention to improve living standards of the coastal people. A coastal development authority can be set up like that of the special economic zones. Development of fisheries will not sustain without improvement of the fishermen’s lives.

URL: <https://en.prothomalo.com/opinion/editorial/fishermens-six-point-demand>

Bangladesh: Fish production boost up by 50pc in 11-yrs

Prime Minister Sheikh Hasina yesterday said Bangladesh has attained self-sufficiency in fish boosting up the production by over 50 percent in last 11 years following the effective and time befitting measures of her government. “New technologies of fish farming and production of seed fishes have been invented by the Bangladesh Fisheries Research Institute to protect 25 species of freshwater fishes from extinction,” she said. The Premier revealed this in Parliament last morning in replying to a tabled question from the treasury bench lawmaker Ali Azam of Bhola-2.

Speaker Dr Shirin Sharmin Chaudhury chaired the sitting of the eleventh session of the 11th Jatiya Sangsad. Sheikh Hasina said Bangladesh has upgraded its position to second place in producing fresh water fishes as per the report of the Food and Agriculture Organization of the United Nations, and the country now becomes self-sufficient in fish. Now, each person in the country intakes 62.25gm of fish against the daily demand of 60gm, she added. The Leader of the House said her government’s aim is not only to meet the nutrition demand of the country’s people through boosting the fish production, but also set a goal to generate huge employment in this sector and earn foreign currency exporting fish to abroad.

She said Bangladesh produced a total of 43.84 lakh metric tons of fish in fiscal 2019-20 which was (27.01 lakh metric tons) 62.31 percent higher than of fiscal 2008-09. Highlighting different measures taken by her government for the development of the country’s fisheries sector, Sheikh

Hasina said the fisheries sector has witnessed a silent revolution due to the implementation of different training activities and encouraging people to cultivate Pangas, Shing, Koi, Magur and Telapia fishes.

She went on saying that imported Silver carp, Bighead carp and Grass Carp fishes with highest genetic quality from China have been shifted to 39 government hatcheries under the third phase of the project tiled brood bank installation to increase production in fixed water bodies. Besides, the premier said, countrywide pona fish release and nursery installation activities in every year are being implemented along with re-excavation of water bodies to create an environment for fish farming.

URL: <http://www.dailyindustry.news/fish-production-boost-50pc-11-yrs/>

Bangladesh: Aquaculture 4.0 and the perspective

Anyone who studied Bengali literature at some point in their life must know about “Titash Ekti Nadir Naam”, the magnum opus of the writer Adwaita Mallabarman who drew a poignant picture of the uncertain life of fishermen. Rivers and fish have always been an inseparable part of our existence. A Bengali is nothing if not one enamoured with fish and rice, as the old adage goes. The plight of the fishermen, however, has diminished with the change of time. We are now on the verge of producing smart fishermen in a country undergoing a rapid digital transformation, where it’s hard to find someone who neither uses nor is within the reach of a smart mobile phone. It is undeniable that the last two decades have seen a radical shift in this nation’s technology industry and how it connects with other industries and even ordinary people. There are more than 161 million mobile phone subscribers in Bangladesh, of whom around 92 million reportedly have access to internet. The countrywide optical backbone network and connectivity coverage are helping Bangladesh move forward faster. We also have Bangabandhu Satellite-1, which is strong enough to reach even adverse, otherwise unavailable and distant corners. Mobile internet, wireless broadband, and fixed broadband are the three forms of internet access empowering approximately 92 million people, 94 percent of whom reportedly rely on mobile networks. And since 2018, Bangladesh has introduced the 5th-generation experimental transmission following the 4th generation, the advantages of which may not take long to reach everyone. Once they do, anyone in Bangladesh, sitting anywhere in the country, can easily hope to compete shoulder-to-shoulder with their rivals in the developed world.

The concept of smart agriculture may already be familiar to many thanks to “e-Village”, a project of the Centre for Research and Information (CRI). This is the first smart-agriculture innovator in Bangladesh developed by indigenous scientists, where farmers can instantly know the state of their field, sitting at home. Equally, the concept of smart fishing is fast gaining ground, too. There was a time when people would be surprised by the talk of fish farming or aquaculture in ponds. Today, Bangladesh is the third leading inland fisheries producer in the world, behind only China and India, according to a report of the UN’s Food and Agriculture Organization (FAO). This is indicative of the steady upward movement of the fisheries sector in Bangladesh, aided, among other things, by the deft use of information technology. With the help of technology, field-level scientific and social problems related to fishponds such as lack of

oxygen, increase in ammonia, oversupply of food, theft of fish, poisoning of water, etc. can be solved, sitting at home, simply by using real-time and need-based information. Technology can be a real boon to fish cultivators and fishpond operators. It can also eliminate the need for waiting for so long to find out a solution through laboratory testing of water samples and so on.

As for digital marketing of fisheries, use of various social media sites such as Facebook has already become popular. The use of mobile apps has attracted the attention of many as well. Several government and private mobile apps such as Chingri, BD Fishpedia, Rupali, Fish Bangla, Bangla Fishing Baits, etc. are helping the fish farmers. Besides, some foreign companies, such as XpertSea, which is a Canada-based company, are reportedly going to start experimental technology testing on shrimp farms in Bangladesh soon. The most promising thing in this aspect is that not only foreign firms and researchers, but indigenous researchers are also making progress to solve different concerns related to fish farming through the use of Internet of Things (IoT), artificial intelligence, machine learning, etc. A digital pathway can modernise and diversify aquaculture production and bring in sizeable profits for all stakeholders. Among the direct consequences of using technology in fish farming are: increasing fish production, reducing production costs, increasing exports, maintaining fish quality, controlling overfishing in wildlife, and saving endangered species. The entry of related technology can help create new jobs in the market on the one hand, and open the door to new areas of research on the other. But timely planning and decision making are essential in areas such as fish production, conservation of mother Hilsa, raising awareness, etc. Research by home-grown scientists are already advancing the fisheries sector by an average of 5.26 percent per annum (Fisheries Statistics 2016-17). As a result, the Department of Fisheries under the administrative control of the Ministry of Fisheries and Livestock expects to increase the fish production target from 4.2 to 4.5 million metric tons in 2020-21.

According to Statista 2020, more than 21 billion IoT-connected devices are going to be included in the world by 2025. This will benefit every sector that relies on technology. To keep pace with the transformation, the inclusion of technology in various fields and sectors began in the country since 2009, and we are now on the threshold of reaching the Digital Bangladesh goals. The Covid-19 epidemic has made it clear, once again, how difficult it is to move forward in this day and age without proper use of digital technology. To advance the fisheries sector in Bangladesh, we need to prepare for what can be called the 4th Fisheries Revolution (or Aquaculture 4.0) in line with the 4th Industrial Revolution. Some existing gaps such as lack of seamless network coverage and proper technological knowledge can be bridged if everyone works with the same spirit from their own position. This would be feasible if experts from various fields such as information technologists, fishermen, ecologists, policymakers and above all the marginal fish farmers work in collaboration.

URL: <https://www.thedailystar.net/opinion/news/aquaculture-40-and-the-bangladesh-perspective-2031817>

Bangladesh: Livelihood of 2,000 Kurigram fishermen in jeopardy

Sixty-year-old Lalchand Das lives on fishing in the Chakirpasha river of Kurigram's Rajarhat upazila. Like him, 2000 people from 420 fishing families have been making a living by fishing in the river for years. But this year, they are not being allowed to go fishing in the river as a group of local influential people, led by Abu Bakkar, got lease of the river, said the fishermen. Das said he has been earning his livelihood by fishing in the river all the year round. But this year, he is not able to go fishing in the river. If he does not get a chance to catch fish in Chakirpasha, he will have to sell his fishing nets and join work as day labourer, said Das. Tara Bala Das, 65, a widow from Chandamari Daspara, said she has been fishing in the river since childhood. She raised her children by fishing. But this year, the men of the leasee of the river asked them not to go fishing.

She has also urged the authorities concerned to take immediate steps in this regard so that they can catch fish in the river again. Jogen Chandra Das, president of the Chakirpasha Fishermen's Association, said the local administration has been leasing the Chakirpasha river since 1996. Usually, fishermen get the lease of the river and make a living by fishing. "But this year, those got the lease of the river are not the members of their community. They have kept the whole river under their control. Fishermen are not allowed to go fishing in the river. We are helpless now. Many have already left their ancestral profession and started working as day labourers," said Jogen Das. Contacted, Abu Bakkar said as he has recently taken lease of the river following the government rules, he will not allow others to catch fish in the river. Out of 306 acres of land of the river, 164.71 acres have been grabbed till now, said sources at local administration. Dr Tuhin Wadud, coordinator of Chakirpasha River Protection Committee, said the National River Protection Commission has directed the district administration to save the river from grabbers.

Rajarhat Upazila Nirbahi Officer (UNO) Noor-e-Tasneem said Chakirpasha is a beel, not a river in the official list. The water body has been leased out to the highest bidder from the deputy commissioner's office. Major portion of land in the beel has been occupied by grabbers. They will conduct eviction drive after getting permission from the district administration, said the UNO. Kurigram Deputy Commissioner (DC) Rezaul Karim said he has received a letter from the National River Protection Commission. He will reply to the commission's letter soon. Replying to a query, the DC further said he will take immediate steps to resolve the problem of the fishermen.

URL: <https://www.thedailystar.net/country/news/livelihood-2000-kurigram-fishermen-jeopardy-2030585>

Bangladesh: Export potential in China market remains untapped for pandemic

Despite the duty-free market access for 97 per cent goods, Bangladesh could not seize the opportunity for most of last year because of a lack of diversified goods and the fallouts of the coronavirus pandemic. Beijing extended the duty-free access to 97 per cent of Bangladeshi goods in July last year, bringing 8,256 products under the tariff-free regime. Shipment to China stood at \$566.15 million in 2020, according to data from the Export Promotion Bureau (EPB). It was \$238.77 million in the January-June period and rose to \$327.38 million in the second half. "The export to China in the second half was supposed to jump massively because of the duty privilege.

But unfortunately, the fallouts of the Covid-19 impacted the overall business badly last year,” said MA Razzaque, research director of the Policy Research Institute of Bangladesh (PRI).

Every year, China imports \$2.1 trillion worth of goods from all over the world and the amount is expected to double within the next seven to 10 years. “If we can increase our export contribution to China to 1 per cent, Bangladesh’s export to China will be \$26 billion in a year,” said Razzaque. “So, retaining the duty-free access in this market is very important.” The duty benefit was extended to Bangladesh at a time when China’s consumer market is set to expand by 12 per cent every year to reach \$8.4 trillion by 2022. Studies suggest that because of its vast population, the Chinese consumer market will overtake America’s by 2034. But Bangladesh’s export to China does not reflect the startling transformation the world’s second-largest economy is currently going through, although the country is an old and has been a promising trading partner for years. Bangladesh’s contribution to China’s annual import is only 0.05 per cent compared to 3 per cent of Vietnam. In 2000, China contributed 7 per cent to the annual growth in consumer spending worldwide. By 2040, China will contribute 44 per cent of the global figure, which is 3.5 times the expected contribution of the US, and 2.7 times the combined contribution of the whole of the rest of Asia, according to Oxford Economics, a research firm.

Razzaque said Bangladesh should proactively seek Chinese investment along with technological knowhow. If Bangladesh can strengthen the bilateral trade, exploiting the potential in other member countries of the Regional Comprehensive Economic Partnership (RCEP) will also be possible as China is leading the trade bloc, he said. After the Covid-19-induced supply chain shocks, for which heavy dependence on China was identified as a key reason, Chinese entrepreneurs are exploring other investment destinations to keep their access to the global market open.

“This could be an opportunity,” Razzaque said. Foreign direct investment stocks in Vietnam and Indonesia rose rapidly to \$161 billion and \$232 billion, Razzaque said. “Investment saturation points are being reached because of a shortage of cheap labour and a lack of generous policy support. Therefore, investors are looking for other countries with potentially large supply-side capacities.” “In this context, the duty-free market access will be a great advantage for Bangladesh. Bangladesh should have a special focus eyeing Chinese investment,” he added. Bangladesh is yet to raise its export to China to \$1 billion whereas the shipment to Japan and India has crossed the mark. Historically, the export to China is very low. For instance, exports to China from Bangladesh were \$746.2 million in the fiscal year of 2013-14. The amount reached to its highest level of \$949.41 million in 2016-17. It dropped to \$694.97 million in 2017-18. The export of garment, the main items going to China, is still very slow although it is growing. In 2008-09, Bangladesh shipped \$9.49 million worth of garment to China. It rose to \$506.51 million in 2018-19. Annual average growth of garment export to China was 48.85 per cent between 2008-09 to 2018-19. It fell in 2019-20 due to the pandemic as export came down to \$330 million, according to data from Bangladesh Garment Manufacturers and Exporters Association (BGMEA).

“We are greatly thankful to the government of China for extending the duty-free access to 97 per cent of the tariff lines to the least-developed countries,” BGMEA President Rubana Huq said. The duty-exempted products include 299 garment items. “The export of garment to China can’t

be said slow as progress is happening. However, the enhancement of product coverage appears to be insignificant in terms of our trade coverage,” she said. Under the Asian Pacific Trade Agreement (APTA), Bangladesh used to get duty-free access for 226 products. So, only 73 products are newly added, Huq said. Bangladesh exported 151 types readymade garment items to China in 2019-20 worth \$ 330 million. Of them, 89 types of products worth \$185 million had duty-free access under the APTA. The latest duty-free access has granted the tariff-free market access to 19 types of RMG items. There are 43 items that need to pay duty at varying rates.

“Given the limitation of our product basket, we would only be able to take more benefits of the duty-free access to China if we can diversify products, or enhance our exports within the duty-free covered items which is already happening,” Huq also said. Bangladesh imports almost half of its raw materials and capital goods from China. It imported \$10.84 billion worth of textile and textile articles in 2018-19. China’s share was 46.31 per cent, or \$5.02 billion, BGMEA data showed. Only for cotton, the country brought in \$2.2 billion worth of the raw material from China, which 31.84 per cent of the total of \$6.9 billion.

“We need to pursue Chinese investment. There is a pledge of Chinese investment worth \$27 billion in Bangladesh in different sectors, but so far only \$3 billion was invested in,” Razzaque said. Leather and leather goods are a potential sector that can attract Chinese investment. China could be a very good export destination for the country’s leather and leather goods export. Md Saiful Islam, president of the Leathergoods and Footwear Manufacturers and Exporters Association of Bangladesh, said the 97 per cent package included local leather and leather goods but the value-addition is very high, an area where Bangladeshi manufacturers have to face difficulties.

Since China is trying to make the most of Bangladesh’s market access to the world, investment from the country is gradually coming to Bangladesh. “We encourage Chinese investment in the leather and leather goods sector as it will create jobs, transfer technology and know-how and brand Bangladesh,” Islam said. Azizul Akil David, senior vice-president of the Bangladesh China Chamber of Commerce and Industry, said the duty-free package is a big opportunity for Bangladesh. The package also includes agricultural and fish products. “The export of agricultural and fish items means more local value-addition. We need to explore and exploit Chinese markets sincerely,” he said, adding that the wide trade gap will narrow if Bangladesh can export more. Currently, China is the largest sourcing destination for Bangladesh, which buys \$14 billion worth of industrial raw materials and food items every year. Md Jafar Uddin, commerce secretary, said: “We have started enjoying the duty benefit from China.”

URL: <https://www.thedailystar.net/business/news/export-potential-china-market-remains-untapped-pandemic-2030805>

Bangladesh: Witness to a silent fish revolution

Bangladesh’s annual fish production has increased nearly two and a half times over the past two decades, helping the country keep fish prices low and increase protein consumption. Just released official statistics show, Bangladesh’s yearly fish output increased to 4.4 million tons

now from 1.8 million tons in 2000. The country's Ilish catch rose to over half a million tons a year now while it was only 0.3 million tons 10 years back. Bangladesh ranks first in global catch of Ilish, fourth in Tilapia. With over 1.2 million tons of inland water capture fish output annually, Bangladesh now contributes a tenth of the world's total inland water capture fish production, the United Nations Food and Agricultural Organization (FAO) states in its latest flagship report – The State of World Fisheries and Aquaculture 2020. China (1.9 million tons) and India (1.7 million tons) are the only two other countries in the world that produce more inland water capture fish than Bangladesh.

“A rapid increase in aquaculture production in Bangladesh has lowered fish prices, increased protein consumption, and reduced poverty,” states “The Making of a Blue Revolution in Bangladesh” – an International Food Policy Research Institute (IFPRI) publication that offers a valuable case study of how this transformation in the fish value chain has occurred and how it has improved the lives of both fish producers and fish consumers in Bangladesh. In recent years, fish researchers and scientists in Bangladesh also succeeded in establishing a gene bank for protecting local fish species and regaining breeding of at least 24 out of 64 near-extinct homegrown fish species. These efforts helped Bangladesh Fisheries Research Institute (BFRI) bag the country's second highest civilian award Ekushey Padak in 2020.

Bangladesh's tremendous success in fish production growth has transformed its population's otherwise low-protein diet to a diversified and rich sustenance. Bangladesh today belongs to a small league of countries that provide over half of food proteins from fish sources. Globally, fish provides only 17% of average per capita intake of animal proteins, but only a handful of countries such as Bangladesh, Sri Lanka, Cambodia, Indonesia, the Gambia, Ghana, Sierra Leone, and several small island developing states (SIDS) source over 50% of animal proteins from fish. In Bangladesh's case it is 60%, making fish one of the cheapest sources of protein for 170 million people in the country.

“Fish production in Bangladesh has transformed over the past 20 years. Fish is the biggest protein source in Bangladeshi diets,” said IFPRI South Asia Director Shahidur Rashid, and the Washington-based food policy think tank's Senior Research Fellow Xiaobo Zhang. Xiaobo Zhang, also a Peking University economics professor, together with Rashid, edited the book – The Making of a Blue Revolution in Bangladesh. Through the 1980s and 1990s, high prices for fish contributed to poor nutrition in the country but as fish farming—known as aquaculture—more than doubled between 2000 and 2010, prices fell, per capita annual fish consumption rose countrywide, and the expansion of pond fisheries generated more employment, they noted.

“Improved infrastructure and information access lead to lower transaction costs. Roads, rural electrification, and telecommunications access have all dramatically improved in Bangladesh..... Fish trade and marketing costs have declined accordingly. Fish value chains now involve fewer actors per unit of output. While the number of traders has increased, the increase in fish production has been much greater,” they explained. They said, the yields of some fish varieties (measured by weight) are 13 times the yield of rice that could be grown on the same land, and revenues are several times higher. According to the Department of Fisheries, Bangladesh, the fisheries sector now contributes over 3.5% to national GDP, over 25% to the agricultural GDP, and 1.5% to the foreign exchange earnings by exporting fish and fish products.

Three categories of major fisheries resources

Bangladesh's total output of 4.4 million tons of fish in 2020 have been sourced from – inland capture (28.45%), inland culture or farmed-fish (56.24%) and marine capture (15.31%). Inland fisheries comprise of rivers, ponds, estuaries, beels, floodplains, haors, baors, brackish water, etc. There are 260 fish and 24 prawn species in inland fresh water in the country. In the early sixties, inland fisheries contributed about 90% of total fish production of the country. Fish production from aquaculture has increased to a great extent but open water fish production is in slow progress. Now only about 28.45% of total fish production comes from inland open water. Bangladesh's marine fisheries resources, however, remained largely untapped. There is a total of 166,000sqkm of water area including Exclusive Economic Zone (EEZ) in the Bay of Bengal in the south of Bangladesh but fishing is only confined within 200-meter depth. About 255 trawlers, 67,669 mechanized and non-mechanized boats are engaged in fishing. Deep-sea resources are still untapped. Total fish production from marine sources still hovers around only in the range of 0.6 to 0.7 million tons per year.

Bangladesh has got the right to access 100,000sqkm of water area in the Bay of Bengal through the International Tribunal for the Law of the Sea (ITLOS), opening up scope for the country to tap its marine fish resource potentials fully. The FAO is also helping Bangladesh in getting assistance from research vessels in conducting appropriate stock assessment. There are 260 freshwater and 475 marine fish species in the country.

Challenges ahead

To realize Bangladesh's potential, policymakers, and researchers need to identify and address productivity constraints, particularly problems with fish feed. According to IFPRI, a 2017 survey on problems and challenges faced by aquaculture farmers found that three of the top problems are related to feed: the high price of fish feed, difficulty in getting fish feed on time, and poor quality of fish feed. "However, more research is needed to establish the link between low productivity and feed supply," states IFPRI.

The international food policy think tank also says, if Bangladesh realizes its aquaculture production potential, the next step is to sell fish in international markets. "Unlike shrimp production, which is dominated by large entrepreneurs and largely exported, fish farming is dominated by smallholders. Meeting international safety and certification standards will be difficult for these fish farmers, especially since non-shrimp pond culture has developed to serve domestic markets, which do not enforce food safety standards." Export promotion will require new institutional and regulatory frameworks. This is another important area for future research. In recent years, researchers also expressed concern over the future stock of Bangladesh's sweet water capture fish due to increasing salinity in Meghna estuaries and water scarcity in rivers during dry season owing to increased water withdrawals in the upper riparian country.

URL: <https://www.dhakatribune.com/bangladesh/2021/01/17/bangladesh-witness-to-a-silent-fish-revolution>

Bangladesh: Set to lose Tk 6.0b due to China's ban on exports of eel, crab

Bangladesh is set to lose Tk 6.0 billion in export revenue as export of live crab and eel fish to China has remained halted for more than six months, industry insiders said. Bangladesh Live and Chilled Food Exporters Association (BLCFEA) has recently requested the authority concerned to take necessary steps for resuming the export of live crab and eel to China. They have also expressed fears that Bangladesh is going to lose its export market of these products in China gradually. They think that China has been hampering imports of these items as a 'trick to keep Bangladesh under pressure'. In such circumstances, most of the firms concerned stopped their business due to continuous losses in their trading, according to the association. There are 218 members under BLCFEA. But only 10/12 firms have now kept doing their business, a letter sent by the association to the authority reads.

The association has also sought the Prime Minister's intervention to resume export of such items to China, if necessary. In June 2020, China had imposed a ban on import of live mud crab and eel fish from Bangladesh as health hazardous bacteria was found in some consignments along with forged salubrity certificates. The government had asked the law enforcement agency to take legal action against five exporting firms in this regard. These firms had submitted fake salubrity certificates to the Chinese authorities concerned while exporting crab and eel fish. The false certificates prepared by the five firms had been issued in the name of the chief veterinary officer, according to a senior official at the Department of Fisheries (DoF).

The Chinese authorities found the presence of contaminated substances (estradiol and cadmium) beyond an acceptable limit for human health, he added. In a letter earlier, Plant and Animal Quarantine Department of General Administration of China Customs (GACC) conveyed the decision on the temporary ban on import of goods to Bangladesh embassy in Beijing. A DoF official said the Chinese side had requested Bangladesh to take legal actions against the five exporting firms. They also called for a halt in the export of such goods to China from Bangladesh as soon as possible. The fisheries and livestock and the commerce ministries as well as the fisheries department have been working jointly to resolve the existing problems, a senior official of the fisheries department told the FE.

Generally, live mud crab and eel fish are exported only by air. The ministry concerned had selected five crab and eel exporting firms. In September last, exports of such products to China started. But the Chinese authority concerned suspended imports of live mud crab and eel from Bangladesh in October due to the presence of contaminated substances, estradiol and cadmium in particular, beyond an acceptable limit for human health for the second time, the official added. China is Bangladesh's largest trade partner with annual bilateral trade of over US\$13 billion. Country's export revenue from frozen fish and shrimp is about Tk 45 billion annually. Crab and eel exporters earned about Tk 6.0 billion in the last fiscal year. A major portion of export consignments of crab and eel went to the Chinese market, a sector source said.

URL: <https://www.thefinancialexpress.com.bd/trade/bangladesh-set-to-lose-tk-60b-due-to-chinas-ban-on-exports-of-eel-crab-1610869667>

Bangladesh: Aquaculture in Bangladesh: Farming without plunder

Aquaculture, or the farming of aquatic life such as molluscs, crustaceans and fish under controlled conditions, is a direct antithesis of commercial fishing which is often exploitative and destructive to natural ecosystems. By analysing the aquaculture industry of Bangladesh, the lessons learned can be applied to any society with a restorative approach that is accountable for vulnerable communities. Oftentimes, thinking about complex concepts with elongated lexicon such as “regenerative agriculture” can feel pertinent only to the first world’s struggle against climate change, as developing nations like Bangladesh have other challenges such as poverty to prioritise first.

However, Bangladesh is the sixth largest aquaculture producing country in the world, according to the Food and Agricultural Organization (FAO), with a marine catch of 455,601 tonnes and a total fish production of over two million tonnes. The culture of the subcontinent is heavily dependent on the ocean environment for livelihoods and for food, but because of rising sea levels due to global warming, these practices have been drastically changed, resulting in unbalanced natural systems for the environment and the loss of revenue for humans—not to mention individuals having to resort to unsustainable fishing practices such as the usage of nets and dredges, which is often done by multinational corporations with a lack of informed consent from the locals.

The main species that are cultured in closed waters through sustainable aquaculture are major and exotic carps, striped catfish (*Pangasius hypophthalmus*), tilapia and Java barbe (*Barbonymus gonionotus*). This process is carried out in the coastal regions of the country, mostly in Chattogram and Barishal, where only minimal inputs are used, if at all, for the natural recruitment of fish. Furthermore, a minuscule amount of artificial resources are used, as the ponds are filled by the heavy rains that descend upon the tropical torrid region from the natural regulation of the water cycle. Stocked fish are not specifically selected; the natural predators in the region are allowed to thrive to ensure that there is no singular disruption in the trophic levels of the marine food chain, and no fertilisers are distributed except organic ones, which in itself is a rare practice.

In recent years, the production of fish has increased after stricter regulations by the government on the limitations of commercial fishing. Although the practice of aquaculture was dying in favour of more cost-effective and profit earning methods involving mass aqua-farming and draining water bodies, there has been a surge in its popularity once more as the climate movement advances and people become more conscious of the environmental risks such practices pose, and as awareness spreads on the increases in production levels that these regenerative methods can bring to the industry.

The importance of aquaculture is undeniable not just in Bangladesh, but in every country of the world. One in seven people on earth rely on marine species as part of their diet and/or income. Unfortunately, to meet the demands of the increasing world population, more than 90 percent of the earth’s fish caches are overfished or exhausted past their capacity—some examples being the bluefish tuna in the Mediterranean and wild salmon in the West Coast of the US. A safer,

regenerative alternative is aquaculture, which is also the fastest growing segment in agriculture as of today, presenting a major opportunity to meet the unemployment and food inequality challenges that Bangladesh and the rest of the world face while tackling the issue of preserving our fish species. The main challenge that researchers and blue collar workers alike are currently collaborating on internationally, is to make the practice permanent in the future through ensuring climate security and more efficient, urgent management of the world's biodiversity crisis.

The primary objective of most forms of farming—especially for rural farmers living in Bangladesh—is economic benefits, an influence that is undeniable when it comes to water management. In the planning stages of sustainable aquaculture, it is important to consider social and environmental viability to achieve a balanced system. Examples such as subsistence farming and integrated farming are social benefit oriented, and the two models often intersect to maximise output so that these families can have their livelihoods, while ensuring that the surrounding species are not endangered by overfishing. The complexity of management needs to be integrated into the environment that it is best suited for and ensure that it is not overburdened.

Interestingly, if implemented properly and with the right education and tools, aquaculture has the lowest environmental footprint out of all protein sources. The natural maintenance of various trophic levels and the water cycle ensure waste cycling without generating non-biodegradable remnants that large fishing nets, plastic, oil and other forms of commercial fishing equipment can leave. As the compost from aquaculture builds up in the designated seabed area over time, the output is also expected to increase along with the quality of the water in terms of sustaining life. So, this regenerative approach can be taken off the soil and into the waves. The challenges faced by the country in fully integrating this approach is first and foremost, a lack of funds, and secondly, a lack of authoritative management. While the government has passed a few acts pertaining to the conservation of animal life, nothing specific has been done for marine diversity and the ethical management of these caches.

URL: <https://www.thedailystar.net/opinion/news/aquaculture-bangladesh-farming-without-plunder-2026085>

Bangladesh: Composite farming brings smiles on faces of fish growers in Rajshahi

Composite fish farming with poultry birds, vegetables and fruits has been gaining popularity in the Rajshahi region contributing a lot towards meeting the gradually increasing demands for animal protein and other nutrition. Many people have set up small-scale poultry farms and vegetable gardens surrounding their ponds with more investments as they get extra income from composite farming.

The gradual rising of investment to the venture has added a new dimension to the existing economic and other allied fields in the region for the last couple of years. Shafiqul Islam, a fish farmer of Keshorhat village under Mohanpur upazila, has five big size ponds with around 75 bigha of water area. He has established chicken and duck farms and vegetable gardens in surrounding areas. He has been supplying live fishes to Dhaka by truck regularly. Islam earned

around Tk1 crore from farming during last around eight years besides creating employment opportunities for many people.

Anwar Hossain, another farmer of Boilsingh area under Bagmara upazila, has become an icon in the field of composite farming of fish, poultry birds and vegetables playing a vital role in boosting the local economy. He has integrated fish farming in 22 ponds of more than 1,320 bigha of water bodies and contributes to improving socio-economic conditions. Hossain said training and technical support would help increase the knowledge of farmers, improve productivity and reduce risks. The prospects for composite fish culture development in the region are considerable but determination is required to exploit the potential fully. Ashraf Ali of Bardhanpur village under Durgapur upazila has earned success through composite fish farming in 20 ponds for the last around 20 years. He set up a fish feed factory in his locality with his earnings.

General Secretary of District Fish Farmers Association Sohrab Hossain here told BSS that the farmers are being habituated to and interested in modern fish farming leaving behind the conventional method. There is no alternative to coming out from the conventional practice to produce safe and chemical-free fish, he opined. A range of public and private sector investments and initiatives are needed to realize the potential for growth of this integration. Public-private partnerships offer potentially important opportunities for pro-poor agricultural development. Such collaborations have already contributed to food security in many developing countries. Moreover, applied research in areas such as small indigenous fish farming in wetlands may need to be given particular attention, considering nutritional benefits among household members including children and women.

In addition, further research would be required on social, economic, environmental and livelihood issues for the adoption of integrated fish farming in rural areas, the fish farmer added. In order to meet the increasing demand for food, there is a need to increase fruit, vegetables and fish production in the region. To this end, composite fish farming has a great role. It is, therefore, suggested that integrated fish farming should be extended with the help of government organizations, NGOs, donor agencies and other key stakeholders. Divisional Deputy Director of the Department of Fisheries Tofazuddin Ahmed Rajshahi division has attained significant success in the field of composite fish farming as it is a suitable place for the venture. He also said Rajshahi is the pioneer in the field of supplying live fishes to different parts in the country including the capital Dhaka. After farming fish, many people both urban and rural have become rich in the region. He said the matter of selling live fish in Rajshahi markets has created a new dimension as those are being transported to many other districts from here.

URL: <https://www.dhakatribune.com/bangladesh/nation/2021/01/09/composite-farming-brings-smiles-on-faces-of-fish-growers-in-rajshahi>

Bangladesh: Bagerhat farmer dreams big with colourful fish farming

ish farmer Hafizur Rahman of Bagerhat Sadar upazila has found success in producing colourful tilapia and Ruposhi Rui at his fish farm. High demand in the area has produced sales of around 50 thousand pieces of the two fish varieties over the last couple of years. Hafizur's 17-year-old

fish farm ‘Naim Fish Farm’ — situated on two acres of land in Sundarghona-Kanthaltala village — has earned a good reputation among fish farmers in nearby districts — including Bagerhat, Pirojpur and Khulna — for producing quality larvae of popular fish species such as Koi, Shing, Magur, Gulisha, Pabda and Vietnamese pangas.

Gaining confidence from his experience at the farm, Hafizur collected larvae of colourful tilapia and Ruposhi Rui from fisheries department at Mymensingh Agricultural University two years back. Within a year, he succeeded in rearing the two fish at his farm. The two colourful fish can be profitable for a fish farm as they sell well in all stages and sizes. People buy the smaller ones for displaying them in aquariums or fish tanks, while the larger ones for consumption, Hafizur said. Both the fish grow as much as one kilogram every year and not only they look more attractive than the regular varieties, they taste better too, he also said.

The colourful tilapia even spawns in the pond and the offspring grow well naturally in the pond. On the other hand, Ruposhi Rui, with its origin in Australia and a bright golden outer coat, grows well with other fish in the same pond. Its demand as aquarium fish indoors or decorative fish in large fish tanks outdoors is high and each kg of it sells for between Tk 300 and Tk 500, Hafizur also said. He hopes to increase production of the colourful tilapia and Ruposhi Rui by next year when he will be able to sell each small fry of colourful tilapia for Tk 3 and Ruposhi Rui for Tk 10.

If supply of quality fish feed is ensured in the area and financial support provided to farmers, there is a good prospect in earning revenues from overseas through export of the two fish varieties after meeting local demands, Hafizur added. Contacted, Ferdous Ansari, senior upazila fisheries officer in Bagerhat Sadar, said while they mostly concentrate on providing assistance to conventional fish farmers, they were also trying to develop a market system where unconventional fish farms would be able to eliminate intermediaries and sell their fish to end customers.

URL: <https://www.thedailystar.net/country/news/bagerhat-farmer-dreams-big-colourful-fish-farming-2025185>

Bangladesh: Improving disaster management

Natural disasters in Bangladesh and the losses accruing as a result have increased in recent years due to the adverse impacts of climate change. In fact, Bangladesh occupied seventh position in global ranking and stood third among the countries most hit by natural disasters, according to the Global Climate Risk Index-2020 prepared by ‘Germanwatch’ based on natural disasters during the period 1999-2018. Around 35 million people in the coastal region and 6.50 million in the char (shoals) areas of the country are constantly at risk due to cyclones, tidal surges, salinity and river erosions. Moreover, losses to properties and infrastructures are gradually on the rise due to weaknesses in disaster responses, fragile embankments and inadequate maintenance. People living in the coastal areas have been severely affected by recent disasters including the super-cyclone ‘Amphan’ that struck Bangladesh in May 2020. These disasters caused widespread losses to lives and properties. But deficiencies in good governance in the area of disaster

management have been posing a big challenge to minimising losses caused by disasters in a sustainable manner.

In this backdrop, the Bangladesh Chapter of Transparency International (TIB) has recently released a report titled ‘Challenges to Good Governance in Tackling Disasters and Way Forward: Recent Experiences including the Cyclone Amphan’. Its objectives included a review of pledges, laws, policies and orders related to disaster management; strengths and weaknesses of programs adopted for tackling five recent disasters including the cyclone ‘Amphan’; and recommending measures for tackling the challenges to good governance in disaster management based on findings from the study.

The international treaties to which Bangladesh is a signatory include the Paris Climate Change Agreement 2015 and the Sendai Framework for Disaster Risk Reduction (2015-30). Under the former, the industrially developed nations pledged to compensate the poorer countries for losses and damages due to disasters resulting from climate change under the Warsaw International Mechanism, alongside funding for adaptation and mitigation. But Bangladesh has demonstrated a dearth of capacity in preparing reports and eliciting required funds for the purpose from international sources. Similarly, although the Sendai Framework calls for transparency in the implementation of disaster-related programs, Bangladesh lacks structured guidelines on disseminating information at the national and local levels.

The legal and policy framework for disaster management in Bangladesh includes the Disaster Management Act 2012, National Disaster Management Policy 2015, Cyclone Shelter Construction, Maintenance and Management Policy 2011, and Standing Orders on Disaster 2019. But the law does not stipulate specialised qualifications for the concerned director general, as a result of which leadership weaknesses are observed in the functioning of disaster management department. Besides, although section 12(1) of the Act provides for establishment of a National Disaster Management Research and Training Institute, no such organization has been set up till now resulting in paucity of research-based information on disasters. The disaster management policy calls for modernising the signalling system, but that has not been done yet although the old system heightens the risks of losses in lives and properties. Besides, no initiative has been taken for preparing an online database of relevant reports and documents on disaster management although the policy made such a recommendation six years ago.

The cyclone shelters policy was framed for proper construction and management of shelters as well as their usage. Although the policy calls for environmental impact assessment of shelter sites, exceptions are observed in many cases resulting in their collapse due to river erosion. Besides, despite the policy stipulating application of Geographic Information System (GIS) technology for selecting sites – that is not always complied with. Rather, there are instances of straying from the policy by abusing political and administrative powers in order to advance the unethical interests of influential quarters. The local people are also not involved in the management of shelters as stipulated by the policy.

The standing orders on disaster are aimed at fixing individual and institutional responsibilities for tackling disasters. Although the orders provide guidelines for construction and maintenance of disaster-resilient structures like shelters, roads and embankments, those are not properly

followed in practice. Gaps are also found in adherence to modern and timely methods for disseminating cautionary and safety messages in accordance with the orders. Besides, deficiencies are observed in delivery of services like food, water, sanitation, healthcare and security in the shelters, and corruption and irregularities frequently occur in relief cum rehabilitation programs. Overall, the disaster management efforts are constrained by lack of transparency, capacity, accountability, participation and coordination, as well as prevalence of corruption.

TIB opines that effective steps are lacking for bringing to account the defaulting individuals and institutions despite exacerbation of economic losses and people's sufferings owing to corruption in the construction and maintenance of disaster-resilient infrastructures. Estimates of the actual tally of losses, requirements for relief, and coordinated action plans for rehabilitation remain deficient due to lack of capacity of local government bodies and lax inter-organizational coordination. The TIB recommendations include updating the signalling system and dissemination of publicity materials in a language comprehensible to the common people; timely delivery of forecasts and warnings by according priority to more risk-prone areas; and transparent running of relief and rehabilitation measures by attaching more importance to people and locations in imminent danger.

Besides, all information related to relief and rehabilitation should be kept open for public view through local and national portals, and disaster preparedness should be maintained by keeping in mind the disaster risks through effective participation of local level committees, volunteer groups and relevant stakeholders. Sufficient number of area-wise shelters should be ensured based on locations that can also cater to the special needs of women, children, the aged, and the handicapped. The shelters should ensure adequate provision of food, water, as well as sanitation and healthcare; and disaster-resilient sustainable infrastructures should be built, repaired and renovated through a participatory process by involving the affected population. Most importantly, accountability has to be ensured for curbing corruption, irregularities and wastages in all matters related to disaster management.

URL: <https://thefinancialexpress.com.bd/views/improving-disaster-management-1609944997>

Bangladesh: Frozen fish exporters seek 20 per cent cash incentive

The country's frozen fish exporters have sought 20 per cent cash incentive on their export earnings as the sector is going through a critical time due to the coronavirus pandemic. To this effect, the Bangladesh Frozen Foods Exporters Association (BFFEA) formally applied to the commerce ministry on December 30 last. In the letter, the BFFEA said a total of 290 import orders of frozen fish worth Tk 4.60 billion were cancelled because of the impact of Covid-19 pandemic; so, the stock of frozen fish has increased in the country.

The price of frozen shrimp, the key export item of frozen fish from Bangladesh, has dropped by \$1 to \$3 per pound in international market since March last, it mentioned. The government provided stimulus package to the country's exporters to help recover their losses caused by the coronavirus, but the frozen fish sector did not get required fund. Moreover, exporters could

receive a little amount from the fund due to factors including procedural complications of financial institutes. So, the sector needs necessary incentives to continue its business in the international market, the letter mentioned.

However, the frozen fish industry currently gets 10 per cent cash incentive for shrimp and 5.0 per cent for other fish exports. Although frozen fish is a hundred per cent agro product, it is not enlisted as an agro product, said exporters. They demanded that the government include frozen fish in the list of agro products and provide 20 per cent incentive to the exporters of agro-processed products. Exporters of the association also said the total production capacity of their units is 400,000 tonnes, but they can utilise only 30,000 tonnes currently due to the shortage of raw materials.

Bangladesh has been exporting frozen fish nearly to 60 countries since the liberation and contributing to the economy, they added. Meanwhile, the country saw a negative growth (-1.12 per cent) in the overall export of frozen and live fish during the July-November period of the current fiscal year (FY) 2020-21, according to the data of Export Promotion Bureau (EPB). The industry earned \$232.48 million in the first five months of current FY and \$235.11 million in the same period of the previous FY, the data also showed. Bangladesh earned \$472.37 million from shrimp export in fiscal year (FY) 2015-16, \$446.04 million in 2017, \$408.71 million in 2018 and \$361.14 million in 2019. The overall shipment of frozen fish also declined to \$500.40 million in FY 2019 from \$508.43 million in 2018.

URL: <https://thefinancialexpress.com.bd/trade/frozen-fish-exporters-seek-20-per-cent-cash-incentive-1609829961>

Bangladesh: No water, no life

Teesta river was once packed to the rafters with fish, enough to sustain the villages on its banks. Ever since the Indian government erected the Gajoldoba barrage on the upstream in 1996, the portion of the Teesta river in Bangladesh has become parched for the best part of the year. During the dry season, the Indian barrage withdraws water, turning the Teesta river in Bangladesh into vast swathes of sand. And during the monsoon, water is released from India, washing away everything in its wake. What was once a solid source of livelihood has become an albatross around the necks of the residents of the Doani village under the Hatibandha upazila of the Lalmonirhat district. They can neither fish nor grow crops, passing their days in destitution.

URL: <https://www.dhakatribune.com/business/2021/01/05/no-water-no-life>

Bangladesh: Assessing the impact of Covid on aquaculture producers in Bangladesh

A project that aims to identify emerging technologies and innovative practices in aquaculture value chains and pilot digital extension approaches that accelerate their adoption is currently being undertaken by the Feed the Future Innovation Lab for Fish.

To address this objective, the project team is undertaking a comprehensive survey of fish and shrimp farmers in southern Bangladesh. Pretesting and refining draft questionnaires is a key element in the research design. Though the team planned to conduct questionnaire development through face-to-face meetings in Bangladesh, this proved impossible due to Covid-related travel restrictions. With quick planning and innovative thinking, the partners successfully adapted their plans and conducted the questionnaire drafting through a series of virtual meetings, explain the Fish Innovation Lab's Mahfujul Haque and Ben Belton in a press release issued this week.

Investing proves a success

One of the farmers they interviewed was Golam Kibria Ripon, who is successfully continuing his shrimp production and trading activities, despite the pandemic-related disruptions. "The only thing I do and the only thing I know is shrimp culture. Whatever the situation is, I have to continue as many people depend on my business for their livelihoods," Ripon told the project leads.

Ripon is a successful shrimp farmer and trader who has engaged in the aquaculture business since 1996. His business employs about 20 full-time staff, including five women. He noted that the pandemic has led to major disruptions in the shrimp business for the first time in his career. In response, he hired 10 temporary staff to deliver the post-larvae to farmers during the pandemic, after nursing the shrimp fry himself, and began to deliver harvested shrimp to the processing plant with his own vehicle. "Now I know how to cope and survive in an extreme situation. The demand of shrimp will not decrease, [and] all I have to do is to make sure to transport the harvested shrimp to the processing plant," Ripon reported. Ripon ensures the health and safety of his staff by providing proper sanitising facilities in his farms and maintaining basic preventive procedures.

How to engage effectively with farmers

The researchers explain that one of the major challenges was how to pretest the questionnaire with the farmers in the field, particularly with shrimp farmers in the remote Khulna region like Ripon. To cope they invited Ripon to attend a virtual meeting for pretesting the questionnaire. Although he was unfamiliar with the videoconferencing application, the Machine Learning for Better Aquaculture team was able to quickly teach Ripon how to use it so that he could participate in a questionnaire interview that lasted about three hours.

Conducting the interview remotely allowed for researchers based in the US and Bangladesh to meet with Ripon and continue progress on the research that will benefit shrimp farmers across southern Bangladesh. The questionnaire was translated from English to Bangla for better communication prior to the interview. "I think this research will identify our problems, such as shrimp disease and disappearance of stocked post-larvae that affect our farming, and according to the nature of problems we will find a proper solution from the researchers," said Ripon. "I am the General Secretary of Paikgacha Shrimp Farmers Association. I can organise the shrimp farmers of my locality to receive advanced training on shrimp farming, disease management, and other topics though the Zoom platform. Moreover, we have a big Facebook group, which we can use to share any useful information among the shrimp farmers."

According to the researchers, “the participation of a very knowledgeable shrimp farmer early in the research process provided a significant boost to questionnaire design and helped the project to meet its milestones on time, despite disruptions linked to Covid-19. This successful experiment in pretesting a questionnaire with a farmer in a remote area indicates possibilities for conducting other project activities, including workshops and information dissemination activities, virtually if Covid-19 continues to make travel or face-to-face meetings difficult.”

URL: <https://thefishsite.com/articles/assessing-the-impact-of-covid-on-aquaculture-producers-in-bangladesh>

Bangladesh: Water withdrawal would not harm Halda: minister

Local government minister Md Tajul Islam on Saturday said that withdrawal of water from the river Halda for supplying drinking water to the under-construction Bangabandhu Industrial City at Mirsharai in Chattogram would not be harmful. Referring to Institute of Water Modeling’s study, Tajul at a programme in the port city said that supplying 14 crore litres of water daily from the river Halda to the economic zone would not affect fish-breeding in the river.

‘There is no scope of spreading confusion regarding the proposed water treatment on the Halda though the river does not get any water from the upstream during the winter rather receive water from the Kaptai Lake, which is enough for operating the treatment plant,’ he said. But the economic zone, he said, would create jobs for 30 lakh people and would change the economic activities of Chattogram and its neighbouring districts.

‘So nobody should create controversy regarding the water treatment plant rather should work together in the greater interest of continuing the development works,’ said Tajul while inaugurating an LED bulb distribution programme. China donated Bangladesh government 13 lakh LED lights for popularising the cheap-electricity consuming bulbs among the people of Bangladesh, LGRD ministry officials said. Fisheries ministry, water resources ministry, the River conservation Commission, the Department of Environment and independent researchers, however, expressed concern over the water treatment project initiated by the Chattogram Water Supply and Sewerage Authority at a Tk 3,500 crore for supplying water to Bangabandhu Industrial City. They demanded a review of the plan and proper feasibility study in this regard, and recommended alternative, arguing the water plant would impact Halda’s unique ecosystem that helps carps and other fishes spawn.

URL: <https://www.newagebd.net/article/126100/water-withdrawal-would-not-harm-halda-minister>

Bangladesh: Megaproject proposed to address climate change in Khulna

The Bangladesh Water Development Board (BWDB) has proposed a mega project worth Tk1,545.53 crore incorporating multi-faceted goals, including tackling the adverse effects of

climate change and developing current socio-economic conditions. The Development Project Proposal (DPP) for the rehabilitation of coastal Polder 31 at Dacope upazila in Khulna district has already been submitted to the Ministry of Water Resources.

WDB's Polder 31, located at Chalna union under Dacope upazila, consists of many important infrastructures, including the Mongla port, the second largest seaport in the country, also known as the lifeline of the south-west. For the conservation and development of the much-important Polder 31 area, people's representatives have sent letters to the Director-General of BWDB and the Secretary of the Ministry of Water Resources regarding the protection of the disaster-prone area from erosion and flooding.

In response, State Minister for Water Resources Zahid Faruk visited the area and recommended a project outline, including embankment rehabilitation, embankment conservation, riverbank protection, drainage infrastructure rehabilitation, canal re-excavation, river re-excavation and other necessary works for the rehabilitation of Polder 31. Accordingly, Khulna WDB drew up the project, entitled "Rehabilitation of Coastal Polder 31", at a cost of Tk1,545.53 crore, which was sent to the Planning Commission by the Ministry of Water Resources on July 26.

In this regard, Palash Banerjee, executive engineer, Water Development Board, said the project included 34.65km of existing embankment reclamation, 4.4km of embankment resurfacing and conservation, 7 and .9km of rehabilitation and protection of riverbank. He also said: "If the project is implemented, it will be possible to deal with the rising sea level, floods, irrigation and water salinity along with other adverse effects of climate change as a result of global warming. "Agriculture and fish production will also benefit from the restoration of the ecological balance through developing the drainage system in the polder area through dredging and afforestation." "Besides, new employment opportunities will be created and people's living standards will improve through the development of fish farming in the area."

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/12/30/megaproject-proposed-to-address-climate-change-in-khulna>

Bangladesh: Extensive research on crops, fishes emphasised for self-reliance on foods

Experts at a webinar on Wednesday put an emphasis on development of varied crops, fish and cattle through extensive research to boost production aiming to make the country self-sufficient in food production. They also suggested developing a farmer-friendly marketing chain which is obligatory for agricultural development. The webinar styled "Agriculture in Bangladesh: Problems and Prospects," was organised by the Financial Express, the country's first business daily.

Dr Md Abul Kalam Azad, Director, Bangladesh Institute of Nuclear Agriculture (BINA), Prof Dr Md Shahiduzzaman, Department of Parasitology, Bangladesh Agricultural University (BAU), and Dr M H M Kohinoor, Chief Scientific Officer, Bangladesh Fisheries Research Institute (BFRI), spoke as discussants while Mir Gulam Mustafa moderated the programme. Dr Md Abul Kalam Azad said his organisation helped ease seasonal famine namely 'Monga' in the northern

region by developing a rice variety like BINA-7. He said the rice variety was introduced in the northern region, especially in its Char areas where people usually faced Monga during Bangla months of Ashwin and Kartik (Mid September to Mid November) amid a food shortage for lack of another crop. He said BINA recently developed a rice variety, BINA-21, which could be grown in inundated areas.

He said nearly 0.5 million hectares of land remain uncultivated during the Aman season in haor areas amid waterlogging. He said BINA has been developing varieties which could grow even in the rising water. He said such a variety could give 3.5 to 4.0 tonnes of rice per acre where as existing indigenous varieties could give 2.0 tonnes. He said in this way it would be possible to raise production of rice by 2.0 million tonnes annually. BINA has developed BINA-8 and BINA-10 rice varieties for the salinity-hit coastal areas where 30 per cent land remains uncultivated during the Rabi season.

He said the organisation was working to develop more salinity-resistant rice. Dr Azad said “We also need to import” more than 5.0 million tonnes of wheat annually. “We have developed a saline-resistant wheat variety, namely Bina Gom-1 which could be grown in the coastal region as it can resist 12 d S/m of salinity”, he said. Asked about the onion production, he said the government already targeted self-sufficiency in onion within four years. He said onion was being grown on 0.2 million hectares. “We produce 2.5 million tonnes while we have a shortage of 1.0 million tonnes.” “We have the prospect for bringing another 0.1 million hectares of land under onion farming which could give us additional 1.0 million tonnes of produce” he said.

“We will have to go for onion farming also in summer (Khariph -1, 2) season.” “Onion farming should also be expanded in Hill areas in Sylhet to raise production further” he said. Dr Md Shahiduzzaman said: “We have good news that the country has been able to avoid cattle import and meet demand with its own during the sacrificial festival of Eid-ul-Azha.” Thanks to the initiatives taken by both the government and the private sector local entrepreneurs have come forward and started dairy farming on a large scale, he said. “But we have to raise production further to meet growing demand”, he said. “If we could find out the key obstacle for animal farming and could solve those, production might be raised notably,” he said. He said poor genetic resource is the key problem for raising milk and red meat production in the country. He said, “We have to cross breed our local cows” with genetically-developed species which give more milk and meat.

He said the second problem for cattle farming was quality food. He said the country imports quality animal fodder on a large scale which pushes up production costs. He said small and medium level farmers hardly could make any profits by selling their milk amid higher input costs. He said there is also a lack of availability of grass amid decline in grazing fields. Quality feed and grass should be made available for the farmers to get good production. The country will also have to develop its own vaccines for the animals to minimise costs, he said. He said proper vaccination for ‘foot and mouth disease’ should be provided to farmers at affordable costs to reduce animal deaths. He said timely de-worming is also very important for animals for more milk and meat. Dr Shahiduzzaman also suggested developing the existing marketing system to give farmers profitable price for their produce.

“Both the government, private sector and NGOs should work jointly to produce quality feed, necessary machinery and medicines to cut production costs,” he said. Answering a question, he said meat of sheep should be popularised through promotion campaigns as the meat has almost same food value like that of goat. “And even sheep meat is healthier than that of goat meat,” he said. Asked on preservation of local indigenous fish, Dr Kohinoor said out of 260 local inland water fishes, 64 species are now considered as ‘endangered’. Of the endangered fishes, the BFRI had already been able to bring 24 under the reproduction process again, he said.

He said the organisation was trying to domesticate all endangered species. Golsha, pabda, koi, gutum, magur are now being produced commercially like that of Tilapia and Pangasea. “We have also succeeded to domesticate local puti, shorputi, bhada, etc recently,” he said. He said the key problem they were facing was lower growth of many local fishes. He said projects and programmes were going on to bring all endangered species under modern farming to raise production of fish further. He said local fish production increased to 4.3 million tonnes and the county was almost self sufficient. He said they were also organising validation camps, exhibitions and trainings for farmer entrepreneurs and giving them certificates. He said commercial farming of local fish helped ease prices also. He pointed out that fish like Pabda, koi were being sold at Tk 800-900 a kg earlier. “We can buy them at Tk 200-300 a kg now.”

URL: <https://thefinancialexpress.com.bd/trade/extensive-research-on-crops-fishes-emphasised-for-self-reliance-on-foods-1609387484>

Bangladesh: Halda River declared Bangabandhu Fisheries Heritage

The government has declared the Halda River as Bangabandhu Fisheries Heritage. The Ministry of Fisheries and Livestock issued a circular about this on Thursday. In the circular, the ministry declared the Halda River and 23,422 acres of land adjoining its banks as Bangabandhu Fisheries Heritage. The declaration will help protect the fish and environment of the Halda River. With the declaration of Bangabandhu Fisheries Heritage, 12 restrictions will be applicable there and those include – Nobody can catch fishes the Halda River – People can only collect eggs in the Halda River during the season under the supervision of fisheries department – None can hamper the bio-diversity of the Halda River – Nobody can pollute the Halda River – Nobody can discharge any garbage into the Halda River – Nobody can change the natural navigation of the Halda River – None can catch fishes from 17 canals of the Halda River during the brooding season – No dam can be set up on the Halda River – No project will be taken to collect water from the Halda River – No engine boats can run through the Halda River during the brooding season – The river can be used only for research work. Halda is the only river in the country where fishermen can collect fertilised eggs from the river bed and arrange for them to hatch later on, whereas only hatched fish fries (young fish) – and not fertilised eggs – can be caught in other rivers. Halda is one of the most important rivers in Bangladesh for the fishing industry because of its once abundant supply of eggs of freshwater fish such as carp, rohu, katla, mrigal etc., and conditions suitable for the brood (egg-laying). When the British ruled the subcontinent, Halda fish eggs would be supplied to then Burma and other parts of India. In the 1960s and 70s, two-thirds of the ponds in Bangladesh would use spawn from the Halda River. The Halda River flows through Raozan, Hathazari and Fatikchhari in Chattogram.

URL: <https://thefinancialexpress.com.bd/national/halda-river-declared-bangabandhu-fisheries-heritage-1608870392>

Bangladesh: Women farmers deserve proper recognition

Speakers at a webinar yesterday said ownership of land is the key stumbling block for women's empowerment in agriculture. In Bangladesh, only 15.8 percent of rural land is owned by women, and only one-fourth of that land is effectively owned by them. The webinar titled "Women's contribution in agriculture and access to land: Covid-19 and beyond", was jointly organised by Association for Land Reforms and Development (ALRD) and The Daily Star. Keynote speaker Dr Sanjida Aktar, chairperson, Gender Studies Department, University of Dhaka presented the findings of her recent research and said women farmers labelled as an 'assistant' or 'day labourer', while for similar agricultural activities men are referred to as 'farmers'. According to her, women give more time than men in harvesting and post-production. On average, the women spend five hours a day behind these tasks, while in pre-production and production, livestock rearing and fisheries sector, they are actively engaged alongside men. According to her research conducted with 200 women farmers and their parents from Rangamati, Dinajpur, Pabna and Sunamganj, women's activities in crop production, on an average, contribute 48 percent to the family's finances. The research also found stark inequality in women's access to government-led agricultural services and credit in comparison with their male counterparts. In many cases, entitlement to government-provided agricultural services require the ownership of lands (for loans), which most of the marginalised women cannot access. In terms of land ownership, it was found that in Sunamganj and Dinajpur, none of the respondents has any agricultural land of their own. Of the 197 respondents of the four districts, only 30 women were found having the access to farmer's card, which means the majority of women in agriculture are not only deprived from access to a wide range of agricultural services, but there is also a failure in the policy level to give women farmers the due recognition they deserve. Besides, a substantive number of women who have the farmer's ID are presumed to hail from women-led households, the qualitative data suggested. Rowshan Jahan Moni, deputy executive director of ALRD presented the Bangladesh perspective of international conventions and covenants and said, although Bangladesh ratified many international conventions along with the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), the core of CEDAW article 2 and 16 (1) (c), marriage, divorce and inheritance rights of women is still reserved, with the government's excuse being "the ground is not ready". Vidya Bhushan Rawat, founder director of Social Development Foundation, Delhi; Kalpana Karki, CSRC Nepal, and Chet Charya, director of Star Kampuchea of Cambodia presented the land and property ownership situations of women in India, Nepal and Cambodia. Dr Nazneen Ahmed, senior research fellow, Bangladesh Institute of Development Studies said, "While we are advocating for land rights, we also have to demand the other supporting environment that will help women to move forward." She also shared her experience of researching on the situation of women of the southern belt of Bangladesh, who were able to buy their land from their agricultural activities, with the support of an insurance company and some local NGOs that link them with the market and value chain, she said. Dinesh Desai, Director MARAG, Ahmedabad, India, said around 90 percent of women in Bangladesh and India are working as unpaid workers in the agriculture sector and we need to push forward

their identity. ALRD chair Khushi Kabir, also the coordinator of Nijera Kori, chaired the webinar. “The recognition of women farmers is important, not just legally or in paper or policy, but with proper implementation,” she said. “While we are working on having a separate bank for women, we should ensure that existing banks have a separate facility for women farmers and rural women producers to give them the required financing for agricultural production,” suggested Khushi Kabir. Mirgul Amanalieva, Asia Regional Coordinator, ILC-Asia and Samsul Huda, executive director, ALRD, also spoke at the programme.

URL: <https://www.thedailystar.net/city/news/women-farmers-deserve-proper-recognition-2018349>

Bangladesh: Investing in the blue economy

As Bangladesh makes its way to progress and development by maximizing the utilization of all of its available resources, there is still a highly underutilized and vast resource which has the capability to yield huge economic benefits and sustainable growth, if it is carefully planned, nurtured and put into effective use. Blue economy, what is it? This is of course, the “blue economy. Blue economy or “BE is a term in economics which relates to the preservation and exploration of the marine environment. The World Bank states that the blue economy is the sustainable use of ocean resources for the economic growth, betterment of livelihoods, jobs creation, and the preservation of the ocean’s eco-system. The blue economy may encompass all economic activities related to the oceans, seas, and coasts and it may cover a broad range of interconnected sectors. The concept of a blue economy is an emerging one and it is stressed that the utilization of such resources should also be directly combined with the preservation of it through better stewardship of those “blue resources. In other words, such resources are deemed to be precious and no one should view them as something to be exploited for quick gains. They should rather be viewed through the periscope of environmental protection and the permanent sustenance of its biodiversity. It may be noted that 15% of the protein that is consumed by people all across the world is provided from the sea; natural gas and oil constitute 30% of the sea resources; over 50% of magnesium is extracted globally from the seas; and even life-saving medication can be obtained from valuable resources originating from the sea. Therefore, it is not at all surprising that Bangladesh’s permanent representative to the United Nations, Ambassador Rabab Fatima, has recently mentioned that we have to maximize the potential of our own blue economy, and she has rightfully recognized it as one of the most crucial opportunities for development which can accelerate and propel our overall growth capabilities. This stands to be even truer upon taking into consideration that our land-based resources are already extremely limited, and then add onto it a very highly dense population. Bangladesh’s 710km long coastline — extending from the tip of St Martin’s Island in the southeast to the west coast of Satkhira — and the 121,110sq-km sea area have exceptionally varying eco-systems, having major ecological and fiscal significance and advantageous possibilities. Some advancements but Bangladesh is still lagging There are 660km available to Bangladesh, but its mechanized boats and industrial trawlers are capable of fishing only up to 70km from the shoreline.

Thus, there is still a significant amount of sea fishing frontier which Bangladesh has yet to take enough advantage of. In a recent conference, this was especially highlighted by the secretary,

Marine Affairs Unit, at the Ministry of Foreign Affairs, Rear Admiral (Retd) Md Khurshed Alam, and he further stated that the promotion and sustainability of the blue economy such as marine fishery, deep sea fishing of tuna, mining, shipping, and energy exploration remains untapped. In the same conference, experts opined that the nation's private sector should step up to invest in the exploration and eventual capitalization of the blue economy. Furthermore, the Ministry of Fisheries and Livestock highlighted the necessity for deep-sea mapping, surveying, and eventually capitalizing on ocean fisheries' resources in a sustainable method, in a research paper that was published in 2015. The same paper also stressed the need for an all-inclusive policy including a specific "ocean-act which would enable the generation of a legal and regulatory framework in order to secure the sea-based resources. However, to this day, such beneficial advancements are yet to proceed ahead. Additionally, the Energy and Mineral Resources Division of the Ministry of Power, Energy and Mineral Resources, formed an administrative cell called the "Blue Economy Cell in 2017 but there hasn't been any real progress made with this apart from holding some discussion meetings. However, Bangladesh has made some advancement such as actively starting some field works with the required resources like coastal shipping and oceanic mineral mining and disaster management, and the creation of more grounds for tourism are also underway. Certain surveys have also been carried out with the assistance of foreign donations and there have been initiatives, with the goal of conservation of fisheries and prevention of theft of the same in the Bay of Bengal. Lastly, the seventh Five-Year Plan has called for numerous actions to be undertaken for maintaining a sustainable blue economy which includes renewable energy, fisheries, tourism, climate change, human resource, and transshipment, among others.

Based on these kinds of initiatives and advancements, it is quite clear that the sustainable development of the blue economy is within the focus of Bangladesh. However, additional, more concrete, and actionable steps have to take place to jump-start this lucrative sector into full action. So far, the country has explored only a small number of blue economy sub-sectors such as fisheries and aquaculture, shipbuilding, ship-breaking, salt generation, and port facilities. The main point here is that Bangladesh must pay more attention in advancing its blue economy and look forward to embarking on this new frontier with the goal of utilizing it to its fullest potential. Why we need to dive deep The Philippines, China, Thailand, and Japan have been enjoying the vast benefits of their own blue economies for a very long time and a large percentage of their protein source is derived directly from their oceans. It is reported that Indonesia's national economy depends largely on its sea resources and Australia is reported to earn \$44 billion from the sea. Due to immense increases in population, adequate food supply and proper nutrition is always a matter of great concern, especially to a rapidly growing nation like Bangladesh. So, inevitably, more and more nations are diving into the blue economy in order to increase their food supplies and provide quality-based nourishment to its citizens. Even though Bangladesh's economic growth trend has been positive, it must also utilize all the possible scopes for the expansion of exports and that's where marine resources can play a very important role soon. The Sustainable Coastal and Marine Fisheries Project states that there are over 350 species of fish and sharks, over 30 species of shrimps and lobsters, as well as multiple species of crabs, snails, and other categories of seafood-based species. However due to Bangladesh's inability to properly and fully take advantage of its blue resources, only a small percentage of fish production comes from the ocean. Bangladesh's sea border is almost the same as its mainland, but sea fish constitutes only about 15% of its total fish production. In terms of the total tons of

fish caught in the Bay of Bengal, the amount caught by Bangladeshi fishermen is still very small. Bangladesh is estimated to catch only 0.70 million tons of fish every year out of the total 8 million tons of fish available in the Bay of Bengal.

This is because Bangladesh still has a relatively limited ability and capability to catch and process large quantities of fish on an annual basis. With the amount of usable territory which Bangladesh has, it is possible to earn much higher than it currently does every year by exploring oil-gas extractions, fishing, and further expansion of its ports, as well as tourism. Bangladesh has settled maritime boundary disputes with Myanmar in 2012 and with India in 2014 through an arbitral method. The newly demarcated area of the Bay of Bengal has opened a new economic frontier for Bangladesh. It is reported that the country has 75 outer islands which could be utilized for tourists, both local and foreign. If Bangladesh can explore and exploit these resources using appropriate technology, the economy of Bangladesh can grow rapidly into an advanced one. Consequently, we must reach out to our oceans for the sake of furthering our progress to the highest levels possible. We cannot afford to miss out on any untapped resources which are so readily accessible to us and may very easily yield us great benefits if we simply invest and plan it out with first-rate research and experience-based knowledge. Investment and development of the blue economy can play a critical role in ensuring that Bangladesh successfully becomes a developed nation by 2041.

Bangladesh is especially fortunate compared to so many landlocked nations because it has access and ownership of such a large amount of “blue space which can be utilized. There are massive areas in the Bay of Bengal which have been recently acquired and if they are adequately utilized, significant earnings of foreign currencies could be achieved. Compared to land-based resources which are already very heavily utilized and exploited, there are vast amounts of untapped resources which are awaiting us in the ocean. Another factor to consider is that with the increase of the population of the country, it would have to gradually become more dependent on sea-based energy resources; those resources could be endless renewable reserves in wind and solar energy. Additional sources of renewable energy could be derived from a better understanding and knowledge of the oceans such as the impact of wind, waves, high tide, and ebb tide and therefore more research and study is certainly required.

The wind from the seas could be a source of great power which Bangladesh could use to further fuel its economic growth. The blue economy is not simply a source of food, but it is a vast and untouched source of energy in the form of gas and fuel. According to experts, the ocean also has valuable minerals such as Uranium and Thorium as well as of course, sand, which itself has various mineral components. Additionally, Bangladesh can also consider providing port facilities to its own land-locked neighbours such as Bhutan and Nepal as they will also require access to the ocean, and having such access is also considered to be one of the more significant components of a blue economy. Proceed with adequate support and caution Venturing into such a complex arena without full knowledge, guidance, and experience has a high chance of failure, which would lead to not ever being able to fully uncover and effectively produce the benefits. Therefore, it is vital that Bangladesh partner with organizations and external resources who are highly experienced with all the complexities and challenges that come with successfully bringing the blue resources into appropriate deployment.

This will allow us to be able to make the most of our limited research and investigation capabilities in this area. It is noteworthy that Bangladesh is already making investments to increase capacity so that it can more effectively manage its marine resources in the most efficient manner. Therefore, it is also very important that there is buy-in and support for such “blue initiatives from the highest levels of government as well as the political structure. Organizations, resources, and companies who are willing to invest into the blue economy must be given every motivation and incentive possible for them to move on ahead without any hindrance or delay. All necessary technical and educational resources should be readily available to such parties so that they may proceed seamlessly without any roadblocks. Given the vast possibilities of acquisition of wealth from the sea, Bangladesh must develop policies and laws to support national institutions which could deliver solutions to implement sustainable development in the blue economy and avail all the benefits which come from it.

In order to get the best from sea resources, Bangladesh will have to push forward policies in cooperation with other countries in order to protect its own oceans from the negative impact of climate change, pollution, and over-fishing. The eco-systems must be preserved in order to be of any use to us for the long term, and it is unfortunate that such eco-systems are already being degraded very rapidly. This is not just an issue for Bangladesh, but it is something which must be dealt with in unison with other nations who also derive so many benefits from the maritime eco-system, aka, the “blue economy.

URL: <https://www.dhakatribune.com/opinion/op-ed/2020/12/23/op-ed-investing-in-the-blue-economy>

Bangladesh: Why should we conserve freshwater pangas?

Gone are those days when imagining any social or religious festival without satiating your taste buds with sumptuous curries made with freshwater fishes such as pangas, catla, sheat fish, rohu, mrigel, chital, baghair was almost impossible. The availability and abundance of freshwater fishes now seems like a whimsy. Even at the end of the last century, there was no shortage of river fish. At that time, catching a large fish was no surprise. However, time has changed and so has the source of fish. At present we know large fishes like rohu, katla, mrigel and pangas are cultivated in ponds. But this year a new ray of hope is gleaming about the availability of large-size fresh water pangas. According to the news reports, large pangas has been caught in the river in different parts of the country for the last few days, especially in the Rajbari, Rajshahi and Shariatpur sections of the Padma River. A 30-year-old fisherman from Haloishar in Shariatpur’s Naria, Hanif caught 86 pangas during the night on November 8. He sold all those fishes in the local fish market for Tk 425,000. Hanif went on to say that he had been fishing since he was a child, but he had never seen such abundance of pangas. The number of pangas in the river is much higher this year than last year. The average weight of the caught pangas is 5 to 15 kg. Many fishermen have been able to catch about 50-60 pangas a day.

What caused the decrease in the stock of pangas?

According to the Fisheries Act, catching pangas below 12 inches (30 cm) is prohibited. Not obeying the law by fishing with chai, a bamboo-made trap, in which pangas fry get caught in droves, had partly led to the decreasing of the fish in the country. Excessive use of pesticides and fertilisers, dumping of industrial waste in rivers and seas, and plastic pollution had also caused the decrease of the pangas fish. Occupation of rivers and canals, destruction of reservoirs, construction of unplanned infrastructure, killing of fry and eggs and use of illegal nets are also to blame for it.

Why is pangas appearing again?

Hilsa yield has increased over the last few years due to various programmes taken by the government, including proper conservation of juvenile and brood hilsa. As a result of the hilsa conservation programme, other fishes, including pangas, have also increased in the river. Moreover, USAID-funded Worldfish's ECOFISH II project has been carrying out various awareness programmes for conserving pangas for the last several years. Joint efforts by Department of Fisheries & ECOFISH II have also made it sure that Chai, an illegal fishing trap, is no more used at various breeding grounds of pangas, including the Padma-Meghna junction at Chandpur and Shariatpur. Does pangas have unique nutritional value? In terms of nutrition, pangas is ahead of other fishes. Nutrition researchers at Dhaka University have found that pangas contains much more essential amino acid (or indispensable amino acid). Moreover, this fish is very popular among people of all ages as it is tasty and not thorny.

How can we conserve pangas?

The importance of pangas and other native fishes for the source of nutrition and socio-economic development of the rural population is also immense. Steps that need to be taken on an urgent basis to protect pangas include – Pesticides should moderately be used in agriculture and organic pesticides in controlling insects promoted. – Open water bodies such as beels, haors, and rivers, canals which are government properties should be leased out to real fishermen only. – Before construction of any infrastructure on rivers, canals or reservoirs, it should be checked whether that may adversely affect the environment, rivers or canals. – Extermination of fish fry and fishing with eggs should be prohibited. In that case, exemplary punishment should be introduced. – Re-excavation of rivers, ditches, reservoirs and declaration of fish sanctuaries in all rivers of the country or any specified reservoir in each upazila of Bangladesh. – Just as the government has taken various initiatives to protect hilsa, including declaring sanctuaries and banning fishing during the breeding season, similar sanctuaries should be set up to protect native species of fish. – Illegal and highly detrimental fishing traps like chai should be destroyed. – Fishers may be brought under livelihoods supports for their family maintenance during the pangas juvenile harvesting season. – The government has to take various steps to improve fishermen's living standards, including increasing incentives during the fishing ban and alternative employment arrangements. – Appropriate laws should be formulated and strictly implemented to protect the native fish. – More research initiatives should be taken for the development and conservation of native fish. After all, it is more important to motivate the fishermen than to control them with incentives, alternative income or punishment to protect the pangas. The country is expected to move ahead in fish production if it can follow the way the ECOFISH II project has worked closely with fishermen to find out their true condition and integrate closely with their way of life.

URL: <https://thefinancialexpress.com.bd/views/why-should-we- conserve-freshwater-pangas-1608631729>

India and Bangladesh: Renew MoU on bilateral cooperation in fisheries development

Indian High Commissioner in Dhaka Vikram Kumar Doraiswami and Executive Chairman of the Bangladesh Agricultural Research Council (BARC) Dr Sheikh Mohammad Bakhtiyar signed the renewal of the MoU at the State Guest House Padma in the capital. Agriculture Minister Md Abdur Razzaque, State Minister for Cultural Affairs KM Khalid, Senior Secretary of the Ministry of Foreign Affairs Masud Bin Momen, Agriculture Secretary Md Mesbahul Islam, Cultural Affairs Secretary Md Badrul Arefin and Additional Secretary of the Agriculture Ministry Md Abdur Rauf were, among others, present on the occasion. The MoU signed in 2000 between Bangladesh and India on bilateral cooperation in the field of agriculture expired in January this year. As a result of the renewal, the ongoing cooperation in agriculture will continue. Under the agreement, there are scopes for mutual cooperation between India and Bangladesh in the fields of agricultural research, livestock, poultry and fisheries development, disease prevention, agricultural extension, agricultural cooperatives, jute production and cultivation, seed production and distribution, pest management, biotechnology, joint ventures in agro-industry, training and information exchange.

URL: https://theindianawaaz.com/india-and-bangladesh-renew-mou-on-bilateral-cooperation-in-agriculture/?utm_campaign=shareaholic&utm_medium=twitter&utm_source=socialnetwork

Bangladesh: Waning shares in shrimp shipments deepen worries

The country's shrimp industry needs to boost production to retain its share in the global market, insiders say. They said local shrimp sector continues to lose its share in the global market following the introduction of high-yielding and lower-priced hybrid Whiteleg shrimp. They said besides increasing the production of black tiger, which consists of 90 per cent of the shrimp export market, the country also needs to start producing Vannamei on a large scale. This species is known as Whiteleg shrimp or King prawn. The shrimp growers and exporters said the sector requires government policy as well as financial support to increase the export share in the global market. They also said new export markets need to be explored as the traditional shrimp markets are shrinking. The views came at a webinar on shrimp business in Khulna region, hosted by The Financial Express recently. FE Editor Shah Husain Imam moderated the webinar. In his opening speech, the FE Editor said the country achieved self-sufficiency in fish production, but it lags behind shrimp output. He said in 2012, the country was the No. 2 exporter of shrimp, but now it has slipped to the fifth position. "Another piece of negative news about shrimp is that its share was 30 per cent in the global fish market, which slumped to around 2 per cent," he said. Mr Imam said the number of shrimp processing factories came down to 60 from 180 a few years back. Managing Director of Salam Seafoods Limited, Rupsa, Khulna Kamrul Hasan said the government has to find ways to increase exports. He said exploring new markets is inevitable to help the sector survive. Managing Director and CEO of Crimson Rosella Seafood Ltd Md Jalal

Uddin said black tiger is delicious, slow-yielding and production cost is high. He said the country's traditional shrimp export market has been Europe, but Vennamei has been taking away the market from Bangladesh with its low price. He urged the government to reduce electricity costs to reduce the production expenses of shrimp. He said China, the Middle East and Russia could be new markets for Bangladeshi shrimp. Khulna Chingri Bonik Samity Secretary Wahiduzzaman Manzir said high production is a challenge now. He said the government should offer subsidies to help reduce the production cost. He said lobster price was decreasing everyday in the European market due to Covid-19. Deputy Director (quality control) of the Department of Fisheries Mojinur Rahman said exports dropped during Covid-19. The impact of the pandemic started in April, in June it recovered a little, but the sector was still reeling from the Covid-19, he noted. He said Vennamei production would start very soon as its demand has been increasing. National Chingri Chashi Samity Khulna General Secretary Advocate SK Rafiquzzaman, said the shrimp sector became a victim of propaganda. He urged the government to decide whether to let the shrimp production continue in the country or not. While summing up, Mr Imam said there are long-standing and deep-rooted problems in the shrimp industry and they remain unresolved. The industry is very promising, but it is now passing through an infertile period, he said. He urged the authorities concerned to form a committee of experts or taskforce to find the problems and challenges in the industry and make a way out. Mr Imam said the Vennamei production should start soon to retain the market. Shrimp is being cultivated on around 258,681 hectares of land in the south and southwestern parts of Bangladesh. Around 90 per cent of shrimp farmers are small entrepreneurs, and they are dependent on imported feed and other inputs, which have also been disrupted in recent times. The shrimp sector plays a significant role in building the economy as it creates numerous jobs and leaves a positive impact on the aquaculture value chain, poverty reduction, and export earnings.

URL: <https://thefinancialexpress.com.bd/trade/waning-shares-in-shrimp-shipments-deepen-worries-1608443248>

India and Bangladesh: Discuss sharing of Teesta waters during virtual summit: MEA

India and Bangladesh on Thursday discussed sharing the waters of Teesta and other rivers, as well as issues related to fisheries, ministry of external affairs said. These were discussed during the virtual summit between Prime Minister Narendra Modi and Bangladesh Prime Minister Sheikh Hasina. Hasina highlighted the need for early signing of an interim agreement for sharing of the Teesta waters, as agreed upon by both the governments in 2011. Prime Minister Modi reiterated India's sincere commitment and continued efforts of New Delhi in that regard, according to a joint statement. "Sharing of water of Teesta and other rivers and issues related to fisheries were discussed," Smita Pant, Joint Secretary, Bangladesh-Myanmar, MEA said during a briefing after the summit. During the summit, the two leaders underscored the need for early conclusion of Framework of Interim Agreement on sharing of waters of six joint rivers, namely, Manu, Muhuri, Khowai, Gumti, Dharla and Dudhkumar. Both sides agreed to hold an early meeting of the Joint Boundary Conference to prepare a new set of strip maps along the stretch of Ichhamati, Kalindi, Raimongol and the Hariabhanga Rivers from Main Pillar 1 to Land Boundary terminus, with a view to finalizing the delineation of the boundaries as fixed. It was agreed to carry out necessary work to convert the International Boundary along Kuhsiyara river

into a fixed boundary. Bangladesh reiterated the request for 1.3 km Innocent Passage through river route along with River Padma near Rajshahi District. The Indian side assured that it will consider the request. Sharing of waters of the Teesta River, which originates from Sikkim and flows through West Bengal to merge with the Brahmaputra in Assam and Jamuna in Bangladesh, is one of most contentious issue between New Delhi and Dhaka. While Bangladesh has demanded 50 per cent of the river's water supply from December to March, India has claimed a share of 55 per cent. Previously, the Teesta water agreement was slated to be inked between the two countries on September 6, 2011, during the visit of former Indian Prime Minister Manmohan Singh to Dhaka. However, the proposed deal was called off after repeated objections by West Bengal Chief Minister Mamata Banerjee. The water-sharing issue was once again discussed during Prime Minister Narendra Modi's visit to Dhaka in June 2015.

URL: <https://in.news.yahoo.com/india-bangladesh-discuss-sharing-teesta-152134393.html>

Bangladesh: Prawn farmers facing bleak future

Over the last couple of years, export earnings from shrimp, grown mainly in the southwest coastal districts for shipment to the developed economies, have been falling consistently in the face of competition from low-priced vannamei shrimp. The declining shipment has sent not only processors and exporters into losses but also dented the dreams of tens of thousands of farmers, who bet on shrimp farming to make a fortune. And the pandemic-induced demand slump has further increased the woes of growers. "Prices of prawn have fallen drastically this year from that of a year ago," said Chinmoy Das, a shrimp trader in Kachua upazila under Bagerhat, one of the main shrimp producing districts in the southwest. Farmers could large prawns at Tk 1,300 per kilogramme (roughly eight prawns) last year. Now they have to sell prawns of the same grade at Tk 600 per kg. Prices of smaller sized prawns also dropped, creating worries among many farmers of losses. "Both farmers and small traders like us are on the verge of losses," Chinmoy said. Gopal Das, a farmer in the same upazila of the district, echoed the same. Growing shrimp in three enclosures, he said current the prices of prawn were unlikely to bring any profit for them. "We have to spend nearly Tk 350 to produce one kilogramme of prawn," said Gopal, adding that the cost excludes land rent and other expenses including his pay. He said unfavourable weather affected the growth of prawns in his farms. Hence, most of the prawns have not grown big enough to help him get the highest prices prevailing in the market. Gopal said most of the prawns were small in size and it would take 10-20 to make a kilogramme. The average price of prawns would be Tk 450 per kg, he said. "This is going to be a loss," he said, adding that losses would total Tk 500,000 after meeting all his dues. His peers, Litu Chakraborty, Dipon Das from Kachua and Abhijit from another upazila of Fakirhat, are also suffering from low prices for their produce, a major source of their livelihood. Dipon suffered losses of Tk 40,000 from his prawn farm this year. This year, many shrimp farmers suffered losses owing to cyclone Amphan in May.

Their woes increased as the pandemic devastated global demand. Bangladesh fetched \$550 million from shrimp exports in fiscal 2013-14 and exports have been falling consistently in the subsequent years owing to competition from the cheaper vannamei shrimp farmed mainly in China, southeast Asia, India and some Latin American regions. Export earnings were \$333

million in fiscal 2019-20, data from the Export Promotion Bureau showed. And exports dropped 9 per cent year-on-year to \$163 million in the July-November period from that of a year ago, increasing the woes of more than eight lakh farmers who grow shrimp on 2.72 lakh hectares of land for the EU and US markets. Kazi Belayet Hossain, president of the Bangladesh Frozen Foods Exporters Association, said processors tried to continue exports even after accepting reduced prices resulting from a demand slump for coronavirus havoc. And there been some demand for prawn in its main market in the UK owing to stimulus offered by the UK authority to support restaurants. The stimulus ended in September, he said. “We got orders for until November. From the first week of December flow of new orders has been dry amid fresh lockdown owing to second wave of the coronavirus,” he said. “We are suffering from continuing losses and we have to wait until mid-January to see whether demand picks up,” added Belayet. Fakir Mahitul Islam Sumon, president of the Bagerhat District Shrimp Farmers Association, said shrimp farmers were facing losses repeatedly as a result of natural disasters. He urged the government to provide support to growers including providing loans on easy terms and training. Bagerhat District Fisheries Officer Khaled Kanak said the government would provide support between Tk 10,000 and Tk 18,000 to 28,414 marginal shrimp and crab farmers who have less than 3 acres of land as well as fish feed traders.

URL: <https://www.thedailystar.net/business/news/prawn-farmers-facing-bleak-future-2012733>

Bangladesh: Big burden on small shoulders

A 14-year-old child was hanging up raw sea fish on a bamboo frame to dry in the scorching sun at the ‘Mayer Doa’ mahal. These fish, washed, cut, cleaned and treated with salt and turmeric, will become ‘shutki’ or dried fish. The dried fish production areas are locally referred to as ‘mahal’. This child works at a ‘mahal’ in Nazirartek, well known is the Cox’s Bazar pourashava for dried fish. These little workers are paid less because they are children. But when it comes to work hours, there is no compromise, no matter how young they may be. Just like their adult co-workers, they work for 12 hours, starting from 6 in the morning. There are thousands of such children working at the Nazirartek dried fish zones seven kilometers away from Cox’s Bazar town. In order to help ends meet in the family, many of these children have joined their parents in the dried fish industry. During a visit to a few of the mahals from 10am till 1pm on 1 December, Prothom Alo saw the children at work. The country’s largest dried fish production area, ‘Nazirartek shutki mahal’ comprises 16 coastal villages including Kutubdiapara, Samitypara, Fadnardale, Nuniachhata and Mostaikapara in wards 1 and 2 of Cox’s Bazar pourashava. Raw fish are being dried in the sun in at least 600 mahals of various sizes. Speaking to Prothom Alo, panel mayor of Cox’s Bazar pourashava and councilor of wards 1, 2 and 3 (reserved-1), Shaheen Akhter, said there are at least 20,000 workers employed in the 600 mahals. When dried fish production increases, child labour increases too. Presently there are at least 12,000 women, 8,500 men and 2,500 children involved in dried food processing work. A research report prepared by an NGO on the dried fish processing industry also reveals this picture of child labour. The report states that 41 per cent of the children working in the dried fish industry are below the age of 14. The research was carried out in Cox’s Bazar Sadar and Maheshkhali upazila by Sustainable Upliftment Initiative Trust (SUIT) with assistance from the US-based development agency Winrock International. A number of teachers from various

faculties of Chittagong University were involved in the research. The research was carried out from October last year till January this year. There are 561 dried fish plants in these two upazilas.

According to the study, around 14,366 workers were employed there. Of them, 2,876, that is 20 per cent, were children, 63 per cent were women, and the rest were men. Among the children, 59 per cent were aged between 14 and 17. Girls outnumbered boys among the child workers, comprising 72 per cent of the child labour there. During the research, 461 children were interviewed. In the last amendment (2018) of the Labour Act 2006, there have been changes in the definition and age of child workers. In the definition, 'adolescent' has been used instead of 'child', where an adolescent means from 14 years above, but not completing 18. The directorate of inspection for factories and establishments of the labour and employment ministry said that recommendations had been made on 30 November to classify child labour in dry fish production as hazardous labour. Feeding the family A 12-year-old child at the Rahman Enterprise mahal, next to the Mayer Doa mahal, washes fish and prepares these to be dried. A few years ago, while they were living in the hilly area of Chokoria upazila, a leech had entered his father's ear and he fell seriously ill. His mother divorced his father, remarried and went away. This child then took responsibility of the family and came to Nazirartek along with his father and two younger brothers. He took up dried fish processing work. He said unless he worked, his father and two brothers would go hungry. Of the children, 86 per cent had to fill baskets with raw fish and carry heavy loads, 53 per cent worked with sharp implements, 44 per cent had to spend most of their work time in water and mud, 32 per cent had to climb rickety ladders and 31 per cent had to work with hazardous chemicals. Children in hazardous work, internal migration According to the Winrock-SUIT study, children were seen engaged in hazardous tasks of the dried fish industry. Of the children, 86 per cent had to fill baskets with raw fish and carry heavy loads, 53 per cent worked with sharp implements, 44 per cent had to spend most of their work time in water and mud, 32 per cent had to climb rickety ladders and 31 per cent had to work with hazardous chemicals. Associate professor of economics at Chittagong University Mohammad Nurun Nabi was involved in the research on child labour in the dried fish processing industry. He said there were push factors that brought children to work in such a hazardous industry. He said that the families of these children were extremely marginalised. The families had come to live by the dried fish villages, having left their homes due to river erosion and poverty. There were more girls in this industry because boys managed to find employment elsewhere. The owners of the plants said that the women were unwilling to work unless their children could join too. That was why they couldn't stop child labour even if they wanted to. The study report said that 78 per cent of the children had come from internal migration.

The families of these children had come from various districts and upazilas to settle in the government khas land near the dried fish areas. Cox's Bazar panel mayor Shaheen Akhter told Prothom Alo, 80 per cent of the children working at the dried fish processing plants were from Rangpur, Barishal and Noakhali districts. The rest were from Kutubdia, Maheshkhali, Pekua and Chokoria upazilas of Cox's Bazar. Most of the workers were climate refugees. Losing their homesteads in natural calamities, they had come to settle at the Nazirartek coast. There are around 10 to 12 villages around the dried fish mahals where the dried fish workers and their families live. Less wages, but mistreated too A visit to the dried fish mahals revealed that men received a daily wage of Tk 700, working for 12 hours from morning till evening. Women

received half the wage, Tk 350. And children were paid from Tk 250 to Tk 300. Though they (the children) are engaged in hazardous labour, there is a lack of gloves, masks, waterproof caps and such protective gear. The child workers often complain of bad headaches, skin problems, backaches and muscle pain, cuts, fever and so on. Project director of Winrock International's CLIMB project, AHM Zaman Khan, said that child labour was not stopping due to the propensity to make higher profit at lesser wages. He said, they can get work done for lesser wages if they engage child labour. The owners employ children to make more profits in the competitive market. He stressed the need to make stronger efforts at a local and national level to end child labour and to mobilise public awareness. The study report said that a child worker had to work over 10 hours a day. They have to work for at least 5 hours a day under the scorching sun. Many children are forced to work in the 'shutki mahals'. Their parents may have taken advance payment from the owners or they had been appointed on agreement that their children won't leave their jobs on their own accord. Also, 29 per cent of the children have said they have been physically mistreated at their workplace, while 34 per of the girls complained of sexual harassment. Though they are engaged in hazardous labour, there is a lack of gloves, masks, waterproof caps and such protective gear. The child workers often complain of bad headaches, skin problems, backaches and muscle pain, cuts, fever and so on.

Winrock International's civic engagement and capacity development specialist Md Tanvir Sharif said these children work directly under the sun for 9 to 10 hours. They work with water for long and develop sores between their fingers. As Winrock International's media partner, Bangladesh Centre for Communication Programmes (BCCP) is involved in campaigning against child labour in the dried fish processing industry. BCCP director and chief executive officer Muhammad Shahjahan said there are many challenges to preventing child labour and so the right message must be delivered to the right place. This must be understood by the child workers, their parents, the owners of the industries and the policymakers. If effective solutions are to be brought about, the problem must be examined deeply and a long-term programme must be taken up to resolve the problem. Team leader of the BCCP-CLIMB project, Abu Hasib Mustafa Jamal, said many children are obliged to work in unhygienic conditions due to poverty. And during the coronavirus pandemic, these children are in an even more precarious situation. Classify as hazardous According to the 2003 child labour survey of the Bangladesh Bureau of Statistics, there are 1.7 million children employed in labour in the country. Of them, 1.28 million are engaged in hazardous labour. On 5 March 2013, the ministry for labour and employment published a list of 38 types of work categorized as hazardous, that obstructed the physical, mental and moral growth of working people, including children. Dried fish production was not on the list. After a few meetings this year, the central committee for child labour of the factories and establishments inspection directorate recommended that the dried fish production industry be categorized as hazardous for children. Joint inspector general of the factories and establishments inspection directorate, Mustafizur Rahman, said the recommendation had been sent on 30 November to the ministry. He is also a member of the central committee for child labour. He told Prothom Alo, children are meant to be in school, not at work. Various steps were being taken to remove these children from work and bring their families under the social safety net and also to ensure these children could be brought back to work at the end of their education. He said, the government wants to end hazardous child labour by 2021. The government aims at ending child labour in all sectors by 2025.

URL: <https://en.prothomalo.com/bangladesh/big-burden-on-small-shoulders>

Bangladesh: Urges UN to delineate outer continental shelf

Bangladesh has called upon the United Nations to delineate outer limit of Bangladesh's continental shelf that would unleash new opportunities in the country's pursuit of 'blue economy', reports BSS. "The determination of outer continental shelf will enable Bangladesh to explore the natural resources, which is critical for achieving our development agenda," said Bangladesh Permanent Representative to the UN Ambassador Rabab Fatima. She was speaking at the 38th Plenary Meeting of the 75th General Assembly of the United Nations on Tuesday at the UN Headquarters in New York under the agenda "Law of the Sea", according to a press release received here today. She said under the leadership of Prime Minister Sheikh Hasina, Bangladesh has already resolved its maritime boundary disputes with India and Myanmar, and has also submitted technical information in support of its outer continental shelf in the Bay of Bengal to the UN. Focusing on other important issues related to ocean, especially sea-level rise, the Bangladesh ambassador pointed out that the continuous sea-level rise would exacerbate existing vulnerabilities relating to water and food security, health, and livelihoods, impeding timely achievement of the 2030 Agenda. She called for the implementation of the various provisions of the United Nations Convention on the Law of the Sea, the United Nations Framework Convention on Climate Change, and the Paris Agreement, in a coordinated manner to tackle this global challenge. Referring to the extreme vulnerability of Bangladesh to climate-induced sea-level rise, the Ambassador shared various initiatives undertaken by the government of Bangladesh including the adoption of Climate Change Strategy and Action Plan in 2009. "Bangladesh is at the final stage of enacting Maritime Zones Act, to ensure efficient utilization, conservation, and scientific management of our marine resources", she added. The Bangladesh ambassador also stressed the need for capacity building and technical assistance to developing nations for the implementation of legal and policy frameworks in addressing sea-level rise and maritime security. The General Assembly adopted two resolutions on law of the seas and marine fisheries. Bangladesh supported both the resolutions.

URL: <https://www.thefinancialexpress.com.bd/trade/bangladesh-urges-un-to-delineate-outer-continental-shelf-1607663886>

Bangladesh: After lockdown blues, dried fish industry buzzing again

After a lull of about six months due to Covid, the dried fish industry of Dublar Char in the Sundarbans is buzzing again. Dried fish, popularly known as shutki, has a storage life of several months and is considered a delicacy not only in Bangladesh but also in many countries where it's exported. Dried fish is inextricably associated with the overpowering smell that emanates when being cooked. For many fishermen families on Dublar Char, the dried fish sector is one of the main sources of livelihood. Though 20% of the total fish catch is sun dried round the year in Bangladesh, the substantial production takes place from November to March. During a recent visit to Dublar Char, this correspondent found that hundreds of fishermen were busy setting up their boats at the crack of dawn and returning with loads of catch after a few hours. UNB also

came across several makeshift houses on the char built to accommodate those involved in dry fish processing. Loitta, churi, chingri, rupchanda, khalisha, vhedda and poa were some of the varieties being processed on the island. This correspondent also came across temporary fishermen colonies in the coastal areas of Maheralir Khal, Alorkol, Majherchar, Afcikollo, Narikelbaria, Manki khali, Safra Khali and Shallarchar under Sharankhola range of the Sundarbans. Fishermen we met said the coronavirus outbreak had dealt a severe blow to dry fish trade on the island. They claimed to have struggled to sell their produce due to the pandemic until a few months back and the cancellation of the traditional rush mela was a double whammy. Khan Jahan Ali, a fisherman, said, “I came to Dublar Char in the Bengali month of Kartik and returned in Chaitra. We went to the estuary of the sea and caught fish and then kept it under the sun for drying.” Dube Biswas, a dry fish trader, said the demand for the dried fish of Dublar Char “is high in the local markets and hence taken to Chattogram, Syedpur and other districts”. However, this year, the price of dry fish has come down due to the pandemic — one mound of Loitta dry fish now costs Tk 10,000-12,000, while the price of big Chuti is around Tk 30-35 thousand per mound and small Chuti Tk 38,000 a mound. Similarly, one mound of Rupchanda (big size) costs around Tk 80,000 while the price of its small size is nearly Tk 40,000. Chingri shutki (big size) is being sold at Tk 44,000 a mound and its small size Tk 24,000 a mound. Golam Mostafa, a dry fish trader, said “I purchased dry fish from Dublar Char and supplied it to the Syedpur, Rangpur and Chattogram wholesale markets. But this year, the price of dry fish has come down due to coronavirus. According to sources at the Sundarbans east zone, the government has set a revenue target of Tk 3.20 crore from the dry fish sector this financial year. Surprisingly, in the last fiscal, the target was Tk 3.17 crore.

URL: <https://unb.com.bd/category/Special/after-lockdown-blues-dried-fish-industry-buzzing-again/61784>

Bangladesh: Use Dutch expertise in deep-sea fishing, shipbuilding

Bangladesh can tap its potential for deep-sea fishing, better riverine routes and shipbuilding through collaborations with the Netherlands, speakers told a webinar yesterday. “We have fishing experience out up to only 60 kilometres into the sea while there is scope to fish around 600 kilometres out in the deep sea,” said Md Khurshed Alam, secretary (maritime affairs) to the foreign affairs ministry. “We can utilise the potentiality of fishing through collaborations with the Netherlands,” he said, pointing out the country’s high potential in exporting deep sea fish caught in the Bay of Bengal. Alam was addressing a session on water and maritime on the closing day of the “Bangladesh–Netherlands Investment Summit 2020”, organised by the Bangladesh embassy in the northwest European country with support from the Dutch government. The Netherland has experience in catching fish in the deep sea which could be utilised by Bangladesh for export and domestic consumption, he said. He also said there was even a good scope to utilise the experience and technology support of the Netherlands in processing sea food. The Dutch experience in offshore aquaculture could also provide opportunities, he noted. According to him, Bangladesh has to spend around \$8 billion per year for carrying goods on feeder vessels out to mother vessels and this money could be saved through the establishment of a deep-sea port with the aid of technology from the Netherlands. Addressing the programme, Dutch Ambassador to Bangladesh Harry Verweij said their

companies had the scope to make joint investments with Bangladeshi ones. He recommended enabling more flexibility to develop the business environment in Bangladesh.

Verweij also expressed his interest in supporting Bangladesh to tap into its potentials of the water and maritime economy. M Riaz Hamidullah, Bangladesh ambassador to The Netherlands, said the technology and innovative solutions of Dutch companies could tap into the economic possibilities of riverine routes and develop the infrastructure of river ports which was environmentally friendly and a cheaper mode of transport. He also saw good potential in growing the shipbuilding industry with the help of Dutch companies. Even Dutch and Bangladeshi companies can go for joint ventures in deep sea fishing which is still untapped, he said. Saiful Islam, chairman of Western Marine Shipyard, said the Dutch companies could come to invest in joint ventures into Bangladesh's experience in building different kinds of ships, including sea bound trawlers and big ships. He also saw a great opportunity in utilising waterways in Bangladesh to reduce logistical costs of business. Zahedul Amin, co-founder and director of LightCastle Partners, in a presentation said dredging by the government was likely to increase the length of round-the-year navigable river waterways from the current 6,000 to 7,000 kilometres. Inland riverine transportation can outpace road and rail transportation across Bangladesh and develop competitive, efficient supply chains attractive to businesses, he noted. "Our traditional boats and vessels run on single stroke diesel engines. Netherlands have long since switched to LNG engines. Conversion of engines and making vessels spill-proof is a huge opportunity," he said. He also said the private sector of Bangladesh has few vessels and lacks the knowledge and technology for deep sea fishing. Bangladesh Delta Plan, which would take nearly \$37 billion to implement, has good scopes for partnerships in physical infrastructure development, he said. Moderated by Mattias Brienen, director of Larive International, the webinar was also addressed by Albert Hoek, an exclusive senior consultant of Broekman Logistic and Win Rietman, area sales manager of Nijhuis Industries.

URL: <https://www.thedailystar.net/business/news/use-dutch-expertise-deep-sea-fishing-shipbuilding-2008733>

Bangladesh: Trawler owners' body seeks amendment to Marine Fisheries Act

Marine White Fish Trawler Owners Association has demanded amendments to the new "Marine Fisheries Act-2020". They claimed the law is creating obstacles for fishing in the Bay of Bengal. They said this during a press briefing held at the Chattogram Press Club yesterday. During the briefing, general secretary of the association Tajuddin Taju said, "Several sections and sub-sections of the new Marine Fisheries Act-2020 are creating obstacles to fishing in the Bay of Bengal. If these laws are not amended there will be huge losses in the fishing sector." Reading out a written statement at the programme, Taju said the government has published the gazette last month after revoking the Marine Fisheries Ordinance-1983. However, due to the rigidity of the new act, trawler operators are now in a state of panic and have suspended netting fish. He said "The law contains a provision that empowers the authorities to impose fines ranging from Tk 8 lakh to Tk 25 lakh in the event of a violation of fishing rules, without leaving any room for self-defense. The new act would create opportunities for dishonest marine fisheries officials to indulge in corrupt practices." He alleged that the law was legislated without any prior

consultation with relevant stakeholders. Contacted, AHM Shafiquzzaman, director of Marine Fisheries Department Chattogram office, said “We are taking action against fishing trawler owners and sailors for violating various sections and sub-sections of the new law.” “Recently, they have been demanding amendment of this law. We informed the concerned department on behalf of trawler owners and sailors about their demand,” he said. “Since the law has been passed in the parliament, it is our responsibility to enforce it,” he said. “Amendment or cancellation depends wholly on the government.” he added. Meanwhile, all skippers and sailors of fishing trawler under the Marine Academy Ex-Cadet Association have halted fishing in the Bay since December 5, in protest of the new law — that was passed in parliament in November.

URL: <https://www.thedailystar.net/city/news/trawler-owners-body-seeks-amendment-marine-fisheries-act-2008261>

Bangladesh: Fish bring good business in winter

The business of fish is flourishing in these days, as stalls of fish sellers and those dealing in selling fried fish can be seen in every nook and corner of the city. Stalls of Rahu, Mahasher, silver and other varieties of fish can be seen along roads in Pindora, Commercial Market, Haidri Chowk, Liaquat Road, Committee Chowk, Banni Chowk, Sadiqabad, Tipu Road, Saddar Babu Bazaar, Adiala Road and Lalkurti and many kind of fried fish is available at Rs. 600 to Rs. 1400 per kilogram at these stalls. The fisherman bring fish from different dams including Sandimar Dam, Shah Pur Dam, Misriot Dam, Rawal Dam etc to the twin cities of Rawalpindi and Islamabad. A fried fish seller Wali Khan said “I have been doing this business for the past 23 years at Commercial Market and Saddar Babu Bazaar(Hati Chowk),” added that we earned a lot in chilly weather as the fish is favorable dish of the season. A medical practitioner said that fish was a necessary food item for health. “People of all ages should eat fish in winter season to keep them warm,” he suggested. On the other hand, a great rush is witnessed on the tea, soup and dry fruits shops in these days.

URL: <https://www.brecorder.com/news/40037934>

Bangladesh: An oversight failure that infests indigenous fish farming

At Least 20 of the 30 alien fish species brought into Bangladesh over seven decades for aquaculture the rearing, breeding and harvesting of the species in controlled aquatic environments coming to have harmed natural fish farming after their escape to open water suggests that there has been a continued negligence on part of the government in oversight on the import of fish for farming. The species, which are highly invasive, are said to have rapidly invaded open water, causing the extinction of indigenous fish and the destruction of aquatic ecology. While the farming of such alien fish species, which are less rich in nutrition than the indigenous fish, has increased the overall fish production, it has put food security in jeopardy and has threatened a large number of people who live on fishing and fish farming. The alien fish species are also said to contain a high level of heavy metals that are detrimental to humans. The exotic varieties of fish are popular for aquaculture because of their capacity to grow

exponentially in the worst environmental conditions and their escape to open water has, therefore, harmed naturally breeding indigenous varieties that struggle to cope with challenges such as river encroachment, shrinking waters and industrial pollution. The species of African sharptooth catfish, or African magur as it is locally known, banned seven years ago, and red piranha, banned 13 years ago, often passed off as the pomfret, are still grown illegally, especially in pockets of floodplains in the dry season, and sold on the market in Bangladesh.

Tilapia, introduced from Thailand in the 1950s that was made popular in the 1980s, has become an obstacle to local fish in Bangladesh's south and west. The common carp, which is a bottom feeder that constantly pokes at the river bed making the water turbid, burying fish spawns and reducing sunlight penetration, and the grass carp, a weed eater that reduces aquatic flora to a large extent, causing a decline in dissolved oxygen, have made the existence difficult for indigenous fish. The common carp also erodes the river bank where many indigenous fish nest during the summer. Nutritionists say that a kilogram of mola carplets can equal the amount of Vitamin A contained in 200 kilograms of silver carp. Exotic fish have also brought in diseases with them and the two of the worst ever such diseases are red spot disease and white spot syndrome. Red spot disease is said to have been a reason for the decline in the indigenous species of spotted snakehead, snakehead murrel, walking catfish, swamp barb and Indian carp in the 1980s and white spot syndrome has harmed the shrimp industry. It is long past time for the government to have a proper oversight on fish farming, especially of the species that have been introduced with hopes for a better aquaculture production but which has, in effect, harmed indigenous varieties. The government must, therefore, shore up the issues before the indigenous varieties that are at risk become extinct. While this will help the government to better public health, this will also ensure a harmless protein intake.

URL: <https://www.newagebd.net/article/123779/an-oversight-failure-that-infests-indigenous-fish-farming>

Bangladesh: Marine Fisheries Association demands revision of act

Bangladesh Marine Fisheries Association (BMFA) demanded revising Fisheries Act 2020 after holding talks with the stakeholders. The BMFA raised the demand after holding a press conference at Chittagong Press Club on Monday. Reading out a written statement at the press conference, Moshiur Rahman said the government had published a gazette this year after revoking the Marine Fisheries Ordinance 1983. Due to the rigidity of the new act, the trawler operators are now in a state of panic and have suspended catching fish. "The new act is not business-friendly. Many clauses of the act contradict with existing criminal laws. The punishment for different offences in the new act is stern, said Moshiur, adding that the new act would create opportunities for dishonest marine fisheries officials to indulge in corrupt practices. "In the past, the trawler operators could catch fish for 280 days a year. However, there is a ban of 85 days on fishing annually. Besides, the trawler operators have to suspend trawling for some days more due to natural calamities, he said. On November 16 this year, the Marine Fisheries Bill 2020, was passed in Parliament with a provision for a maximum of three years' imprisonment or Tk5 crore fine or both for fishing illegally within Bangladesh's maritime boundary by any foreign national. Fisheries and Livestock Minister SM Rezaul Karim moved the

Bill in the House; it was passed by voice vote. There are 12 chapters and 63 clauses in the proposed law which will replace the Marine Fisheries Ordinance promulgated during the period of the military regime and scrapped by the High Court.

URL: <https://www.dhakatribune.com/bangladesh/military-affairs/2020/12/07/marine-fisheries-association-demands-revision-of-act-2020>

Bangladesh: Ratargul water management system can stop depletion of indigenous fishes

Poor fishermen and inhabitants of some small villages near the nationally acclaimed vast Ratargul Swamp forest have started getting benefits of an initiative taken up under a research programme by the Aquatic Resource Management department of the Sylhet Agricultural University (SAU). Had we continued the ongoing process of water management through the two sanctuaries and their neighbouring water bodies, depletion of our own varieties would have come down in years, said Ratargul Co-management Committee president Mahbubul Alam. Fall in the water level in the canals and indiscriminate fishing during the dry season causes sharp depletion of indigenous fish species. We have to take measures so that none can catch fish at that time when we have to ensure rearing and nursing of mola, dhela and others during the breeding season (April-June) through the pen method, Mahbubul added during a visit to the area recently. The pens opened in June for letting the fries move for the large water bodies. The pens are set using bamboo and nets for rearing the breed fish. The research programme started in July 2018 with a target to raise production of depleting fish varieties and sanctuaries had been set on three acres on two locations on Ratargul swamp forest and its Gurokchi canal, said Professor Kundu. Professor Mrityunjoy Kundu, head, Aquatic Resource Management department at SAU, also the chief investigator of the project told this correspondent rearing of Mola and Dhela on the pens, set just on the side of the sanctuary and released soon after the breeding season has made tremendous impact to enhance these two micro nutrient rich small fishes. Research work on 'enhancement of fish biodiversity and production in Sari-Goain River and its adjacent wetlands' was initiated by the Department of Aquatic Resource Management of SAU and Shahjalal University of Science & Technology (SUST) under the financial assistance of NATP Phase-2 Project of Bangladesh Agricultural Research Council. The Local administration along with the department of Fishery also provided support, said the project's Field officer KM Alamgir Hossain. Under the programme two fish sanctuaries have been established covering three acres area in Ratargul Swamp Forest and Gurukchi River of Goainghat upazila.

Two management committees have been formed to take care of the sanctuaries with 50 fishermen of Gurukchi village and 30 of Ratargul Swamp Forest area. When asked, describing the outcome, Gurukchi Matsyajibi Samabaya Samity Archana Das, 40 said people are getting benefits after starting the research activities in July 2018. Due to the effect of sanctuaries many endangered fish species are by now available in Sari-Goain river and on the adjacent water bodies, such as pabda, mola, dhela, boal, chital, ghora, khari, Nanidina etc. Rearing of mola and dhela in pen established by the side of the sanctuary and released soon after breeding during April to June has made tremendous impact to enhance these two micro-nutrients rich small fish species. Co-chief investigator of the project Professor Md. Faisal of the SUST's Social Works department told this correspondent as a consequence, production of these species during

monsoon has been increased as well as regained in nature. It was possible for better management of sanctuaries due to active participation of the fishermen. As an alternative income generating activities cage aquaculture with *Telapia*, *pabda* and *pangas* has been promoted under the technical and financial assistance of the project, said 45-year Bidyabala Debi 45. Sewing machines, goat, and sheep have been purchased through selling the cultured fishes and distributed to the fishers' family, said another beneficiary Dipti Rani 40. Principal Investigator of the project Professor Dr. Mrityunjy Kunda also said that fish habitats are squeezing, especially in winter due to siltation and pollution, at the same time fishing by dewatering is responsible for disappearing mola, dhela and other important species. He also added that establishment of fish sanctuary and rearing of important endangered fish species in pen and releasing them after breeding can be of helpful to continuous propagation and enhancement of indigenous fish species.

URL: <https://www.thefinancialexpress.com.bd/national/country/ratargul-water-management-system-can-stop-depletion-of-indigenous-fishes-1606992871>

Bangladesh: Current Blue Economy models falling under 'Neoliberal paradigm'

An Independent People's Tribunal on the Implications of Blue Economy in Bangladesh has called on the government to go for impact assessment studies of prospective Blue Economy-related projects, to ensure protection of marine biodiversity and ecology as well as the rights of resource-dependent coastal communities. Though the Blue Economy, a catch-all term for a range of economic activities and opportunities centring the oceans, has been emerging as a Sustainable Economic Growth model, the tribunal found 'Blue Economic models' that are emerging or have already are extensions of the Neoliberal paradigm in South and Southeast Asia. A designated jury for the tribunal comprising the likes of Vandana Shiva, the famed Indian activist, opined this during the tribunal held virtually on Monday. Renowned international activists, global experts, and representatives from different global networks took part in the tribunal. MJ. Vijayan, General Secretary of Pakistan-India Peoples' Forum for Peace & Democracy (PIPFPD) (India), and Sanat Kumar Bhowmik, Deputy Executive Director, COAST (Bangladesh), moderated the tribunal, says a press release here on Tuesday afternoon. In the Inauguration session Nadine Nembhard, General Secretary, World Forum of Fisherfolk People (WFFP), Naseegh, International Planning Committee (IPC) for Fisheries Working Group and WFFP (South Africa), Rezaul Karim Chowdhury, Executive Director, COAST (Bangladesh), Narendra Patil, Chairperson, National Fisherfolk Forum (India) delivered their inaugural speeches. The honorable members of the Jury were Dr. Vandana Shiva, Environmental Activist, and Food Sovereignty Advocate, India. Anand Grover, Senior Advocate & Former UN Rapporteur, India, Ezar Mbogiri, Executive Director, Abika Uhaki Foundation, Kenya, Sheerin Parvin Huq, Member-EC, Naripokko, Women Rights Activist, Bangladesh took part, while Jesu Rethinam, Director, SNEHA, India described the objectives of tribunal. A. Gandimathi presented the study titled "The Blue Economy in Bangladesh: Exploring the Socio-Economic Political and Ecological Implications on the Coastal Communities.

The study identifies three reasons that have made the BE model a neoliberal model: Ecological externalities such as loss of biodiversity as an inevitable consequence of the exploitation of

coastal and marine resources, Exclusion of Marine and Coastal Communities from their habitats; governance, and user rights on marine and coastal commons, resulting in loss of livelihoods by allowing oceans and coasts as open access systems. She also said that if Bangladesh will implement the Blue Economy appropriately then it will have huge scopes for the coastal communities. People of different walks of life from Cox's Bazar presented their recent situation to the tribunal. Md. Mamunul Haque, a resident of Moheshkhali living near the Special Economic Zone, said that the local laborers should be hired in the Special Economic Zone. The government should arrange the shelters of displaced people due to the project, he said. A deep-sea fish worker from Cox's Bazar Md Abdul Halim said, the small-scale fishers now are not getting fish as the big trawlers are catching most of the stock. Dry fish worker Md. Aman Ullah said, as the raw fishes are gradually reducing, it also reduces their scope of works. He urged the government to provide training on organic dry fish production. Crab farmer Md. Enaet Ullah said, due to the pandemic we cannot export the crab, it affects our livelihoods seriously. A resident of Cox's Bazar town Asif Ud Doula said, now the tourism business has been shifted to multinational companies because of the implication of the Blue Economy. As a result, the coastal community is losing their livelihoods. The board of Jury gave their interim observations that coastal community stakeholders should be involved in the decision-making process, keeping the harmony of nature but not profit-making rather coastal community's interest, should not be taken away the last resources and jobs of the coastal community, thinking on globally and should not be followed the imposing of the World Bank and the IMF, protecting the resources for the survival of coastal communities during the implications of Blue Economy in the region.

URL: <https://www.unb.com.bd/category/Bangladesh/current-blue-economy-models-falling-under-neoliberal-paradigm/61367>

Bangladesh: Child labour must end in dried fish industry

Speakers at a roundtable on Monday called upon the government to categorise child labour in the dried fish industry as a hazardous sector and to place priority on bringing an end to it. The virtual roundtable on 'Seeking ways to end child labour in the dried fish processing industry' was organised by the Bangladesh Centre for Communication Programs (BCCP) and Prothom Alo, with support from Winrock International's CLIMB project. Around 20 per cent of the workers in the hazardous dried fish industry of the country, are children. The speakers said this sector was extremely harmful for children as it involved carrying heavy loads, using sharp utensils and handling chemicals, among other dangerous tasks. The speakers also said that so far this sector had not even been identified as hazardous by the labour law. The government had recently taken an initiative to do so. If child labour was to be stopped, it was essential to give priority to this sector. Starting off the discussion, Prothom Alo's associate editor Abdul Quayum said children were commonly used in the dried fish processing industry. The owners of these industries are alerted in advance if any inspection is to be carried out and temporarily remove the children from their processing plants. The media carries reports on such matter in a bid to eliminate child labour. Associate professor of Chittagong University, Mohammad Nurun Nabi, presented a research paper on child labour in the dried fish processing industry. The research showed that the dried fish processing industry was most extensive in Cox's Bazar sadar and Maheshkhali upazilas. And 93 per cent of the dried fish, known as shutki, was produced in the Nazirtek 'shutkipalli' or

dried fish zone. Around 14,366 workers were employed in this industry, 20 per cent of whom were children, 63 per cent women and the rest, men. Of the child workers, 41 per cent were under 14 years of age, and 59 per cent between 14 and 17. Also, 72 per cent of these child workers were girls.

A total of 461 child workers were interviewed for the study. Mohammad Nurun Nabi said that the children came from the families who had settled around the dried fish zone, having been displaced from their homes by river erosion and poverty. As boys could find numerous other jobs, it was the girls who mostly came to this industry. The industry owners said that women were reluctant to work unless their children were employed too and so they were obliged to take on child labour. The research also said that children in the dried fish processing industry were subject to physical and sexual abuse. Joint inspector general at the department of inspection for factories and establishments under the labour and employment ministry, Mostafizur Rahman, said the government had a target to end hazardous child labour by 2021 and to end all child labour by 2025. There should be no workplace for children. The dried fish processing industry had not been on the list of hazardous labour so long. It is now being included in the list of six sectors being added to the list. This will soon be published as a gazette. Executive director of INCIDIN Bangladesh and member of the National Child Labour Welfare Council, AKM Masud Ali, said that reforms must be made at a policymaking level to end hazardous child labour. Child labour must be brought down to zero. The government has taken initiative to include the dried fish processing industry on the list of hazardous industries. But it will be useless unless priority is now given to end child labour in this sector. President of Bangladesh National Women Lawyers Association and co-chair of the National Child Labour Welfare Council, Salma Ali, said research and media reports provided evidence in the case of any issue including child labour. Based on this, legal assistance and advice can be given to resolve the problem. Chief executive officer of BCCP Mohammad Shahjahan, said that strategic communication was essential in ending hazardous child labour.

This required a target to be fixed. Ending child labour involved a lot of challenges and so the matter needed to be understood by all involved, including the children, the parents, the industry owners and the policymakers. Project director of Winrock International's CLIMB project, AHM Zaman Khan, saw the economic aspect as the main obstacle to end child labour. He said profits were involved in the dried fish processing industry. Employing children meant lower wages and higher profits in the competitive market. That is why child labour continued. It was important for the government to include the issue of child labour in the five-year plan. Winrock International's civic engagement and capacity development expert, Md Tanvir Sharif, said that the children were falling ill, working in the unhealthy environment of the fish processing industry. They worked for 8 to 9 hours under the direct sun. They developed sores on their hands, working with water throughout the day. Team leader of the BCCP-CLIMB project, Abu Hasib Mostafa, presented a video on child workers in the dried fish industry. He said that many children were obliged to work in unhealthy environments due to poverty.

URL: <https://en.prothomalo.com/bangladesh/child-labour-must-end-in-dried-fish-industry>

Bangladesh: Coastal communities deserve benefits from the blue economy: People's Tribunal

Exploitation of Bangladesh's marine resources may result in loss of bio-diversity and exclusion of coastal communities unless issues of rights and environment are addressed, a panel of inter-state civic groups has warned. The 'Independent People's Tribunal on Implications of the Blue Economy in Bangladesh' held virtually on Monday called the government to make a thorough impact assessment on projects relating to the 'Blue Economy' in order to protect the marine ecology and rights of the communities. "If Bangladesh implements the Blue Economy properly, it may be huge benefits to the coastal communities, said A Gandimathi while presenting a study on "The Blue Economy in Bangladesh: Exploring the Socio-Economic Political and Ecological Implications on the Coastal Communities. She, however, expressed apprehensions that the people living in the coastal belt may be evicted or lose their livelihoods in case projects for exploiting the blue economy are undertaken without taking into account their common interests and urgency of protecting marine biodiversity. Although the blue economy is being projected as a model of sustainable economic growth, the Tribunal termed it as an extension of the 'neoliberal' policies that are likely to be implemented in South and Southeast Asia, according to a media release issued on Tuesday. The board of jury at the session recommended that coastal stakeholders should be involved in the decision-making process. It added that nature, not profiteering, should be given priority and coastal resources and jobs of the communities need to be protected.

The jury board included Food Sovereignty Advocate from India Dr. Vandana Shiva, Former UN Rapporteur, India Anand Grover, Executive Director at Abika Uhaki Foundation, Kenya, Ezar Mbogiri, and Member-EC at Nari pokko Ms. Sheerin Parvin Huq. Ms. Jesu Rethinam, Director at SNEHA, India, described the objectives of the tribunal. Md. Mamunul Haque, a resident of Moheshkhali, Cox's Bazar, who lives near a Special Economic Zone, said the local labourers should be hired on a priority basis for jobs at the zone. "The government should arrange shelters for the displaced people due to the project, he told the tribunal. A deep-sea fish worker from Cox's Bazar Md Abdul Halim regretted that small-scale fishers are already losing business to big players. Dry fish worker Md. Aman Ullah referring to declining working opportunities in dry fish sector, urged the government to provide training on organic dry fish production. A resident of Cox's Bazar town Asif Ud Doula said tourism business is increasingly being captured by bigger players from outside. General Secretary of World Forum of Fisherfolk People Ms Nadine Nembhard, International Planning Committee for Fisheries Working Group and WFFP (South Africa) Mr. Naseegh (single name), Executive Director of COAST (Bangladesh) Rezaul Karim Chowdhury, Chairperson at National Fisherfolk Forum (India) Narendra Patil joined the discussion moderated by MJ Vijayan, General Secretary of Pakistan India Peoples' Forum for Peace and Democracy (India), and Sanat Kumar Bhowmik, Deputy Executive Director at COAST (Bangladesh).

URL: <https://www.thefinancialexpress.com.bd/economy/bangladeshs-coastal-communities-deserve-benefits-from-the-blue-economy-peoples-tribunal-1606829363>

Bangladesh: Dry fish processors in Chittagong passing busy time

The dry fish processors in the Shutki Palli of the port city are passing busy hours with the advent of winter season. On a recent visit to Bakalia Bastuhara Shutki Palli, it was seen that hundreds of workers are passing busy days making dried fish. Some of them were seen busy washing and spraying salt on the fish while others were slitting and pulling out digestive tracts. Some of them were found spreading fish on bamboo mats and hanging them on to the bamboo poles under the sun. A total of nine fish processing estates have developed in Bakalia, Ichhanagar, Juldha, and Dangarchar areas on the bank of Karnaphuli River. According to the dried fish processors, Chittagong supplies 30% of the total demand of the country and the fish processed here are exported to Middle Eastern countries, China, Thailand, and Hong Kong. The fish processors said the produce from Shutki Palli goes to Asadganj, a wholesale market of dried fish in Chittagong city, from where dried fish is supplied around the country. According to the dried fish processors, there are some 5000 workers in Bakalia Shutki Palli. Of them, 60-700 workers are permanent and the remaining work on a daily basis. The temporary workers get Tk250-300 daily while the permanent workers get Tk8,000-12,000 per month. Wholesalers in Asadganj claim that besides supplying dried fish to the rest of the country, they also send consignments to Middle Eastern countries such as the UAE, Saudi Arabia, Kuwait, and Qatar, as well as the US and the UK – the countries that are home to a large numbers of expatriate Bangladeshis. Md Yunus, a dried fish processor, said: “Although fish drying activities continue throughout the year, peak season is from November to February. Although 15-20 varieties of fish are processed here, Chhuri (Ribbon fish), Loitta (Bombay duck) and Faisha (Phasa) are processed the most, said the dried fish producer. “I procure fish from Fisheryghat for drying them up here. Afterwards, I sell the processed fish to the traders of Asadganj dried fish wholesale market, said Yunus.

Speaking to the Dhaka Tribune, Asgar Hossain, president of Chittagong Small Dried Fish Production Marketing Cooperative Society Ltd, said: “Although the supply of fish from the sea is adequate following the fishing ban, the sale of the dried fish dropped a little bit due to the coronavirus pandemic “Out of 150 dried fish processing units, 120 units are now in operation. We process around 30 types of sea fish except for shrimp. Around 5,000 metric tons of dried fish are produced annually in the Shutki Palli. That is why the government should set up a dried fish-processing centre in Chittagong, he added. Mentionable, on November 3, the Executive Committee of the National Economic Council (Ecne) okayed a Tk 199-crore project to set up a dried fish-processing industry in Cox’s Bazar to produce quality dried fish and increase its production minimizing fish wastage. Asgar further said that they were facing an uneven competition as substandard dried fish was being imported from India, Pakistan, and Myanmar. “For example, locally produced Chhuri Shutki sells at Tk 800-100 per kg while imported Chhuri Shutki sells at Tk 500-600 per kg. We do not get any loan from the bank. The dried fish will get a boost if we are provided with necessary support. The government should discourage importing dried fish as they were found to have been laced with toxic substances, Asgar said, adding that the fish is processed here in a natural way under the open sky without any chemical. Dried fish, “shutki in Bangla, is a much-loved traditional food in the country, particularly in Chittagong. “Dried fish can be a cheap source of protein for the low and middle-income groups. Usually, 5kg of fish are turned into a kg of dried fish. Therefore, dried fish is a lot richer in protein than fish, as protein is concentrated in it. It can easily meet our daily protein demand, said Farhana Lovely, District Fisheries Officer of Chittagong.

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/11/30/dry-fish-processors-in-chittagong-passing-busy-time>

Bangladesh: Govt must do more to protect local fish varieties

The invasion of an alien fish in inland water, even in major rivers, has increasingly become a threat to the aquatic biodiversity. A native fish of South America, known as the suckermouth catfish originally imported as a pet fish for the household aquariums, was first sighted in open water in the early 1990s. Its presence in large number has recently been reported by fishermen in Bogura, Cumilla, Mymensingh and Noakhali. The protracted breeding period, its ability to survive in low oxygen and high toxicity in water has allowed the fish to establish a natural population. Experts consider the fish to be a major threat to aquatic lives and biodiversity as the rapid propagation of the catfish can trigger an immediate food crisis for native algivores. The invasion may eventually threaten the survival of indigenous fish varieties. Similar invasion in other countries has resulted in the extinction of local fish. The incident suggests an absence of rules and regulations in importing and cultivating wildlife specimen for commercial purposes. While the chief scientific officer of the Bangladesh Fisheries Research Institute has sought not to consider the existence of sucker fish in open water, the fisheries department has initiated an investigation to assess the impact of the invasion on native fish population. This is, however, not the first case of invasion of alien fish in local water bodies.

The farming of omnivorous African catfish and South American piranha created a similar concern earlier. The government banned the farming of African catfish in 2013, three decades after its introduction. The red piranha was banned about a decade after it had been introduced. While the ban on the farming of invasive alien species is welcome, it also highlights the absence of government foresight. A thorough aquatic biodiversity impact assessment is what is now warranted, but the government has introduced a new fish variety for commercial farming without any long-term assessment. In general, the agencies concerned are not proactive in preserving the indigenous fish varieties that are common sources of fish protein in Bangladesh. Local varieties, meanwhile, face extinction amidst the disappearance of water bodies and fast-growing hybrid fish cultivation. Controlling invasive species can be difficult, but the best method to prevent their introduction is making policies and educating people. There is an urgent need for legislation to prevent the release of aquarium fish and potentially damaging alien species into natural water bodies. Awareness materials should be developed explaining the ecological implication of such species specifically to students, aquarium hobbyists and fish breeders. The government must also review its regulations on wildlife import.

URL: <https://www.newagebd.net/article/122688/govt-must-do-more-to-protect-local-fish-varieties>

Bangladesh: IPRS promises booming fish production in Chapainawabganj

The visually attractive and most scientifically advanced aquaculture practice for farmable carps and catfishes, known as In-pond Raceway System (IPRS), promises a dramatic rise in fish

production in Chapainawabganj. Akbar Hossain, the owner of “Nawab Matsya Khamar Prakalpa [Nawab Fish Farm Project]” has been using IPRS in his ponds to commercially produce different carps, Tilapia and Pangas. He installed the system in altogether 20 hectares (60 bighas) of his land in Noyagola Bolunpur, located in the outskirts of Chapainawabganj district town. “Where 300 to 400 fishes could be farmed at a time in a bigha of a traditional pond, with the IPRS up and running, about 10,000 fishes can be farmed in the same area,” says Akbar, a national award winning fisheries entrepreneur, who just about two years ago used to farm fish by dividing his land into 36 ponds. Dr Amimul Ehsan, the district fisheries officer in Chapainawabganj said: “Around 32 tons of fish could be produced from every 250 cubic metres using the IPRS. In Akbar’s farm, all the conditions of Good Aquaculture Practices (GAP) have been followed, and export-quality fishes are being produced.” During an on-spot visit at Akbar’s fish farm this correspondent observed the lucrative prospect of IPRS as well as its environment friendly perks which clearly sets the system apart from other methods of fish farming in the country. In an IPRS farm, fishes are raised in cells or “raceways within a pond. Constant water circulation is maintained for optimal water quality and to improve feed management. The IPRS also has the potential to reduce solid waste loading in the pond by concentrating and removing it from the downstream end of raceway units. The wastes can be used as fertilizers, thus reducing the harmful impact on nature. Water circulation, mixing and aeration are critical elements to this approach because it accelerates assimilation of organic material in the pond required for raising a high number of fishes in a comparatively smaller area. The entire waterbody of Akbar’s farm is divided into 13 raceways, where 12,000 to 20,000 pieces of fishes are being farmed in each of them. Akbar’s IPRS — built as a fixed floor project (not a floating model), was installed on poured concrete walls that has footing with bottom drains. Each raceway has width, length and height of 5m, 25m and 2m respectively (250 cubic meter raceway volume).

The raceways are equipped with five regenerative blowers. Additionally, the pond has Asian-style paddle wheels installed in the open water area, which helps mix and circulate water around the pond. Akbar said: “The technique was first introduced in the USA in 2007. I began interested in implying it in my farm after being mesmerized seeing that such a huge quantity of fish could be farmed in such a small space. “In 2019, an expert team from China has provided us the design for constructing the technological foundations for the farm. The system was built by local engineers and until now is being managed and maintained through support from local fisheries office. “This technique for fish farming is very popular in China. There they have 3,000 ponds with IPRS. India has three of them and Pakistan has four,” says Akbar adding the claim that his IPRS pond is the largest one in South Asia. “I believe that the soil-condition, weather, and overall climate are much better in our country than it is in China. So this thought has also led me to bring the technology into our country. I am looking forward to exporting the fish in Europe and the Middle East. “A river-like environment is created in the raceways, so the fish could be farmed in much less time in comparison to farming in ponds. Once the system is established, the cost will be equal to that of fish farming in ponds. Farmers can operate two to three raceways if they cannot afford the system in a large area, Akbar added. Dr Amimul, the district fisheries officer says: “The IPRS technique is environment friendly and viable. River-like environment is created through circular reinforced poured concrete structures and is filled with water using advanced technology. Therefore, the taste of these fishes will be similar to that of fishes in the river. “Moreover, adequate oxygen is supplied in the water and all waste and harmful ammonia

gas is eradicated through advanced machinery. As a result, diseases are less frequent in the farmed fishes and the production increases.

At present no other method is capable of overtaking the rate of production of this method. “We are regularly monitoring the project. High quality fertilizer can be produced from the wastes produced in the system, which is one of the eco-friendly advantages.” When asked about the prospect of the IPRS method in Bangladesh, Dr Ehsan said: “As we have already established the system here, the fisheries department can provide experts’ assistance to any farmer who is willing to farm fishes in this technique. Chapainawabganj, a district that falls under the Barind region in northwestern Bangladesh was once composed of mostly barren lands. Years back, due to the nature of land and other geographical features, it was quite difficult to produce crops. In the drought-prone Barind Tracts, people suffered from a drinking water crisis when the level of ground water fell. As there was scarcity of water throughout the year, people never imagined investing in fish farms. Now one can see a variety of crops being cultivated there and fish farming is going on in full swing. With the introduction of IPRS in ponds, Chapainawabganj is once again on the verge of achieving yet another milestone in agriculture despite the climate challenges and sets an example for the country. Sources from the agriculture office say that when the IPRS is introduced in every possible fish farm in the district, 300 tons of additional fish could be produced after meeting the local demand. This will not only reduce the harmful impact on climate, but will also earn the country frequent revenue and prestige through export.

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/11/26/iprs-promises-soar-in-chapainawabganj-fish-production>

Bangladesh: Uncertainty over life and livelihood: People leaving coastal areas

Sitting alone on the bank of Shakbaria river, Pramila Mandal was now gazing at the slanting rays of the setting sun and then towards her home that went under water as the embankment along the coast damaged in the cyclonic storm Amphan in May this year. The 45-year-old said she has seen her home eroded several times but she could not count the specific number of times she had to shift her home. Since the Amphan in May, her family has been living at a home constructed by a fish enclosure. But her voice was shaky when she was talking about home. Pramila Mandal is from Aangtihara village in Dakkhin Bedkashi union of Koyra upazila in Khulna, the southwestern district of Bangladesh. The embankment she was sitting on is newly constructed. There was another embankment around 300 yards away. Her home was by that old embankment. There are remnants of the old house that can be seen during the low tide. Cyclonic storms Sidr, Aila, Mahasen and last but not the least Amphan have severely affected the lives and livelihoods of coastal people like Pramila in the last one and a half decades. A number of families, once a respected, now have become pauper losing their land and properties. Grim pictures of the struggle of coastal people of over 30 villages of 10 unions of Khulna and Bagerhat districts have been seen during visit in the areas between 28 September and 3 October. Almost all the people talked about their future, gradually turning uncertain. Locals said many people have already left their homelands while many are thinking of leaving because of the recurrence of natural disasters. Local people said they have learned from their birth to live by fighting against the nature. That’s why rain or storm cannot subdue them but they lose morale if the embankment

gets damaged since this destroys everything and they do not have the capacity to fight it We talked to Pramila Mandal on 28 September. There are a few huts made of golpata, a local grassy material people use to build huts, and some pucca homes, newly constructed after the Amphan. There is a superabundance of trees and shrubs in Aangtihara village as there is enough fresh water. But the picture is different in villages around. Potable water is a luxury for the people of those villages as they are encircled by brackish water. Local people said they could not produce much paddy or other crops as the river water in the area is too brackish. There are a number of fish enclosures there but that does not create much jobs. Most of the people of the area live by collecting fish fries, fishes and crabs. Shamsur Rahman, chairman of Dakkhin Bedkashi union, said the Sundarbans encircles the union on three sides and that's why it bears the brunt of any natural disaster like storm or cyclone. There are around 27.5 km embankment around the union. People of the union were marooned for four years as the embankments were damaged during cyclonic storm Aila. Only 10 per cent houses survived that storm. Around 2,500 families had to leave the area after the Aila. Life in high tides Lives of people of at least four villages, including Kathmar Char and Kashir Hatkhola, of Uttar Bedkashi union in Koyra upazila depend on the low and high tides. The villages have almost no road connections.

Villagers use boats for commuting during the high tides. They must finish cooking or responding to calls of nature before the high tides every day. A carpeted road from Pratapnagar Bazar and Union Parishad will take you to Satkhira Sadar upazila. River water enters the union eroding one place of the road (the culvert area). Boats and trawlers are the only mode of transportation there. Water Development Board officials said a deep trench has been created in the area due to low and high tides. It would not be possible to repair the road until the end of rainy season. Speaking to Prothom Alo, Dilip Kumar Datta, professor of environmental science department at Khulna University, said, the land formation in coastal areas of Bangladesh is quite new. High brackish water is damaging the coagulation capability of this earth. That's why the embankments are eroding rapidly. He proposed raising the land level by Tidal River Management (TRM) system. People left areas are not in good condition Md Hamid from Jorsing village in Dakkhin Bedkashi union lived in a shack on an embankment for one year as his house was destroyed in cyclonic storm Aila in 2009. Then he moved to Khulna. Currently he lives with his family in a rented house in Khulna town. Hamid is a rickshaw puller and his wife works as a housemaid. He said many families moved from Koyra to Khulna at that time. Most of them are working as rickshaw pullers and wage labourers. Abul Hossain Gazi and his elder brother Abu Bakkar Gazi live at the far corner of Fakirer Konapara of Kalabagi village in Dacope upazila. They live with their grandmother and specially abled uncle as their parents are no more. The family lives in an area that looks like an island. Shibsra and Sutarkhali river flow by the two sides of the island and the other two sides are encircled by the Sundarbans. Boat is their only mode of transportation. The situation was like this before the cyclonic storm Amphan. The area has suddenly got separated from the main land as an aftermath of Amphan. A visit there by boat revealed that the yard and house was inundated because of high tide. A small boat is moored there while a fish net was hung in the yard to dry in the sun. There is a shack made of golpata (local plant) hanging on the river. That is the toilet of this family. They have constructed a makeshift bridge made of bamboo to go there. There are several plastic drums that contain drinking water. Abul Hossain grandmother Kulsum Begum is about 80 years old. She said they had 12 bighas of land in the area around 25 years ago. They were a well-off family back then. Then the erosion started. Now they have been living on a piece of land bought at Tk 5,000. Rainwater is the only source of

drinking water in the area. Every house has plastic drums to reserve rainwater. They buy drinking water if the drums are empty. There are no medical facilities there. There is no way to take a person to a hospital if he falls ill suddenly. Trawlers are the only fast moving mode of transport. The only primary school in the area is also about to be devoured by erosion. Erosion at Mongla upazila Bangladesh's second largest sea port is in Mogla upazila of Bagerhat district. Parts of Chilabazar in Chila union of Mongla upazila have eroded into Pashur river.

Many adjacent areas are also under the threat of erosion. Many people are staying on the banks of rivers in makeshift homes while many have left the area. According to the Water Development Board, around half a kilometre area of Kalabaghi village has eroded into the river while Shibsa river has devoured parts of Gunari village. Besides, about 50 to 300 metres of embankments in Koyra, Shyamnagar, Ashashuni and Mongla upazilas have been eroded. Erosion has been continuing in other areas surrounded by rivers. People in search of works Anyone can easily go to Ashashuni upazila in Satkhira from Koyra upazila via Maharajpur and Dashahali Kheyaghat. Around 8:30am on 30 September, the Prothom Alo correspondent found four people waiting to cross the river. One of them, Babul Gazi, 23, from Nakla in Pratapnagar union of the upazila was with a spade. He went to Khulna town in search of works but has returned home as he could not manage anything there. "The work of a day labourer has decreased a lot in Khulna these days. I had to return as I could not get any work even after waiting for a few days there. There is permission of fishing in the sea from mid-October. I'm thinking of fishing that time, Babul Gazi said. People from different areas of Koyra upazila were seen taking preparations to work at brick kilns as there was no work in the locality. Most of the young adults and youths work at brick kilns every year. Some of them even take their families with them. Many run their families taking money from head of the workers in advance. 'Sustainable embanks required' The most important thing that came up while looking for solutions to the problem of habitation of people in coastal areas is a sustainable and permanent embankment. Local people said they have learned from their birth to live by fighting against the nature. That's why rain or storm cannot subdue them but they lose morale if the embankment gets damaged since this destroys everything and they do not have the capacity to fight it. River specialist and professor emeritus at BRAC University Ainun Nishat thinks people have been leaving coastal areas because of uncertainty of living. People at least would live at their own homes if the embankments are sustainable. If that is ensured, their tendency to move anywhere else would decrease.

URL: <https://en.prothomalo.com/environment/uncertainty-over-life-and-livelihood-people-leaving-coastal-areas-in-bangladesh>

Bangladesh: 'We do not get a chance at happiness': The Bangladeshi fishermen caught by debt

Kalam Sheikh's life revolves around the few months when he goes in search of Bangladesh's prized hilsa fish. When he gets a good catch, he can make enough money to live on for the rest of the year. He can pay off some of his debts and even improve his home. But this fragile annual cycle has been broken this year, with bad catches bookended by months off the water by the coronavirus pandemic and government restrictions to stop overfishing. With another pause in fishing for October's hilsa breeding season, Sheikh and his colleagues are worried about plunging deeper into debt. "If we get a good hilsa catch, we can live a good life for the rest of the

year ... we can afford work like repairing our houses ... repaying loans, arranging marriages for our children – all from the income of hilsa season, said Sheikh. “I wanted to make up for the crisis of the coronavirus period by earning from the hilsa season. But this year the amount of hilsa is less. We are making a loss, so far, and the crisis looks set to get worse in the days ahead. On top of the usual loans he has to take out every year to buy fishing equipment and hire a boat, Sheikh was forced to borrow more money to meet his family’s needs during the Covid-19 lockdown. The hilsa fish, which is usually found in the sea but seasonally migrates up rivers to breed, is prized in Bengali cuisine and culture, to the extent that similar shortages in India’s West Bengal have encouraged cross-border smuggling. Almost 300,000 Bangladeshis are directly involved in catching hilsa and two million more are involved in the more lucrative business of transporting and selling the fish to consumers. The fishermen, however, get little reward from their catch because they are forced to sell at low prices dictated by local wholesalers as a condition of the loans they provide to the fishermen.

As you take money from me, you have to sell the fish at low price – these are the conditions between the wholesalers and the fishers, said Atiqur Rahman, a researcher for fishery NGO World Fish. He said banks usually do not loan to fishermen, forcing them to rely on local businessmen or wholesalers who easily grant loans, but at high interest rates and with stringent conditions. Sheikh said he is not allowed to sell to anyone else as a condition of the loan, making it hard for him to earn enough money to ever fully pay off the debt, and tying him to the wholesaler for another year. Bangladesh’s hilsa stocks had been depleted from more than 30 years of overfishing, until 2003 when periodic fishing bans and protected areas were introduced. Rahman said the small operators often lose out because of illegal fishing by powerful local businessmen as well as overfishing in the Bay of Bengal. The government is preparing to allocate more than 10,000 tons of rice to the fishermen to compensate for the restrictions, but the food is often not enough because they require an income to pay off their debts. “We do not get a chance at happiness, even after suffering all our lives. These days of crisis never end and we die with debt, said Bashir Uddin, 48, at a teashop built on stilts by the river in the coastal Bhola district. Like Sheikh, Uddin had to take out a loan during the coronavirus lockdown to keep his family afloat. As with many Bangladeshi fishermen, Uddin started as a boy to contribute to the family income. “When other kids were busy playing, I would go fishing in the river. Many of my friends who I grew up with went to school. I did not have that opportunity, he said. Rahman said Bangladesh’s fishermen have essentially ended up in a generational trap, forever indebted and unable to afford school for their children, while increasingly frequent natural disasters regularly force them out of the water. “It has become a rule that whoever is born into a fisherman’s family, he will be a fisherman, said Rahman. The problem, he said, is that most have no control over their own means, having to pay large chunks of their profit to creditors and boat owners, who demand a share despite having no role in the fishing. “The fishers are becoming poorer and poorer but the people who are in the upper tiers of the field are becoming richer, said Rahman.

URL: <http://www.cadtm.org/We-do-not-get-a-chance-at-happiness-the-Bangladeshi-fishermen-caught-by-debt>

Bangladesh: Parliament passes marine fisheries bill

The “Marine Fisheries Bill, 2020” was passed in Parliament on Monday with a provision for maximum three-year imprisonment or Tk5 crore fine or both for fishing illegally within Bangladesh’s maritime boundary by any foreign national. Fisheries and Livestock Minister SM Rezaul Karim moved the Bill in the House and it was passed by voice vote. There are 12 chapters and 63 clauses in the proposed law which will replace the Marine Fisheries Ordinance which was promulgated during the military regime that was scrapped by the High Court. As per the existing law, the punishment for illegal fishing by any foreign national in the country’s water is three years of imprisonment or Tk1 lakh fine, or both. As per the new law, the government will define the shape of the fishing boat or trawlers. These trawlers will have to take licences before fishing. Currently, licences are given for one year while the proposed law increased it to two years to reduce the hassle and harassment of trawler or boat owners. The proposed law has defined the import of commercial trawlers, its specification and safety measurements. The bill also included the judicial magistrate or mobile court in the proposed law to punish the violators. For obstructing any official job, damaging fishing trawlers and destroying proof, the punishment will be maximum two years of imprisonment or Tk10 lakh fine depending on the nature of the crime. The existing punishment is three years of imprisonment and Tk5,000 to Tk1 lakh in fine. Fishing during a restricted time or in restricted area, fishing without approval for going to sea will be considered as punishable offences.

URL: <https://www.dhakatribune.com/bangladesh/2020/11/16/parliament-passes-marine-fisheries-bill>

Bangladesh: Fish and fish products bill passed with harsher punishment

The Fish and Fish Products (Inspection and Quality Control) Bill, 2020 was passed in Parliament on Monday, aiming to ensure harsher punishment for marketing and exporting fish or fish products with harmful chemicals. Fisheries and Livestock Minister SM Rezaul Karim moved the Bill in the House which was passed by voice vote. The punishment for violation of the law is maximum five years imprisonment, Tk 5 lakh fine or both. According to the existing Fish and Fish Products (Inspection and Quality Control) Ordinance, 1983, the maximum punishment is six months’ imprisonment, Tk 5,000 fine or both. The Fish and Fish Products (Inspection and Quality Control) Bill has been framed for the protection and expansion of the export market of Bangladeshi fish and fish products, and for supplying quality ones to the local markets. Without having license, no-one can export fish and fish products, set up or run a factory or any establishment in this regard as per the proposed law. As per the bill, licenses can be revoked on different grounds, including violation of conditions mentioned in the license, providing false information or concealing information, failure of renewing license for three consecutive years, and handing over and selling the license. If the inspection officer finds unhygienic environment in factories or establishment or sub-standard quality of processing during inspection, the administrative penalty would be maximum Tk 5 lakh fine.

URL: <http://www.unb.com.bd/category/Bangladesh/fish-and-fish-products-bill-passed-with-harsher-punishment/60603>

Bangladesh: Tapping dry fish potential

Media footage and photographs of sea-based fishing communities spreading their netted catch in the sun are common spectacles these days. The sights this year began appearing in early November and are expected to continue up to March. The venues are the ‘chars’ or islets in the Bay of Bengal, close to the coast of the southern and eastern Sundarbans. The vast area comprises a number of fishing and fish-drying zones in the sea along the Sundarbans coast. Those include several islets including Dublar Char, the largest of them. Unlike the conventional fishing people, these fishermen have the sole objective of getting sun-dried fishes out of the fresh ones. The dried fishes, from both seas and inland freshwater, are known in the country as ‘shutki’. They have for ages been a delicacy among large sections of the country’s people. The sight of boats in rows setting out on journeys for days into the Bay of Bengal to catch sea fishes emerges every year. With the passing of years, the number of ‘shutki’ producers continues to rise on the ‘chars’. The fast depletion of fishes due to over-fishing and different climate-change factors has in the recent times thrown the unique profession into uncertainties. Overcrowding of the ‘chars’ with new fish catchers has led to a stiff competition. With too many ‘shutki’ producers on the traditionally popular islets, many elderly fishers have allegedly begun feeling worried about their future. Similar types of anxieties now beset the skilled and professional ‘shutki’ makers. This unwarranted development has, invariably, led to the skyrocketing of ‘shutki’ prices.

According to an estimate, around 20,000 people remain busy drying up fishes after hauling them from the Bay. The task is gruelling. In catching the fishes they use thirty types of nets, before drying them in carefully designed phases. They have to remain careful about keeping the fishes’ marketability while drying them. As in many other businesses and trading in the country, those dealing with ‘shutki’ often allegedly fall victim to a section of dishonest elements. They are said to sell poorly processed dried fishes at cheaper prices to both wholesale and retail markets. Insufficiently prepared dried fishes are normally vulnerable to attacks by insects and fungi. It opens the way to application of hazardous chemical repellents on the dried fish products. The ‘shutki’-producing fishermen have their own tales of woes. In spite of a considerable volume of revenue generation by them, they have been made to remain inured to numerous deprivations. To eke out a living, the poverty-stricken fishermen have to remain stationed in the Sundarbans mangrove forest for five months every year, detached from families. But the money they earn from selling dried fishes is miserably poor. These largely marginalised people eagerly await government stimulus. But their wait ends in pipedreams, forcing the relatively large ‘shutki’ producing entrepreneurs to take loans from moneylenders and local NGOs. This practice occurs at the start of the fishing season every year. The item of ‘shutki’ has lately made for itself a dominant place in Bangladesh’s non-traditional export basket. The country presently exports ‘shutki’ to the UK, the US and a number of ME countries. Its clients mainly comprise the expatriate Bangladeshis. Despite this fact, the country’s dried fish consignments have to go past the foolproof scanners and test at the importing countries’ ports of entry. With the country’s ‘shutki’ items from both sea and freshwater enjoying rising popularity abroad, there should be no irregularities which may fritter away a potential source of foreign exchange.

URL: <https://thefinancialexpress.com.bd/editorial/tapping-dry-fish-potential-1605457990>

Bangladesh: Fishermen need sustainable livelihoods and protection from climate change

On Wednesday, October 20, Manusher Jonno Foundation (MJF) organized a webinar titled “Impact of Climate Change on the Bay of Bengal – Impact on Coastal Social-Ecological System. If the devastating effects of climate change on the marine ecosystem and coastal areas are not addressed, then the fishing communities of Bangladesh will be among the first to suffer, speakers said. Experts from civil society, government officials and academicians who spoke during the webinar also included, among others, MJF Executive Director Shaheen Anam, Danish Institute for Human Rights Anthropologist Sille Stidsen and Chief Guest Md. Shahab Uddin, Minister of Environment, Forest and Climate Change. Shaheen Anam, Executive Director of Manusher Jonno Foundation Almost 1.3 million people work in the marine fisheries sector and their human rights should be protected. We want to make sure the underprivileged get their human rights. We conducted two studies with ULAB. One is about the impact of Covid-19 on marine fishermen and how the 65-day fishing ban impacted them. The fisheries sector in Bangladesh is globally acclaimed. Our aim is to bring a positive change for coastal fishermen and provide a sustainable solution. Sille Stidsen, anthropologist at the Danish Institute for Human Rights The fishermen are usually the poorest and vulnerable people in this sector and their livelihoods need to be protected. They need ocean resources to make a living. We need to take a holistic approach. Both social and environmental concerns need to be addressed to come up with a sustainable solution when addressing climate change. Md. Shahab Uddin, Minister of Environment, Forest and Climate Change Bangladesh is one of the most vulnerable countries to climate change and the government has taken a number of projects for the betterment of the coastal area fishing community. However, the developed nations, who are largely responsible for climate change, need to step forward and do their part for the vulnerable countries. If we cannot prevent climate change, we will lose 2% of our GDP by 2050. Climate change is impacting the life cycle of the fish population as well. About 10% of the population of Bangladesh is involved in fishing and 60% of the animal protein in the Bangladesh people’s diet comes from fish. Rezaul Karim Chowdury, Executive Director of COAST Trust Fishing communities are victims of climate change as the number of cyclones in coastal areas are increasing. There is no alternative to education in order to improve their livelihoods. The government has already decided to provide technical education in schools. The government should start with the schools in coastal areas, because in this way the children in coastal areas will be able to find alternative livelihoods.

The fisher folks do not have any other way to earn money during the 65 days’ ban period because most of them do not have any alternative livelihood. Dr. M Niamul Naser, Chairman of Zoology Department at University of Dhaka Fishing communities in coastal areas of Bangladesh are migrating to different places because the fish population is decreasing in the ocean. This is a major concern. In-depth research on fishing communities, the fish population and climate change is needed so that we can understand the patterns of fishing in different areas. We need to do intensive research and work with the government to make better policies about the fishing community. Plastic pollution in the coastal areas is another problem we are dealing with. Fishes are consuming plastics and they cannot get it out of their system. Microplastics can get inside the system of a person who consumes the fish, which creates multiple health hazards for consumers. Samiya Ahmed Selim, Associate Professor at University of Liberal Arts Bangladesh (ULAB) and Director of ULAB’s Centre for Sustainable Development Bangladesh is in the seventh

position among the countries which are most vulnerable to climate change. Climate change will have a negative impact in Bangladesh because many people here rely on fishing and agriculture. Fish is an important part of Bangladeshi peoples' diet as well as livelihood. We did some research on the livelihood of the fishing communities but more research is needed on the fish population in the marine area. Recommendations • To enhance climate change resiliency for marine ecosystems and resources • Government should prioritize biodiversity conservation and sustainable marine fisheries. • Shift industrial fishing operations from extraction-oriented to sustainably managed extraction through mandated monitoring, reporting and species-specific trade transparency and accountability • Government needs to adapt science-based fishery management practices to fine-tune spatial and temporal closures and gear modifications. • Strictly and equitably enforce the ban on prohibited, non-selective fishing gear. This will inevitably improve the productivity by protecting juvenile fish and crustacean larvae. •

Reduce extinction risk for threatened marine wildlife and stop overexploitation of marine resources • Provide social safety net allowances to fishers during ban periods and make sure that allowances reach those in need • Adopt science-based, informed management plans for existing and newly proposed protected marine areas and critical ecological areas • Plan for long-term, underpinned by interdisciplinary science, research on the impact of climate change on marine resources in the Asia-Pacific region • Knowledge dissemination through proper channels that are suitable for coastal farmers and fishermen • NGOs and CSOs can collect and disseminate a range of information on community mobilization, training, extension, credit disbursement • Government can assist in mobilizing greater financial support through advocacy and development of suitable projects. • The ocean should be protected from land-based activities such as destruction and alteration of habitats, destructive fishing, untreated sewage, oil pollution from ocean and inland vessels including ship breaking yards and eutrophication • Create a beneficial environment for climate-friendly investments (through taxing pollution and incentivizing green products) as well as enhance business environment to attract more international investment opportunities to implement mitigation and adaptation processes at the coastal areas of Bangladesh.

URL: <https://www.dhakatribune.com/bangladesh/2020/11/13/fishermen-need-sustainable-livelihoods-and-protection-from-climate-change>

Bangladesh and India: Sundarbans fishermen remain a neglected lot

For a country which happens to one of the world's most important inland fishing nations, fishermen and fisheries get little to no attention from the government authorities. Like their counterparts in other parts of the country, the fishermen in the Sundarbans have remained neglected for years despite the higher socio-economic progress of the country as a whole. The fishing villages in and around the Sundarbans mangrove forests are characterized by poverty and deprivation, and lack of access to basic amenities such as drinking water, sanitation and health facilities, all due to the apathy of the authorities. And those who are involved in dry fish processing have not been able to turn the wheel of their fortune due to various adversities, including the problem of pirates, harassment by forest guards and fear of attacks by tigers or crocodiles. In Dublar Char, for instance, which is known as the 'shutki palli,' the fishermen are

struggling to earn two square meals a day as their livelihoods have been hit hard by the Covid-19 pandemic. While many fishermen have already switched professions after losing cash, nets and boats, others are struggling to repay loans taken from private money lenders at a high rate of interest. In the dry season, fishermen Mokhles and Kawsar said, many people from Sandwip and coastal areas of Chittagong come to Dublar Char to catch fish. But many of them have now stopped coming. According to the Sundarbans Forest Department office, Tk 2.46 crore was collected from 7,325 fishermen as revenue in the 2018-2019 fiscal. In the last financial year, the revenue shot up to Tk 2.73 crore from 7,787 fishermen. The authorities claimed that the government's initiative to free the Sundarbans from pirates by strengthening monitoring systems "is the main reason behind the increasing revenue from the region". According to sources, some 500 fishermen in Rampal, Mongla, Sharankhola and Morelganj of Bagerhat district are involved in catching fish from the Sundarbans. Similarly, hundreds of people in Satkhira, Khulna and Pirojpur districts are dependent on fishing in the Sundarbans.

Each farmer used to take Tk 5 lakh to Tk 15 lakh as loan from mahajans and the moneylender had to provide Tk 50 crore to 500 fishermen. Against the loan, the fishermen would count Tk 25,000-30,000 as interest. Experts said if the fishermen would take loans from the banks, then they would have to pay low interest. Syed Shukur Ali, a member of Sea-bound Matshyajibi Shamity, of Gilatala in Rampal upazila of Bagerhat, said he has been involved in fishing for the past 34 years. "I have to go to the Sundarbans for fishing with six nets, three trawlers and 28 fishermen, for which I would need Tk 20 lakh." Another fisherman, Farhad Sheikh of Rampal Sadar, said, "I have taken preparations to go to the sea for fishing after arranging Tk 28 lakh. Tk 9.5 lakh was taken from my own fund while the remaining was taken as loan from a mahajan. I am paying Tk 25,000 per lakh as interest." Expressing dissatisfaction, Shahjahan Shikdar, Zulfiker, Joynal Sheikh, Ansar Shikdar, Akkas Ali Sheikh, Yusuf Ali Sheikh and Jabbar Sheikh of Rampal upazila in Bagerhat, asked why the government has not been taking any steps for their upliftment. Shahid Mallik, President of Sea-bound Fishermen Association, said "Every year, we go to the sea to catch fish after taking loans. We do not receive any financial assistance from the government. No steps have been taken by the government yet to ensure a sanitation system, medical facilities and pure drinking water." When contacted, Mohammad Belayet Hossain, Divisional Forest Officer of Sundarbans East Zone, said, "The Sundarbans forest has been brought under surveillance. State-of-the-art patrolling has been arranged in the entire Sundarbans."

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/11/10/sundarbans-fishermen-remain-a-neglected-lot>

Bangladesh: Govt to build dried fish processing centre in Cox's Bazar

The government is going to establish a dried fish processing centre in the southeastern coastal district of Cox's Bazar by spending nearly Tk 200 crore in order to facilitate increased production of the popular food for both local and export markets. The Executive Committee of the National Economic Council (Ecne) yesterday gave its go-ahead to the plan, which also bears the objective of creating jobs for 4,600 fishing-dependent families. Once established at Khurushkul area, the plant will have a 14,000-tonne annual production capacity alongside

storage and marketing facilities for local and international markets, according to a brief of the Ecneec meeting chaired by Prime Minister Sheikh Hasina. “This project will play a role in increasing export earnings along with helping meeting demand for fish protein in the country,” said the planning commission in its opinion. The move comes amidst a gradual increase in the export of dried fish over the years. In fiscal 2009-10 the export amount was 622 tonnes. The shipment figure rose to 2,339 tonnes in fiscal 2018-19, showed data from the Department of Fisheries. Under the initiative, Bangladesh Fisheries Development Corporation (BFDC) will build a fish landing shed, a four-storied laboratory, an associated office, a training-focused dormitory and a cold storage of 100-tonne capacity. The state agency will also establish 380 mechanical dryers, 350 of which will be of the greenhouse type, a packaging factory and 36 sales centres by December 2023. The project will begin from January 2021. “Currently, fish are dried in an unhygienic manner in many areas. We will make dried fish in a hygienic manner in the processing industry,” said Rashid Ahmed, director (finance) of the BFDC. The Ecneec also approved a Tk 2,500 crore project to establish a 400-kV Aminbazar-Maowa-Mongla Transmission Line. It would conduct electricity from coal-fired power plants at Rampal and Payra in the southern districts and some of that from the Rooppur nuclear power plant in the northern district of Pabna.

The cost of the project was initially estimated to be Tk 1,356 crore. Now it has risen by 85 per cent as the route of the under-construction transmission line has changed while its length also increased. Now, power would be transmitted from Mongla to Aminbazar via a Gopalganj sub-station, according to the project brief. The project implementing agency, the Power Grid Company of Bangladesh, would need to use 209 towers of higher elevation on the route to help the transmission line make it over the approach road of the Padma bridge, railways and flyovers. Of the total cost of the project, scheduled to be completed by December 2021, Asian Development Bank will provide Tk 1,270 crore as loan. The government will bear the rest. The Ecneec also gave the go-ahead to a Tk 560 crore project to protect Tk 4,344 crore-worth properties from the erosion of the Jamuna riverbank in some localities of Kazipara upazila under the northern district of Sirajganj. The properties include residences, agricultural land, educational and religious institutions, bazars, union parishad office, health complex as well as public and private infrastructure. The project, scheduled to be completed by June 2023, also aims to protect a flood protection embankment to protect Sirajganj district from flooding. At the meeting, the prime minister gave a directive to formulate a permanent/long-term plan for dredging in order to ensure navigability of rivers, the erosion of which makes thousands of people homeless every year. The premier suggested carrying out capital and maintenance dredging on a regular basis based on the plan, said Senior Secretary to Planning Division Md Ashadul Islam.

URL: <https://www.thedailystar.net/business/news/govt-build-dried-fish-processing-centre-coxs-bazar-1988965>

India and Bangladesh: Polluting Indo-Bangla and Sundarbans waterway

This year alone, five ships carrying fly ash – the primary waste generated from coal-fired power plants – containers to Bangladesh have sunk on the Indo-Bangladesh Protocol Route. In two of these five accidents, over 1,500 tonnes of fly-ash, while in transit on barges, sank in the River

Hooghly near Kulpi and Kachuberia in West Bengal. Both Kachuberia and Kulpi are in the Sundarbans, a part of the world's largest delta formed by the confluence of the rivers Ganga and Brahmaputra in the Bay of Bengal region. Bappa Dulai, a fisherman in Kulpi, said, "It took about ten days to clear the mound of ash floating on the river, but the shipwreck became a permanent fixture. A pool of fuel and coal dust formed at the bottom of the wreck kept polluting the water, killing fish and other aquatic creatures. Meanwhile, the Indian inland waterways system has recently come under the National Green Tribunal's scanner for pollution in the River Hooghly and the fragile Sunderbans ecology. An Indian fish-workers' trade union, Dakshinbanga Matsyajibi Forum, filed a petition against frequent accidents and capsizing barges carrying dirty fly-ash on the on the National Waterway (NW) 97, also known as the Indo-Bangladesh Protocol Route and Sundarbans Waterway. The Tribunal's Kolkata bench admitted the petition on 19 October and gave notice to the respondents, ordering them to respond in six weeks. The tribunal formed a committee to verify the "factual aspects set out in the application. It also asked for a probe into why these accidents were happening and suggestions as to measures to prevent the accidents and manage fly-ash that has already been discharged in the rivers. The plea also stated that the amount of fly ash exported to Bangladesh by river is above the quantity that has been set by the West Bengal Pollution Control Board. According to a 2017 report of the Comptroller and Auditor General of India, 5.97 lakh metric tonnes of fly ash was exported, as opposed to the 1.2 lakh metric tonnes permitted in 2014-2015. The capsizing of barges and discharge of toxic fly ash in the riverine system was a violation of the Water (Prevention and Control of Pollution) Act, 1974, and Environment Protection Act, 1986, the plea said. The fishworkers union also made a serious allegation that movement on the route was happening without an environmental impact assessment and coastal clearance from the Indian Ministry of Environment, Forest and Climate Change. "It is pertinent to note that the entire Sundarbans area constitutes CRZ IA areas which are identified as highly ecologically sensitive areas. As per the provisions of the CRZ Notification, 2019, the plea said. The union also sought accountability and compensation from the Inland Waterways Authority of India and barge owners for the damage to the environment. It further sought directions to compensate around 5,000 families involved in small and traditional fisheries, whose livelihoods have been affected due to pollution and its impact on fish catching. Fly ash is a highly toxic substance known for causing health and environmental problems. According to the Canada-based University of Calgary, it can contain: lead, arsenic, mercury, cadmium, and uranium. When fly ash containers tumble into water bodies they contaminate aquaculture and may leach into landmasses, leading to toxicity of agricultural land and drinking water. This toxic substance, however, is a big item of trade between India and Bangladesh. New waterways and rising exports Fly ash is a byproduct of pulverised coal, or coal dust, in power generating plants and is increasingly being used as a substitute for cement in making bricks. But there are limits to fly ash use because, in concrete structures, not more than 30 percent of cement can be substituted by fly ash. In India, the disposal of fly ash is a serious issue as more than 20% of fly ash generated in the country remains unutilised, according to data from the Central Electricity Authority (CEA). Every year, India exports three million tonnes (MT) of fly ash to Bangladesh, where it is used in cement factories. In May 2020, India signed a treaty with Bangladesh, which would further boost the trade of fly ash between the two countries. Under this, the number of Indo Bangladesh Protocol (IBP) routes, the permitted water routes between the two countries, increased from eight to 10. About 97% of waterway traffic from India and Bangladesh is for fly ash transportation, according to the Federation of Indian Export Organisations' data. Between 2017-2018 and 2019-2020, there was an about 27% increase in

cargo traffic from India to Bangladesh via water routes; from 3.09 million MT in 2017-2018 to nearly four million MT in 2019-2020. West Bengal, which has a substantial number of thermal power plants, is the second-largest producer of fly ash in the country. It produced nearly 15 million tons of the total ash produced in the first half of 2019-2020, according to data from the CEA. “India wants to dump its fly ash in Bangladesh, and this is clearly environmental racism. The opening up of more routes would mean increased traffic. Its transportation from India to Bangladesh is a big concern because of the fragile ecosystem of the Sundarbans, Sharif Jamil, Buriganga Riverkeeper and general secretary of Bangladesh Poribesh Andolon (BAPA), an organisation involved in environmental conservation, told Mongabay-India. Shweta Narayan, coordinator of Healthy Energy Initiative, a global collaboration of health professionals, organisations and researchers for clean energy, said “India or the global south is the recipient of toxic waste from the global north and “we are continuing that behaviour by dumping our waste in countries that are smaller or lesser influential than us. “Fly ash is a very dangerous substance that should not be transported anywhere. Any kind of spill can be lethal for the environment. No amount of checks and balances will stop the spillage of this highly toxic material. We do not even know what kind of lasting impact it will have. The aquatic ecosystem might be permanently damaged because of these types of toxic chemicals, Narayan told Mongabay-India.

Dakshinbanga Matsyajibi Forum, an association of fishermen, recently moved the National Green Tribunal (NGT) demanding a stop to cargo ship navigation through the ecologically-sensitive Sundarbans. Poor implementation of regulations governing fly ash There are few regulations governing the safe handling of toxic ash in India and existing regulations are not followed properly. “The cause of recurrent accidents in the region is the use of old vessels for transporting the ash, said Pradip Chatterjee, who is the national convener of the National Platform for Small Scale Fishworkers. “The way fly ash is loaded and unloaded is not safe. It causes fly ash spills, which often do not get reported. In addition, most of the vessels that ply from India to Bangladesh are not seaworthy, leading to recurrent accidents. All this is damaging the fragile ecosystem of the Sundarbans, as well as the livelihood of a large number of people, Chatterjee told Mongabay-India. “We are talking about old barges with excess weight. It is like trying your luck. How many investigations were ordered? What is the clean up take up? What are the steps taken? How are they making fly ash transportation safe? Where is the regulatory oversight? said Narayan. In 2000, fly ash was reclassified from being a hazardous waste material to a waste material, leading to a relaxation of norms governing its transportation. “I do not think fly ash transportation is covered by any legislation, as it is not termed as hazardous waste. If it is not transported safely, there are high chances of these toxic materials leaching out, Ravi Agarwal, who is director of Toxics Link, a non-governmental organisation working in the field of environment, told Mongabay-India. In 2014, the government of India made coal washing mandatory for supply to all thermal units beyond 500 kilometres from a coal mine. In May this year, the government dropped the washing clause for supply to thermal power plants. “This is going to create a bigger problem because coal washing helps in reducing ash content. Fly ash utilisation is much lower than the amount of generation. Most power stations generate more fly ash than they can dispose of. To dump ash they need to buy more land. As a result, more and more land is being used for dumping ash, which is neither environmentally-friendly nor a good use of land, Partha Bhattacharya, former chairman and managing director of Coal India Limited, told Mongabay-India. In India, an area of 65,000 acres of land is occupied by ash ponds, according to the Journal of Materials and Environmental Science. Shrinking livelihoods due to fly ash mismanagement Increased water pollution in the Sundarbans region is evident from

falling fish production. “In the last ten years, the average fish catch has fallen by 50-70%, said Anshuman Midda, a fisherman from West Bengal’s South 24 Parganas district. “Fish production has nosedived. Every year it is falling in the region. Compared to last year, 50 percent of the trawlers are not plying this year because there are no fish in the Sundarbans region. In the next month a further 25 percent of trawlers will stop plying the routes. Even in the monsoon season, production is low, Bijon Maity, secretary of the West Bengal United Fishermen Association said.

URL: <http://www.dailyindustry.news/polluting-indo-bangla-sundarbans-waterway/>

Bangladesh: Lobster farming in pond becomes boon for a youth in Jhenaidah

Lobster farming in a pond has become lucrative to a youth in Jhenaidah’s Kaliganj upazila who completed his honours in Agriculture and then completed an internship in fish farming. The youth, Shohag Kumar Biswas is eyeing a profit of at least Tk3 lakh in seven months since he began farming of carp fishes and lobsters at a 66 decimal pond in Mohadebpur village of Jhenaidh’s Kaliganj upazila. Shohag said that at the end of February this year, he released 3,200 pieces of young lobsters (100 of which makes a kilogram) and 3,000 pieces of other carp hatchlings in his pond. “Each young lobster cost Tk18. Preparing the pond, fish feed, probiotics and hiring workers in the past seven months had cost me Tk3 lakh. “If everything goes well I can secure a yield of 300kg of lobsters and 1,000kg of carp fish, which have a total market price of at least Tk6 lakh,” estimated Shohag. When asked about the farm’s management, Shohag said: “Lobster feed was provided every morning around 10am and at 7pm in the evening. Floating fish feed was provided around 4pm. The fish are usually fed depending on their weight. Hundred kilograms of fish need about three to four kgs of feed. If oxygen level is low, aerator is used to maintain oxygen levels. “Lobsters are yet to gain popularity in local markets (Jhenaidah). I have contacted a trader in Satkhira and the lobsters will be sent there. The carp fishes will be sold in local markets, Shohag added. “My father has been farming carp fishes for about four years. Watching him, I dreamt of being a fisheries entrepreneur. After completing honours from the International University of Business Agriculture and Technology in Dhaka, I interned at Gazi Fish Farm in Mongla in 2018. Saidur Rahman Reza, a senior fisheries officer in the upazila said: “The weather in Kaliganj is suitable for lobster farming. We have been encouraging people to farm lobsters here as it’s profitable. If anyone takes the initiative the upazila office will provide full support.”

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/10/26/lobster-farming-in-pond-becomes-boon-for-a-youth-in-jhenaidah>

Bangladesh: An agreement that can turn fish to gold in the blue ocean

We all know how fish is a vital source of protein for people and fishing is a livelihood that millions depend on. But the fisheries sector is also a source of foreign exchange as it provides one of the most traded food commodities worldwide. In fact, marine fisheries have become one of the important components of the “Blue economy”. So what about Bangladesh, are we exploiting the opportunities at hand? After the legal battle with Myanmar (2012) and India

(2014), maritime zones and especially Exclusive Economic Zone (EEZ i.e., where a state has sovereign right to explore and exploit marine resources) were increased by three times which opened a door of immense prosperity. But how far could we be benefited in terms of marine fisheries from such vast waters? Unfortunately, the marine fisheries sector has very poor contribution to the overall national economy. Our maritime zones are enriched with diversified fisheries resources comprised of more than 500 marine species, together with shrimps. In 2009-10 fiscal year, contribution of marine fisheries was around 5 lakh MT. But after a three times increase of EEZ (Exclusive economic zones) and with more than 90 commercially important fish species, its contribution remains only around 8 lakh MT in 2018-19. Over 250 industrial trawlers and over 67 thousand mechanised fishing boats can catch fish up to 70 km from the shoreline out of the total of 660 km available. The rest of the area (around 600km) remains untapped due to lack of proper vessels, modern technology and skilled manpower. To explore this unexploited area, the Bangladesh government tried to start negotiations to enter into joint ventures with foreign countries which, however, proved unsuccessful. Later, the government granted permission to a few firms to launch long liners for deep sea fishing, but due to a lack of necessary survey regarding the availability of fish stocks, none of them were willing to take the risk till date. Although a multipurpose survey and research vessel, named, Meen Sandhani has been working since 2016, any reference point for stock assessment is not yet possible from these surveys. With the increase of our population, we need to take initiatives to explore and exploit the full 118,813 km² EEZ to fulfil the protein demand of the people. It has not only capabilities to fulfil the protein need, but it can also be a secure source of foreign currency. As Bangladesh does not have long liners, modern technologies and other logistical support and cooperation with developed countries to explore maritime zones is crucial now. Although we did not realise the importance of cooperation to explore marine fisheries, many African countries have already shown the effectiveness of cooperation in reality through fisheries access agreement with the European Union. International fisheries access agreements have been instrumental in the exploration of untapped fisheries by developing countries. However, this is a new concept to South-Asian countries. These agreements allow fishermen from one country to harvest fish in another country's maritime waters. Generally these agreements are concluded between distant water fishing nations and developing countries for ensuring access to EEZ waters and resources of developing countries.

These agreements help developing countries not only to earn foreign currency by allowing other nations to catch fish in their maritime zones, but also ensure sustainable fisheries and development of fisheries sector. The United Nations Convention on Law of the Sea empowers the coastal states with sovereign rights to explore and exploit marine resources within EEZ. On the contrary, it imposed a duty on the coastal state to determine total allowable catch for its marine fisheries. Allowable catch is the maximum fishing limit which will not hamper the regeneration of the fish stock. If a country cannot harvest the entire allowable catch within its EEZ, it is obligated to permit other countries regulated access to the "surplus" marine resources. Access agreements of African countries with the European Union improved the performance of their local fisheries sectors. In many African countries, these agreements have become a source of income that got reinvested into domestic industries and ensured partnerships in management and enforcement. With a small area of EEZ, many African countries such as, Gambia, Guinea-Bissau, Senegal, Mauritania, etc., are entering into access agreements which are contributing to their national economy a lot. Due to the contributions to the national economies, with 158,861

km² and 23,184 km² EEZ area, Senegal and Gambia have been entering into agreements with the European Union from 1980 and 1987 respectively. Although Bangladesh has been a member of Law of the Sea Convention from 2001, there is no determination of total allowable catch for our marine fisheries yet. No fisheries law of Bangladesh provides any provision for it. Let alone determine the total allowable catch and entering into access agreements we are unable to assess our fish stocks yet. Under the circumstances, cooperation with developed countries can play a vital role which has been seen in African countries. The convention also imposed an obligation for optimum and sustainable use of marine fisheries. But Bangladesh is extracting fish from the reachable marine area with traditional vessels unsustainably; on the other hand, unreachable areas are totally unexplored and unexploited. It is the high time for Bangladesh to think about fisheries access agreements to ensure sustainable marine fisheries. One of the noteworthy initiatives taken by the Bangladesh government to ensure sustainable blue economy is the establishment of a specialised university, named, Bangabandhu Sheikh Mujibur Rahman Maritime University. Beside carrying out various researches, this university is conducting research regarding fisheries access agreements and their prospective impact on the national economy. Such research will reveal the existing problems of deep sea fishing and whether the littorals of the Bay of Bengal should proceed for strong cooperation with developed countries through fisheries access agreements in order to reap the benefits of the blue economy. Besides giving impetus to these research studies, the Bangladesh government should be sincere enough to implement the research results and take all other necessary initiatives to explore our enormous undiscovered marine fisheries.

URL: <https://www.thedailystar.net/opinion/news/agreement-can-turn-fish-gold-the-blue-ocean-1983673>

Bangladesh: Microplastics found in marine fish raise alarm

The fish species in question are pink Bombay-duck (locally known as loitta), white Bombay-duck, goldstripe sardinella, brown shrimp and tiger shrimp. The researchers are from Chittagong University and Shahjalal University of Science and Technology. The entrails of Bombay-duck are normally not removed during cooking, so the microplastic remains in the fish and enters the human body when consumed. Similarly, the microplastic in shrimp shells also enters the human body when consumed. Plastic debris less than five millimetres in length are called microplastics. Microplastics damage aquatic creatures, as well as turtles and birds, by blocking digestive tracts, diminishing the urge to eat and altering feeding behaviour, all of which reduces growth and reproductive output. Some species starve and die due to consumption of microplastic. The study on Bombay-duck and sardinella has been published in “Science of the Total Environment, while the research paper on penaeid shrimp has been published in “Chemosphere. A total of 25 specimens of each species (pink Bombay-duck, white Bombay-duck and gold-stripe sardine) were collected from the Northern Bay of Bengal for examination at the laboratory of the Institute of Marine Sciences at Chittagong University. During examination, 443 microplastic items were found in the intestines of pink Bombay-duck, white Bombay-duck and goldstripe sardinella.

The microplastics were composed of polyamide and polyethylene terephthalate polymers. The gastrointestinal tracts of 50 tiger shrimps and 100 brown shrimps were examined and a total of

33 and 39 MP items were found in tiger shrimp and brown shrimp, respectively. The microplastics were composed of polyamide-6 and rayon polymers. Prof Dr M Shahadat Hossain of the Institute of Marine Sciences at Chittagong University and a member of the research group, told Dhaka Tribune the study findings had raised concerns that microplastics in marine fish could be a threat to public health via the food chain. “Bombay-duck and sardinella are important fish species in Bangladesh that support employment, economy, food and nutrition for millions of people. The total annual landing of Bombay-duck and sardinella was 58,545 tons and 44,386 tons, respectively, in 2015–16. Bombay-duck is typically dried without processing, so there is no chance of removing the digestive tract when consumed. As a result, microplastics may be transferred to humans, added Prof Shahadat. According to the research, about 150 million tons of plastics have already been deposited in the ocean at a rate of 8 million tons per year, amounting to around 15 tons of plastics every minute. The research findings also show that marine organisms are in continuous interaction with microplastics in the environment and ingestion of microplastics has been reported in cetaceans, seabirds, bivalves, crustaceans, echinoderms, lugworms, zooplankton, sea cucumbers and corals. Prof Dr Selim Md Jahangir, dean of the Faculty of Medicine at Chittagong University, told Dhaka Tribune that microplastics could cause damage to organs such as the liver and kidney in the short term. “As a long-term impact, microplastics can cause cancer in the human body, said Prof Dr Jahangir, who is a former principal of Chittagong Medical College.

URL: <https://www.dhakatribune.com/bangladesh/2020/10/18/microplastics-found-in-marine-fish-raise-alarm>

Bangladesh: Exporters need to be more cautious about standards for exporting live crab and eel to ensure uninterrupted supply of aquatic products to China

The Bangladesh mission in Beijing has recommended that Bangladeshi exporters need to be more cautious about standards for exporting live crab and eel to ensure uninterrupted supply of aquatic products to China. Officials in Dhaka said the embassy emphasised adopting measures like suspension of exports by the enterprises that earlier submitted fake ‘salubrity’ certificates to the Chinese authorities concerned. The mission came up with the recommendation after a meeting with the Import and Export Food Safety Bureau of Plant and Animal Quarantine Department of General Administration of China Customs (GACC), China’s crab and eel importers. The mission’s observations were sent to the fisheries and livestock ministry for taking action against responsible firms, in order to see resumption of exports of the items to China in the near future. China has earlier imposed a ban on import of live mud crab and eel from Bangladesh since, Chinese authorities said, harmful bacteria were found in some consignments along with forged certificates. Asked last week, principal scientific officer (FIQC) and deputy director at the fisheries department Md Yousuf Khan said crab and eel exports to China still remain suspended. Some firms allegedly submitted such papers to the Chinese authorities while exporting crabs and eel fish. The certificates prepared by five firms were issued by the chief veterinary officer, according to a senior official at the fisheries department. The Chinese authorities found presence of contaminated substances, estradiol and cadmium in particular, beyond the acceptable limit for human health, the official added. In a letter, the GACC conveyed to the Bangladesh embassy in Beijing the decision of the temporary ban on imports of the aquatic

goods. China requested Bangladesh to take legal action against the five firms and called for a halt to export of such goods to China as soon as possible. Live mud crab and eel are usually exported by air. A recent letter, written by the commercial councillor, called for preparing complete preventive measures for uninterrupted exports of goods to the Chinese market.

The letter requested the authorities concerned to send feedback in this regard to the GACC as early as possible. “The enterprises need to write how they manage safety and quality of products, that is to show their plant (size, shape and measurement), policy/regulations, relevant materials on the current management system and how to improve the management of packaging company,” reads the letter. “These could be shown via words, pictures, videos or other possible ways.” An exporter needs to have a self-inspection certificate. The company needs to send its products to a qualified lab for testing and then submit the report. The letter said only the companies having their own self-inspection reports and self-management are recommended for registration and the authorities concerned should conduct inspections before exports. A few companies may be considered to be allowed to open the exports but they should be large-scale and well-managed enterprises, the mission suggested the ministry. The department concerned will find good exporters with export licence, the letter expressed hope. Some Chinese importers suspected that the problem with eel at Zhengzhou port was probably due to substandard feeding of the fish. The products might not be the exporter’s own and the exported eel might have come from another company that does not have any licence, the letter mentioned. It recommended strengthening the department concerned, including registration and management of exporting enterprises, daily supervision and sample testing of the exported items. It also recommended forming a working committee to prepare a plan for preventive measures required by the GACC and fixing a focal point person in this regard. China is Bangladesh’s largest trade partner with annual bilateral trade of over \$13 billion. In the fiscal year 2018-19, Bangladesh imported goods worth \$12 billion from China, as against exports valued less than \$1.0 billion to China.

URL: <https://thefinancialexpress.com.bd/trade/china-asks-bangladesh-to-punish-firms-that-exported-crab-eel-thru-forgery-1602835370>

Bangladesh: Commercial ilish farming not a viable option

As ilish population keeps declining gradually, Dhaka Tribune’s Bilkis Irani takes a look at why saving the rivers is becoming the only option in this last report of a four-part series. With the ilish population declining day by day in Bangladesh’s rivers, researchers in Bangladesh have been trying to farm the national fish of the country in four phases. However, their research has only proved that farming ilish commercially in ponds is not yet a viable option. The government has also been keen to see such attempts succeed as ilish accounts for 1% of the country’s gross domestic product (GDP) and 11% of the country’s overall fisheries production. Researchers have emphasized dependence on natural resources and urged the authorities concerned to protect the rivers in order to keep the production of ilish thriving. To know why ilish cannot be farmed commercially and learn how the researchers tried to grow them commercially in ponds, this correspondent recently visited the Bangladesh Fisheries Research Institute (BFRI) in Chandpur. At BFRI’s laboratory Although the projects had ended, the researchers were found to be busy researching ilish farming. Hundreds of glass and plastic specimen jars were seen lined up on the

tables of the lab in which ilish of different varieties, sizes, and ages had been preserved for some time through use of formalin. Mohammad Ashraful Alam, senior scientific officer of BFRI Riverine Station in Chandpur, was testing ilish spawn with the help of a microscope to learn whether or not the fish was qualified to breed. Pointing to a glass jar in which four ilish were preserved, Dr Anisur Rahman, chief scientific officer of the establishment, said: “These are the samples of ilish grown in ponds. They were preserved here during the second project period of fiscal year 2010-2011. Spawn, young and adult ilish caught from rivers and the sea, and ilish fry of different sizes of Meghna and Padma rivers had been preserved here since 1988, he added. Although the researchers could not attain commercial success, they were able to grow ilish from ilish fry in ponds, which weighed up to 300 grams in a year during their research. The projects According to BFRI, the first initiative for ilish farming took place in 1988 in two ponds in Chandpur. Costing Tk6-7 lakh, the project ended unsuccessfully in 1995. In 2004-2005, researchers tried commercial ilish farming for the second time and in 2010-2011 and 2012-2013 for the third time but failed again. About Tk4.6 crore was spent on the third project.

Funded by the United States Agency for International Development (USAID), research was resumed in 2015-2016 under the World Fish Organization’s EcoFish project, but that too did not see the light of success. Why can’t ilish be farmed commercially? Ilish or *Tenualosa ilisha* is an anadromous fish. These fish migrate from the sea to freshwater riverine environments to spawn. They can swim up to 75 kilometres every day in the wide space of a river or a sea. Closed reservoirs or ponds are too congested for a group of ilish to move freely. According to BFRI, it is very hard to maintain the necessary quality of food and water in closed water bodies like ponds because ilish do not eat supplementary food. They eat natural foods, including different types of plankton that are found in rivers. Their diet also includes small plants, diatoms, rotifera, microcystis, oscillatoria, spirogyra, protozoa, alga, etc., said BFRI’s Ashraful Alam. Ilish also adheres to a life cycle. Salinity, temperature and rainfall play a crucial role in this cycle. They live and swim in directions opposite to the waves of the rivers and the sea and reach the Padma-Meghna for breeding. After the jatka phase, they go to the sea and then return to the rivers during breeding season as they prefer freshwater. In the young (pre-adult) stage, they need estuarine and coastal water; high salinity marine water is required for them to be matured, which ponds are unable to provide. A BFRI report said an ilish that is under 25 centimetres in size is considered a jatka, which fishermen are not allowed to catch. Male ilish appear to attain maturity at a size range of 26–29 cm, compared to 31–33 cm in case of females. But in the ponds, an ilish fry grows less than 25 cm. During 2010-2013, 2,200 ilish fry 8-12 cm in size were collected from the rivers and the sea and released in three ponds.

A year after being released, the ilish grew to weigh only 300 grams, whereas they would have weighed around 500 grams if they had spent that one year in their natural habitat. Furthermore, the eggs of the ilish were found to be underdeveloped. Researchers said it was impossible to breed ilish with such eggs. “We have to find out which protein can help ilish survive in ponds; this requires further research, said Ashraful Alam. Protecting rivers and natural resources Experts have urged the authorities to take necessary steps to save the rivers of the country as ilish cannot be farmed commercially. Besides, some half a million fishermen and 2.5 million people are directly or indirectly involved in ilish fishing and other related activities as a means of their livelihood. The best way is to let ilish grow naturally in the rivers, said BFRI’s Dr Anisur. Dr Md Niamul Naser, professor at Dhaka University’s Department of Zoology, said the government

should provide alternative employment and ensure enough Vulnerable Group Feeding (VGF) during the ban on catching ilish to support fishermen and ensure that the fish grow naturally. Sanctuaries need to be protected, pollution in rivers needs to be reduced, dredging needs to be done, and legal action has to be taken against the use of prohibited nets, he added.

URL: <https://www.dhakatribune.com/bangladesh/2020/10/14/commercial-ilish-farming-not-a-viable-option>

Bangladesh: Target set to produce 6 lakh mts of fish in FY 2020-21

The Fisheries and Livestock Ministry has taken different measures to produce six lakh metric tonnes of fish in the current fiscal year of 2020-21. The target was mentioned at the 12th meeting of the parliamentary standing committee on the ministry on Sunday. The meeting was held with the chairman of the parliamentary body Dharendra Debnath Shambhu at the Sangsad Bhaban. The parliamentary panel was informed that the ministry took the decision to impose a 22-day ban on catching, selling, hoarding and transporting of Hilsa from October 14 to November 04 next with a view to boost its production by ensuring safe breeding through protection of mother hilsa. During the ban, the government has taken steps to distribute 20kg rice per day to each of the 5.70 lakh families of the affected fishermen in the country. The parliamentary committee scrutinized the Fish and Fish Products (Inspection and Quality Control) Bill, 2020 and recommended placing its report over the bill in the House. Committee members Fisheries and Livestock Minister SM Rezaul Karim, BM Kabirul Haque, Choto Monir, Shamima Akter Khanam and Kaniz Fatema Ahmed attended the meeting, said a handout.

URL: <https://unb.com.bd/category/Bangladesh/target-set-to-produce-6-lakh-mts-of-fish-in-fy-2020-21/58802>

Bangladesh: Ilish fishermen turning their backs on profession

The fishermen survive the whole year with the money they earn during peak season of ilish catching. Dhaka Tribune's Bilkis Irani looks into how they manage their livelihood for the rest of the year and what's being done for them, in the third instalment of a four-part series. With the population of ilish, the fish that has traditionally enriched the culinary tastes of Bangladeshis, declining day by day in the country's rivers, fishermen are leaving their profession and opting for alternative means of survival. According to the fishermen, they now cannot depend on fishing to survive, as their earnings have been reduced with the decrease of ilish fish in the rivers. "They are seasonal fishermen as ilish comes into the rivers from the sea during a certain time for breeding and releasing eggs. In this case, during the offseason, there is no work for ilish fishermen. "They have to survive the whole year on their earnings from the peak ilish catching season, said Dr Niamul Naser, chairman of the Zoology Department at Dhaka University. The struggle to survive Fisherman Mohammad Yasin, 75, was found working as a mason in his village in Bhola near Nasirmajhi Fish Ghat. His children live in different places and no one looks after him and his wife. "I work hard for survival and earn Tk200-250 per day by working on someone else's fishing boat. But there are many days when I come back home empty-handed as

the number of ilish has been declining in the rivers. Now, I hardly go to the river to catch ilish, Yasin said. Speaking with other fishermen at different fishing ghats in Bhola, this correspondent found a similar situation. Most fishermen are poor and helpless. Although they go fishing in the rough waters of the Meghna to support their families, they are not getting enough ilish to survive on and, therefore, have been leaving this profession. Similar circumstances have been noticed in other districts, including Chandpur and Noakhali. Children discouraged At Saju Mollar Ghat in Chandpur, a 10-year-old boy named Ibrahim Khalilullah was spotted going along the road. This correspondent spoke to him and asked what he did. The little boy replied that he had been studying in a madrasa nearby and was now preparing to get admission at a school. When asked why he wanted to study in a school the boy said his father was an ilish fisherman and wanted him to be a school teacher, rather than being a fisherman like him. “It is my father’s wish that I study in a school so that I can get a job as a teacher and help my family to get out of poverty, Ibrahim said.

The boy took this correspondent to his home where his father Ratan Chowdhury was scared of the correspondent as he thought the lenders from whom he had taken loan had come to the house. But later he understood the situation and agreed to talk. “I don’t want my child to do such a stupid thing that I am doing. I am in fishing because I am not educated. Meanwhile, the fish I get from the river is not enough to survive on with the family and we are just hostage to the lenders, Ratan said. Another fisherman, Mohammad Saiful of Char Bhoirabi said: “I am working as a fisherman as I am not getting another job during the Covid-19 pandemic. As soon as I get a new job I will leave fishing. I certainly will not allow my children to be involved in fishing. Deprived of govt rations Although the government has started a ration system for fishermen during the ilish fish-catching ban period, some fishermen complained that they did not get it during that period. On one hand, they were not getting fish from the rivers and on the other, they were not receiving the government rations allotted for them. Thus, in both cases, they have been in dire financial straits. Jamal Bepari and his co-workers from Shariatpur said due to working in the heat of the sun as well as getting drenched during the rainy season they fell sick, but they never got any proper treatment, as they stayed in mid-river all day. They have been doing alternative work like farming in Shariatpur as the Padma-Meghna rivers are almost empty of ilish fish.

“Last year we got Tk5 lakh of ilish during this season, but this year we are facing losses even if we have a Tk1lakh loan. In this situation, most of my co-workers have left fishing, a fisherman said. Another fisherman from Patuakhali, who did not get any ration in 10 years, complained, “People who are not fishermen or are not even involved in the fishing profession got enlisted and got rations. But we real ilish fishermen have been deprived of the rations. Dulal Sardar is not a fisherman. He is the general secretary of Jubo League Ward 8 of Kuakata Municipality. He said he had been given Vulnerable Group Feeding (VGF) rice slips. Mohammad Masud, a fisherman of Ward 3, complained that he was not given rice slips even though he had a fisherman’s card. The common complaint was that at least 20% to 25% of people who had got VGF cards were not fishermen. Abdul Khaleq, president of Chandpur Matsya Banik Somobay Samity, agreed, saying: “The names were enlisted by political leaders. So most of the people enlisted as fishermen are not in any way real fishermen. If you can collect the lists you will find the proof. The correspondent went and contacted the Department of Fisheries and asked for the list of fishermen which was stored in their server, but the authorities declined to give it. Masud Ara Momi, deputy chief of Ilish Section, Department of Fisheries, told the correspondent to go to all

the upazilas to collect the lists and later did not respond to phone calls. “Even if you apply in line with the Right to Information (RTI) Act, we will not provide you with the list. You have to obtain information one by one from the upazila offices of different districts for particular persons to know whether they have been enlisted or not, Masud Ara said.

Meanwhile, attempts to speak with Kazi Shams Afroz, the director general of the Department of Fisheries, several times during the last two months and till the filing of this report proved fruitless. She did not respond to any of the phone calls or text messages from this reporter. Fisheries and Livestock Minister SM Rezaul Karim said: “The government has already taken a number of steps to enhance ilish production in the country, including destroying “current nets (current jal), restoring the navigability of the rivers, which resulted in a huge amount of ilish this year, and plans to create alternative work for fishermen and providing them with rations. “But to hold on to this success and these initiatives, we are considering taking more essential steps. According to the Department of Fisheries, there are 1.6 million registered fishermen in the country. Of them, more than 500,000 are ilish fishermen but all are not enlisted for rationing. New project approved Recently, the Executive Committee of the National Economic Council (Ecne) approved a project of Tk246.28 crore for the development and management of ilish resources which will be implemented by the Department of Fisheries by June 2024 in 134 upazilas under 29 districts of six divisions. Planning Commission member Md Zakir Hossain Akand said: “The main project objectives include boosting ilish production to 620,000 metric tons from 533,000 lakh metric tons. “The project will also create alternative employment opportunities for some 30,000 fishermen families engaged in catching ilish fish and distributing some 10,000 legal fishing nets among fishermen. “The main project operations include operating six fish sanctuaries and imparting training to some 18,000 fishermen to create alternative employment opportunities for them, he said.

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/10/12/ilish-fishermen-turning-their-backs-on-profession>

Bangladesh: Shrimp exporters to enjoy edge as vannamei farming gets nod

The government is finally easing its grip on the shrimp industry as local farmers can now cultivate vannamei shrimp within the country following years of dithering by the concerned authorities to grant permission. Earlier this week, the Department of Fisheries (DoF) greenlit a second pilot project to farm the exotic species at the south-eastern coastal district of Cox’s Bazar. The Chattogram-based Agribusiness Enterprise Development and Services was awarded permission to cultivate the shrimp in an isolated location at Khuruskul of Cox’s Bazar under the supervision of the DoF and Bangladesh Fisheries Research Institute (BFRI). Last year, the fisheries office allowed Shushilan, a nongovernmental organisation, and MU Seafood to pilot the first culture of whiteleg shrimp in the southwestern division of Khulna, a major farming region for export-oriented shrimp. However, the two companies have yet to initiate their trial run of farming Vannamei shrimp, in Paikgachha of Khulna. The move comes in the face of increased demand from shrimp processors and exporters, whose earnings from locally produced black tiger shrimp and freshwater prawn have fallen consistently since fiscal 2014-15 owing to competition from the cheaper vannamei shrimp farmed mainly in China, Southeast Asia, India and some

Latin American regions. Exporters fetched \$333 million in the last fiscal from shrimp exports, down 40 per cent from \$550 million in fiscal 2013-14, data from the Export Promotion Bureau showed. The downturn in export earnings from shrimp farmed on 2.72 lakh hectares by more than eight lakh farmers for the EU and US markets continued this fiscal year too. Shrimp exports declined 3 per cent year-on-year to nearly \$97 million between July and September of the ongoing fiscal. The fisheries office was unwilling to allow an exotic species to be farmed here as they feared the alien species may have a negative impact on native species such as black tiger shrimp, according to industry insiders. Azizul Haque, deputy director of aquaculture at the DoF, said his organisation has allowed the farming of vannamei shrimp on a trial basis to see if there are significant results as this species is also farmed in India. “The piloting has to be done by importing specific pathogen free post larvae (PL),” he added. The DoF also attached the condition that the pilot should be initiated only after the PLs are quarantined and tested at labs under the DoF and BFRI.

Whiteleg shrimp is native to the Eastern Pacific coast ranging from Sonora, Mexico in the North, through to Central and South America, going as far as Tumbes in Peru. Vannamei cultivation increased steadily from 8,000 tonnes in 1980 to nearly 50 lakh tonnes in 2018, according to data from the Food and Agriculture Organization (FAO). The total haul in 2018 was nearly double of the 24 lakh tonnes of whiteleg shrimp produced in 2009, the FAO’s 2018 yearbook of Fishery and Aquaculture Statistics showed. Whiteleg shrimp accounted for more than 80 per cent of the total shrimp production for that year as well. The DoF finally allowed the vannamei shrimp pilot based on recommendations from the national technical committee, Haque said. The decision followed a directive from the fisheries and livestock ministry to allow vannamei shrimp farming in the Khulna and Cox’s Bazar regions. Earlier, the DoF sent an 11-point recommendation to the fisheries ministry based on a workshop in September 2018, regarding the exploration and feasibility of farming the exotic species. The DoF decided to grant permission to Agribusiness Enterprise to farm whiteleg shrimp on a trial basis for one year at a meeting in mid-September this year. However, this tenure may be extended based on results of the first year of cultivation, according to the meeting. Contacted, Nizamuddin Mahmood Selim, managing partner of Agribusiness Development and Services, said he was yet to get the letter from the DoF regarding their permission to pilot vannamei farming. We will decide after going through the letter and terms and conditions related to trial farming the shrimp species,” he added. Mostafa Nuruzzaman, chief executive of Shushilan, said they could not start cultivation yet because of early rainfall. Rivers and ponds became fresher than what they are required to be in order to grow vannamei shrimp, he said, adding that coronavirus outbreak caused further delays. “We will start working from November to put fry in ponds next February, he said. Kazi Belayet Hossain, president of the Bangladesh Frozen Foods Exporters Association, welcomed the DoF’s decision. He said vannamei shrimp account for 77 per cent of the global shrimp trade while black tiger shrimp accounts for 12 per cent. Meanwhile, Bangladesh’s share in global black tiger shrimp market is around 2 per cent. “We have been demanding the government for permission to sow vannamei since 1997. It is positive that they have allowed piloting though. If we are successful in the trail run, there will be no barrier to cultivation and production and exports will increase,” he said.

URL: <https://www.thedailystar.net/business/news/shrimp-exporters-enjoy-edge-vannamei-farming-gets-nod-1973865>

Bangladesh: Illegal fishing and laws

Fishing is one of the major livelihoods of the coastal populace of Bangladesh. To garner potentials of blue economy prospects, it is critical for Bangladesh to spearhead the fight against illegal, unreported and unregulated (IUU) fishing. The incidents of IUU fishing activities are of significant concern to the littoral states of the Bay of Bengal. Among coastal states of the Bay of Bengal, no countries are better poised to address challenges of IUU fishing than Bangladesh. Unfortunately, IUU fishing activities in the maritime zones of Bangladesh have been persisted due to lack of legal and administrative monitoring, and surveillance mechanisms. As of now, there is no reliable estimated record of IUU fishing activities in the Bay of Bengal ocean realm. However, the news outlets' frequent citations of incidents about IUU fishing activities in the Bay of Bengal are particularly alarming. Apart from that, the problem of the IUU fishing activities is also veering into bulwark towards achieving Goal 14 of the Sustainable Development Goals (SDG). All these concerns are menacingly interweaved together, when we look into the existing legal regime of Bangladesh regarding protection of living marine resources. The 'Protection and Conservation of Fish Act, 1950' as well as the 'Marine Fisheries Ordinance of 1983' address the necessity of conservation of inland and marine fish. However, both laws lack comprehensive mechanisms to prevent and deter unauthorised fishing activity. These laws also do not contain any provision that would either define or recognise IUU fishing activity as an offence. Although section 10 of the Coast Guard Act of 2016 mentions about the constabulary function of law enforcement agencies to tackle IUU fishing, several issues have remained unaddressed, such as: inspection of alleged foreign flagged IUU vessel and the prevention of IUU-catch product to enter into the port. All of these have made it harder to effectively pin down the challenge of illegal and unreported fishing activities. However, recently drafted Maritime Zones Act of 2019 has provided acquiesce to the significance of regulatory mechanism to tackle IUU fishing activities.

Nevertheless, what perhaps most conspicuously is absent in the draft Maritime Zones Act of 2019 is a specific definition regarding IUU fishing. This has thrown an unexpected spanner into the regulation of illegal fishing activities. At first cut, it is very likely to presume that only foreign fishing vessels are involved in the IUU fishing activities. In reality, along the way of IUU fishing activities, the involvement of domestic licensed fishing vessels cannot be discounted. Due to this omission, the evasive violations of the provisions relating to IUU fishing would obviously loom large. Sections 47 and 48 of the draft Maritime Zones Act of 2019 specify enforcement measures to prevent, deter and eliminate IUU fishing activities. Section 47 authorises the port authority to carry out inspections of equipment, paperwork, catches, and records of alleged fishing vessels that authority believes to be engaged in IUU fishing. As authorised by provisions of section 47, the port authority would take requisite measures to ensure that 'IUU-catch products' are not entering national and international market and to do so, port authority may act in accordance with the Port State Measures Agreement (PSMA) of Food and Agriculture Organization (FAO). Internationally, the PSMA is the first binding international treaty that specifically aims to prevent, deter and eliminate IUU fishing. It is pertinent to mention here that, on December of 2019, Bangladesh ratified the PSMA. However, there is no relevant provision in the draft Act of 2019 that would enumerate coordination mechanisms among the law

enforcement agencies, maritime administrations, and port authorities. This would evidently create enforcement and administrative stalemate in implementing sections 47 and 48 of the draft Act of 2019. Section 48 metes out provisions to punish individuals associated with IUU fishing. Any person involved in or helping anyone in either illegal, unreported and unregulated fishing, or destructive fishing practices, shall be punishable with imprisonment for a term which may extend to one year or with fine which may, in currency of Bangladesh, extend up to Taka Eight Million (US \$100,000), or with both. To garner the benefits of blue economy, ensuring ocean governance is prerequisite for Bangladesh. However, IUU fishing is veering into an obstacle to garner such goal. To sum up the existing legal regime of Bangladesh against IUU fishing, it stands at odds with the existing international law, principles, and obligations. The situation is unlikely to change quickly due to ineffective fisheries management policies and inadequate reflection of precautionary principle.

URL: <https://www.thedailystar.net/law-our-rights/news/illegal-fishing-and-laws-bangladesh-1973365>

Bangladesh: Mongla female crab farmers struggling to survive

The time of the year that Priyanka Biswas usually waits with the bated breath – crab harvesting season – turned her down this year instead, pushing her towards the brink of nervous breakdown. After incurring huge losses during the previous season this year, the 21-one-year-old crab farmer from Sonaitola union of Mongla in the coastal district of Bagerhat and her husband are expecting to make good money from export during the time but they are yet to get any green signal from the buyers. The couple are in utter despair as their crabs remain unsold and left to die. “These crabs will die if those remain unsold for another one or two months. We have incurred a huge loss after the suspension of crab export in February due to the deadly outbreak of novel coronavirus. Our earnings fell drastically and it will be a double blow if we cannot sell those this time,” said frustrated Priyanka. After starting crab cultivation in a small pond seven years back, Priyanka learnt the scientific method of farming crab from Voluntary Services Overseas (VSO) in 2014. She and her husband then took a lease of 28 bighas of pond, with a yearly instalment of Tk 3.50 lakh for farming female crabs. And the profit was quite good – around Tk 7 lakh per year. The crabs are being imported to livemarkets of China, other South Asian countries and frozen markets of Europe. But things took a turn for the worse after the detection of Covid-19 in the country as Priyanka could sell only 25 percent of the crabs to Chinese buyers in Dhaka. “Within two months (March-April), all the remaining crabs died in unsold condition. It was a loss of more than Tk 1.5 lakh. We released baby crabs worth around Tk 1.80 lakh in our ponds in January,” she said. She could not sell those locally as there was little demand in the market. One kg of crab was sold at Tk 200 while it was sold at Tk 2,200 to the buyers before the coronavirus outbreak. Priyanka added that two months ago they were told by crab buyers in the local market that the export would resume after Eid-ul-Azha, and they again released baby crabs in their pond spending Tk 50,000. Those crabs were ready for harvesting in 40 days of release. But she did not get any response from the buyers. “I don’t know how we would pay the money to the land owner this year and when will everything go back to normal,” she said.

Like Priyanka, suspension of crab export to virus-stricken China has left 358 female crab sellers in Mongla struggling to survive, said Md Shafiqur Rahman, project lead, women and youth entrepreneurship and employability at VSO Bangladesh. He added that although they tried to earn by farming fish, those could not help much. Because, they get quick returns from crabs as those could be harvested in 40 days. But other fish require six months to sell. Shafiqur said an overwhelming majority of these women once worked as day labourers at others' farms, before the project started. "But, with their sound knowledge and our assistance, every one of them brought a change in their lives in the past years, in terms of financial solvency and decision making, asset development, and a better lifestyle," he said. "But currently, all are struggling as their savings dried up amid a fall-off in the demand of crab," he said. Although Prime Minister Sheikh Hasina on April 12 announced a stimulus package of Tk 3,000 crore to give financial assistance to small and medium farmers to help them face the fallout of Covid-19, most of the female crab farmers are unaware of such support. Hasan Ahmed Chowdhury, deputy director (finance and planning), department of fisheries, agreed that most of the farmers are not aware of how they can avail the money. "The money from the stimulus package is being disbursed via the state-owned banks. At first, the concerned farmers, who need the money, should inform the upazila fisheries officer about his fallout due to the pandemic. Then the officer will visit his/her farm and receive his/her application," he said. "We have a committee to select the beneficiaries in every upazila. If the committee has no objection, the loan is disbursed in accordance with the procedure of the banks," he added. Sources at the finance ministry said that the progress of disbursement of the fund is slow. Last month, Bangladesh Bank last month extended the timeframe of disbursement. As of August 31, the total disbursed amount was Tk 286 crore. Noted agriculture activist Rezaul Karim Siddiqui said as the government announced it to help the farmers, there must be adequate campaigns so that these badly affected farmers can avail the support.

URL: <https://www.thedailystar.net/country/news/mongla-female-crab-farmers-struggling-survive-1971185>

Bangladesh: Stop importing fish from India: Jashore fish farmers

Fish farmers and importantly the Fisheries Department of Jashore district are calling for a ban on importing fish from India, at a time when the country's fish imports from India have doubled through Benapole port. Due to low prices, Indian rui, or rohu fish has witnessed a jump in imports. But fish farmers in the district are adamant that there is no need to import fish from India, at a time when the country is not only self-sufficient with the amount of fish it produces, but also exporting more and more. Mahbubur Rahman, Fisheries Officer of Benapole, said that 32.67 lakh kg fish was exported to India in FY 2017-18, 34.83 lakh kg in FY 2018-19 and 52.45 lakh kg in FY 2019-20. At the same time, 35.16 lakh kg was imported from India in FY 2017-18, 47.28 lakh in FY 2018-19 and 48.23 lakh in FY 2019-20. Due to corona restriction, fish was not exported from Bangladesh from April-June. Over 2 lakh kg fish was exported in July. The value of which is \$518,000. On the other hand 20.47 lakh kg fish worth \$1.47 million was imported in June and July. In August, over 3 lakh kg of fish was exported, valued at \$772,000. In the same month, 16.90 lakh kg fish worth \$1.2 million was imported from India. Sharsha upazila fisheries officer Abul Hasan said Rui, Katla, marine and freshwater fish were imported from India. On the

other hand, Pabda, Gulsha, Tengra, Pangas, Frozen Shrimp, Carp, Vetki and other fishes are exported from Bangladesh. There is high demand for pabda in India, covering nearly 40 percent of fish exported to the country. Pabda is mostly produced in Jashore district. Abul Hasan said the fish being imported from India are now being farmed extensively locally. “There is no need to import these fishes from India. If imports were stopped, the farmers of the country would benefit immensely, he said. Fish farming, also known as pisciculture, covers a total area of 6,239 hectares in 15 baors, 271 enclosures, 10 beels and 6,619 ponds of the upazila. Sharsha produces 22,465 metric tons of fish a year. Abul Hasan said fish production in Sharsha Upazila is three times the local demand in the upazila. It produces 22,485 metric tons of fish a year. But the local demand is only 7,572 tons out of that amount. After meeting the local demand, the surplus fish is sold in other parts of the country and exported to India. Abdul Quddus, a fish exporter from Sharsha upazila, said, “There is a huge demand for pabda and carp in India. We usually export Pabda, Tengra and other freshwater fish. Shafiqul Islam, an agriculturist, said, “We collect pollen from natural sources. After nursing the pollen through the tank and storing it in the pond, different species of fish are produced. We export these fish to the local market as well as abroad. Jashore District Fisheries Officer Anisur Rahman said Rui-Katla fish was being imported from India due to low prices. Rui fish from Bangladesh however is said to taste much better than the imported variety. “There is no need to import fish from India,” he said, reiterating the point made by Sharsha Upazila Fisheries Officer Abul Hasan. “If imports were stopped, the farmers of our country would have benefited.

URL: <https://www.unb.com.bd/category/Special/stop-importing-fish-from-india-jashore-fish-farmers/58013>

Bangladesh : Tk 2.5bn project to generate jobs, boost Hilsa production

The Executive Committee of the National Economic Council or ECNEC approved the project titled “Development and Management of Hilsa Resources on Tuesday. The project targets to boost Hilsa production by implementing the Protection and Conservation of Fish Act and sanctuary management, Planning Minister MA Mannan told reporters after the meeting. Prime Minister Sheikh Hasina joined the meeting at the NEC via video link from the Ganabhaban. The project will create alternative jobs for 30,000 families of fishermen, the planning minister said. As many as 10,000 fishermen will receive legal fishing nets under the project. It will also raise awareness among the fishermen about the importance of saving mother Hilsa and fries, said Md Zakir Hossain Akand, a member of the Planning Commission. Tasty Hilsas contribute 11 percent to the total fish production and 1 percent of the GDP of Bangladesh. “Most of the Hilsa in the world is produced in this region while Bangladesh produces 80 percent of them. But Hilsa breeding and its movement are interrupted for various reasons, Zakir said, explaining why they initiated the project. The ECNEC meeting on Tuesday approved a total of five projects at an estimated cost of over Tk 12.66 billion.

URL: <https://bdnews24.com/economy/2020/09/22/bangladesh-takes-tk-2.5bn-project-to-generate-jobs-boost-hilsa-production>

Bangladesh: Solar panels may help increased fish production too by reducing evaporation loss in the dry season

Power generation has got significant boost in Bangladesh thanks to the bold initiative of the current government. It increased from less than 5,000 megawatts (MW) in 2010 to more than four times to 23,000MW in 2019. The 2016 Power Sector Master Plan (PSMP) projects a generation capacity of 60,000MW by 2041. Renewable energy, unfortunately, has only 3 per cent share in the current grid mix due to fossil fuel-based development. It is widely considered that Bangladesh has limited potential for renewable energy sources. The 2016 PSMP identified land shortage as a major constraint for harvesting solar energy and meteorological conditions as a constraint for reaping wind energy. The assessed potential for solar energy is 2,690MW and that of wind energy 637MW. With the addition of little biomass and hydropower, the total renewable energy potential is 3,666MW, which is only 6 per cent of the 2041 electricity need, if the full potential is utilised. The stated scenario is very depressing, when more than 60 per cent of the global power generation capacity (since 2014) is from the renewable sources. As one of the most vulnerable countries to the climate change phenomena, Bangladesh must strongly focus on renewable energy sources to rise up to the need of climate change action. Recent developments in the solar power technology show great hope for meeting almost 100 per cent power demand of the country from this source. Floating solar panel on water bodies has seen a rapid growth since 2016 in different countries because of its advantages like higher efficiency and land saving. The floating solar system produces more electricity than the fixed land-based system. This is because of lower module temperature in the vicinity of water and the opportunity of turning the panels towards the sun as the day passes. Projects in different countries produce up to 1.5MW per hectare depending on the type of solar cell. However, for the assessments in this article 1.0MW per hectare is considered. Bangladesh has an estimated 150,000 hectares of ponds. If one-third of these ponds can be used for floating solar system; solar panels covering up to a third of each pond can give a total power generation of 15,000MW. The shade of the panels may help increased fish production too by reducing evaporation loss in the dry season. Bangladesh is also rich with a good number of shallow water bodies like bills, haors and baors having a total area of more than 250,000 hectares. Government has taken initiatives to create sanctuaries for preserving native fish and other aquatic animals in these water bodies. If 10 per cent of their areas can be declared sanctuary, then that part can be effectively leased out for floating solar system to generate 25,000MW power. There are opportunities in 70,000-hectare Kaptai lake and thousands of hectares of river pockets throughout the country. It is learnt that the government has already started planning for two floating solar power projects with a total capacity of 50MW backed by Asian Development Bank; one in the Padma river and the other in Kaptai lake. It can be assumed that these water bodies are able to add another 20,000MW. So, the total need of 60,000MW power is possible to generate from various floating solar system only. Regarding the land-based option, the total roof system in Bangladesh has an area of around 500,000 hectares. Some housing projects in Germany presented delicate roof system with 100 per cent solar panel coverage. So, use of only 10 per cent of our roof system can give 25,000MW. It is based on a generation capacity of 500KW (0.5MW) per hectare for fixed panels on the roof system. The cost of installation of the floating system is up to 25 per cent higher than the land system, but can be offset by higher efficiency. Overall, the cost of solar system is decreasing rapidly. In 2015 the cost of installation was \$135 per megawatt hour (MWh), which is expected to be in between \$44.50 and \$61.50 per MWh in 2020. The expensive energy storage

system for night-time use is also expected to be 80 per cent cheaper by 2040— thanks to aggressive research investments across the world. The cost of solar system development in Bangladesh would be further cheaper due to low labour cost. The growing industrial prowess of the country would also help manufacture floating pontoons, solar panels, and other accessories locally. The resulting employment generation and value addition will be significant to the national economy. Many countries including neighbouring India has a target to achieve 40 per cent clean energy by 2030. Bangladesh, expected to be a developed country by 2041, needs to take initiatives accordingly for sustainable energy supply. A review of the 2016 PSMP is, therefore, required to change the direction from fossil fuel focus development to renewable energy taking advantage of the emerging technologies. There are some challenges to tap the opportunities stated above, but it is not hard to overcome with appropriate and timely government policy initiatives. An early action is essential, else substantial economic setback from premature decommissioning of some expensive fossil fuel-based power plants, still to be constructed, would be a bottleneck to progress. In this era of fast-moving technology, a flexible policy mechanism of observing, picking, reviewing, deciding, and updating is required to be in place. 2016 PSMP is already five years old!

URL: <https://thefinancialexpress.com.bd/views/solar-power-can-meet-full-electricity-needs-in-bangladesh-1600876819>

Bangladesh: ECNEC approves Tk 2.46b hilsa development project

The Executive Committee of the National Economic Council (ECNEC) has approved a project for development and management of hilsa resources involving Tk 2.46 billion. The approval was given at the weekly ECNEC meeting on Tuesday with ECNEC Chairperson and Prime Minister Sheikh Hasina in the chair, reports BSS. The premier joined the meeting virtually from Ganabhaban while the ministers, state ministers and others concerned attended the meeting from the NEC Conference Room in the city's Sher-e-Bangla Nagar area. The Department of Fisheries under the Ministry of Fisheries and Livestock will implement the hilsa development project by June 2024 in order to ensure enforcement of the concerned law to conserve the mother hilsha and jatka side by side boosting the hilsa production through optimum management of hilsa sanctuaries. Planning Commission member Md Zakir Hossain Akand said the project will be implemented at some 134 upazilas under 29 districts of six divisions. He said the main project objectives include boosting the hilsa production to 620,000 metric tonnes from 533,000 metric tonnes, creating alternate employment opportunities for some 30,000 fishermen families engaged in catching hilsa and distributing some 10,000 legal fishing nets among fishermen. Zakir said the contribution of hilsa in the country's overall fisheries production is 11 per cent while its contribution to the country's GDP is one per cent. The project includes operating six fish sanctuaries and imparting training to some 18,000 fishermen to create alternate employment opportunities for them. Briefing the reporters after the meeting, Planning Minister Abdul Mannan informed that Prime Minister Sheikh Hasina in the meeting asked the authorities concerned to motivate fish farming in cages in the water side by side ensuring necessary training, cash support and distributing rice to those fishermen who remained out of work during the lean period. The ECNEC meeting approved a total of five projects involving an overall estimated cost of Taka 12.66 billion. The planning minister said, "a total of five projects were approved today

involving an overall estimated cost of Taka 12.66 billion to be entirely borne from the state exchequer, Out of the approved five projects, four are new while one is a revised project.

URL: <https://thefinancialexpress.com.bd/economy/bangladesh/ecnec-approves-tk-246b-hilsa-development-project-1600774117>

Bangladesh: Govt embarks on tuna mission in Bay of Bengal

Failing to woo the private sector, the government has taken a project to catch costly and migratory tuna fish as the country eyes to make a debut in deep-water fishing in the Bay of Bengal. Under the project worth Tk 61.06 crore, three long liners will be procured by the Department of Fisheries to catch tuna and pelagic fish in the exclusive economic zone in the bay located 200 nautical miles away off the shore. The experimental project scheduled to be concluded in 2023 also aims at building expertise with the aid of overseas training in tuna fishing and encouraging the tentative private sector to get involved in the muchneeded venture. Marine Fisheries Office director in Chattogram Md Latifur Rahman explained the necessity of tuna fishing while taking to New Age a week after the Executive Committee of the National Economic Council approved the project titled ‘Exploring Tuna and Pelagic Fishes from the Deep Sea in the Bay of Bengal’ on August 18. In 2015, Bangladesh became a member of the Indian Ocean Tuna Commission, an inter-governmental organisation responsible for management, conservation and appropriate utilisation of tuna and tune-like fish, he said. As a member of the Indian Ocean Tuna Commission, the country has to provide information on tuna stocks in its water boundary. ‘Without catching tuna, you cannot know about the tuna stock,’ said Latifur. He suspected that the county’s membership in the 31member group, also connected with the UN Council of the Food and Agriculture Organisation, would become redundant in future without research about the most expensive fish in the oceans. According to a Reuters report run from Tokyo on January 5, 2019, a bluefin tuna was auctioned at \$3 million, almost double the previous record price fetched in 2013. The 278-kg fish was caught off the coast of northern Japan. There are at least six other types of tuna, including yellowfin, albacore, bigeye, skipjack, available in deep sea with the size of the global tuna market reaching \$11.38 billion in 2017. According to the ResearchAndMarkets.com, the global market of tuna enjoyed worldwide fresh cooked, frozen, canned and in sushi is expected to be worth \$13.75 billion by 2023. The local fisheries department officials are sure about the presence of all types of tuna, including the prized bluefin, in the country’s deep sea as neighbours India, Sri Lanka and Maldives catch tuna. In 2019, Maldives’ total export stood at \$361 million and 95 per cent of it came from the export of fish with skipjack tuna accounting for 29 per cent of it, followed by frozen yellowfin tuna at 27 per cent and canned tuna at 23 per cent. But local salt water fishermen based mainly in Chattogram and Khulna hardly venture deep in the bay due to a lack of expertise in the area, although fishermen in India and Sri Lanka are often found to be intruding in each other’s maritime territories for the prized catches. Planning minister MA Mannan said that the government was forced to take the project as the private sector businesses had not responded to repeated calls from the government to catch tuna in the bay.

The country settled its maritime boundary row with Myanmar in 2012 and with India in 2014, establishing its rights over living and non-living resources within 200 nautical miles of the EEZ.

The Department of Fisheries has made at least half a dozen attempts to send private sector fishermen to the deep sea where only tuna and other pelagic fish are available. But the attempts were fruitless, said Mannan. Bangladesh Marine Fisheries Boat Owners Association secretary Aminul Haq Babul Sarker said that there were many reasons why local fishing companies did not try tuna fishing despite the fact that the fisheries department at one point wanted to supply vessels. He said that the vessels used for tuna fishing were completely different and bigger in size from the wooden trawlers used by Chattogram-based fishermen, who were mainly engaged in hilsa catching within 100 kilometres of the sea known as the continental shelf. The expertise needed in catching tuna was also completely different, he said. Tuna was mostly angled worldwide, he added. But the most discouraging fact that caused the local fishing community to shy away from tuna fishing was the need for huge investment. First of all, the fishing boats need to cross double the distance in sea from what they usually are used to covering now to reach the deep water where tuna is available. Second, the amount of fuel and other materials needed for the fishermen on board will also double. The fishermen assessed that they would incur losses if they failed to catch the expected amount of tuna. At present, a wooden trawler with 50 fishermen on board on a trip of 26-days within 100 kilometres in the bay costs Tk 80-90 lakh and is arranged from bank loans, said Aminul Haq. He informed that not a single bank branch at Parthargatha in Chattogram had agreed to bankroll the tuna venture by private companies. According to the fisheries department officials, an interested private company contacted a Chinese fishing company to establish a joint venture initiative. But the Chinese firm rejected the proposal since tuna is not found all year round as it keeps travelling from sea to sea. Researchers found that 67 per cent of the world's tuna catches are made in the Pacific Ocean by Japanese and American fleets, 12 per cent in the Indian Ocean and 12 per cent in the Atlantic. But the stock of bluefin tuna has suffered a catastrophic decline of more than 96 per cent in the Northern Pacific Ocean with the advent of industrial fishing methods. Bangladesh is also suffering from over-fishing in shallow water in the bay which has forced the government to impose a 65-day ban every year since 2019 to boost the depleted fish stocks. The ban which lasts from May 20 to July 23 is timed to coincide with the breeding season. According to the fisheries department, 42.76 lakh tonnes of fish were produced in the 2017-18 fiscal, of which 16 per cent was netted from the bay by around 270 trawlers.

URL: <https://www.newagebd.net/article/116647/govt-embarks-on-tuna-mission-in-bay-of-bengal>

Bangladesh: Ilish in dwindling numbers frustrate fishermen in Bhola

According to local fishermen, ilish spotted in abundance at the mouth of the sea are unable crossover to the rivers because of nets set up there allegedly by some influential people. Fishermen and traders at the famous Ilisha Ferry Ghat in Bhola are expressing frustrations over the lower turnout of ilish during an ongoing fishing season that is set to last around a month longer before another fishing ban is imposed. Several fishermen at the fish landing station said their families are going through a tough time as the recent catches are not even covering the cost of the trawlers trips out on the Meghna and Tetulia rivers. During a recent visit to Ilisha Ghat, this correspondent saw a small number of fishermen and traders lined up in front of the wholesale fish warehouse at the landing station. Fishermen were seen taking their catches up to the warehouses in bamboo baskets, but the numbers of fish are very low. And the ilish that were

found weighed around 1kg to 1.15kg. Fishermen and traders said the landing station would normally bustle with ilish during this time of the year. Siraj Uddin, who came to sell ilish at the ghat, said: “I along with six other fishermen went out on the Meghna River on a trawler three days ago. After fishing for two days, we have fish worth only Tk22,000 to show for. “We spent Tk5,000 on fuel and food. We will not get more than Tk400-500 each after paying off the trawler owner and the moneylender. But last year we had Tk2,000-3,000 each to ourselves after each trip. he added. Not only Siraj, but many other fishermen are also passing their days in frustration due to fewer catches. A number of fishermen said they will fail to repay their loan taken from moneylenders because of poor netting. Meanwhile, several fishermen alleged that a number of influential people set up nets including mosquito nets at the mouth of the rivers, thereby obstructing ilish from swimming into rivers from the sea. For this reason, fishermen are not getting the expected fish from Megha and Tetulia rivers. A huge number of ilish has reportedly been spotted at the mouth of the sea. Wholesaler Imon from the landing station said: “Last year during this period, around 400 to 500 maunds of ilish were transported to different places of the country from here every day. But we are currently sending only 80-90 maunds. Moni Holader of Kolatoli’s Fishery Ghat, said: “The numbers of ilish in my warehouse are less due to the poor catching in Meghna River. However, the district’s Fisheries Department has targeted to catch 65,000 tons ilish this season, said Senior Fisheries Officer Asaduzzaman. He said: “Due to the climate change, the number of ilish has decreased in the rivers. But he hoped fishermen will get expected ilish from Meghna and Tetulia Rivers at the end of Ashwin (Bangla month). Speaking on the issue, Bhola Fisheries Officer SM Azharul Islam, said: “Peak season for catching ilish has started. Huge numbers of ilish are being netted in seas. Ilish will swim to Meghna and Tetulia Rivers very soon and fishermen will be able to see it in abundance. When asked why the number of ilish is low in Meghna and Tetulia Rivers during this peak season, SM Azharul Islam did not reply. Instead, he said: “Last year, the production target of ilish was 160,000 in Bhola and 170,000 tons of ilish were netted.

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/09/18/poor-catches-of-ilish-frustrating-bhola-fishermen>

Bangladesh: Use of land for aquaculture, mining increased threefold since 2005 in Bangladesh: Study

Experts at a webinar have emphasised the need to enhance transboundary collaboration to ensure food security and reduce disaster risks in the Meghna Basin building on the 2011 Framework Agreement for Cooperation between Bangladesh and India. IUCN and Asian Confluence co-hosted the webinar on “Food Security and Disaster Risk Reduction in the Meghna – Building Community Resilience, the second of three webinars in the Meghna Conversations series. Kabir Bin Anwar, Senior Secretary, Ministry of Water Resources, Government of Bangladesh opened the webinar with an introduction to the basin, and underscored the importance of Haors, a type of wetland ecosystem, for food security in Bangladesh. The Meghna Basin hosts more than 300 wetlands that support fisheries for local communities, said the Bangladesh Country Office of International Union for Conservation of Nature (IUCN) on Friday. It is also an important source of rice production with a production of ten lakhs tonnes per year. “To keep the rivers alive, we need to determine the environmental flow and maintain it throughout the year; this will support

local livelihoods and also address the issue of decreasing biodiversity, Anwar said. He stressed the importance of listening to academics, environmentalists and basin communities, suggesting an international conference on transboundary cooperation on the Meghna, hosted by Bangladesh. The webinar presented the land use change analysis of the Meghna Basin, conducted by the North-Eastern Hill University, India and the Center for Environmental and Geographic Information Services, Bangladesh. The results of the analysis highlighted that in India, 82% of the basin area is forest, which is essential for fostering biodiversity and maintaining basin hydrology. In Bangladesh, cropland is the most dominant land use type; with only 3% of the area remaining as forest. These changes can significantly affect ecosystem services and local livelihoods. The results of the study can be used to inform basin-level policy, and support both governments in future development plans. Dr. Hamidul Huq, Professor and Director, Institute of Development, Studies and Sustainability, United International University, Bangladesh, echoed the need for research and data sharing within the basin. He emphasised that “flash floods are the main threat to food security in the basin. An early warning system is a critical demand from the basin, Bangladesh cannot develop this alone, and it requires data sharing and cooperation between Bangladesh and India. He also stressed the importance of the regular flood pulse and fish migration in maintaining the ecology of the Haors and fisheries, ensuring food security. “We need to manage the floods, not stop them, he added, “engineering can’t be the only solution for management. The forests in the state of Meghalaya (India) act as a natural infrastructure for water provision and management in the basin, and limit the erosion of the watershed, which can lead to excess siltation in the Haor regions of Bangladesh. H.C. Chaudhary, Indian Forest Services, Additional Principal Chief Conservator of Forest, Meghalaya, India shared, “The shortening of the jhum (shifting) cultivation cycle, a land use type dominant in Meghalaya, has contributed to the degradation of the forest and compromised the food security of the indigenous forest-dependent communities. Chaudhary informed, “The government has established the Meghalaya Livelihoods and Access to Markets project, and a ten-year project to restore degraded forests and expand the livelihoods opportunity for local communities. Such initiatives in Indian side of basin will also help in reducing downstream siltation and flash floods in the Haor Region. Javed Bin Karim, Programme Coordinator, 2030 World Bank Water Resource Group highlighted the need for strengthening the institutional arrangement for water governance in the Meghna Basin. “There are many agencies working in the basin on water management issues, but there is not enough cooperation and joint planning, he said. “A multi-sectoral basin management project can help maximise the ecosystem benefits for local communities. Sabyasachi Dutta, Director, Asian Confluence stressed the need to move away from the idea that the upstream areas have the upper hand and the downstream areas always suffer. “In the spirit of benefit-sharing, the upstream has as much to gain as the downstream, he said. The webinar series is part of the BRIDGE GBM project, facilitated by IUCN, and funded by the Swedish International Development Cooperation Agency (SIDA) through the Oxfam Transboundary Rivers of South Asia (TROSAs) programme, aims to build the water governance capacity of a network of CSOs in the GBM River Basin. Its focus is to strengthen CSO engagement in transboundary water management issues.

URL: <https://unb.com.bd/category/Bangladesh/use-of-land-for-aquaculture-mining-increased-threelfold-since-2005-in-bangladesh-study/57259>

Bangladesh: Gives traders special permission for hilsa export to India

Nearly 1,450 tonnes of hilsa fish, a quintessential Bengali favourite, is all set to enter India from Bangladesh next week. The neighbouring country has given special permission to its traders for the export. Bangladesh had banned exports of hilsa fish in 2012 and now it issues special permission to export the fish. Bangladeshi hilsa is considered a delicacy in West Bengal, and people are willing to pay high prices for it. 'Padmar ilish' (hilsa from river Padma in Bangladesh) is believed to be of superior quality in taste. "The special permission was signed last (Thursday) night and we were informed about it, said Syed Anwar Maqsood, secretary, Fish Importers' Association. "Nearly 200 fish exporters from Bangladesh had sought permission from the government to export fish to India. Out of them only nine have been given permission. The entire quantity will land in Kolkata by next week. It will enter West Bengal through the Benapole-Petrapole border. There is a huge demand for hilsa fish from Bangladesh among Bengalis living in different parts of the country, said Maqsood. The hilsa that will come from Bangladesh will vary between 800 and 1,200 grams. "The wholesale rate of hilsa will be around Rs 800-1,400 per kg depending upon the size, said Maqsood, who is also the secretary of Howrah Wholesale Fish Market. In 2019, the Sheikh Hasina government had lifted the export ban on hilsa for a temporary period from September 28 to October 10 and had sent 500 tonnes of hilsa fish as a Durga Puja gift. But after October 10 exports to India completely stopped again. This year the supply of hilsa from West Bengal has not been encouraging. The landing has been less. Only four-five days ago, fishermen were able to catch around 150 tonnes of hilsa which is inadequate to meet the demand from the state alone. Hilsa fish has been entering India from Bangladesh through the illegal route. The Border Security Force (BSF) had seized 200 kg of the prized hilsa fish on September 4 while it was being smuggled into India from Bangladesh through the border in West Bengal, said an official. A BSF patrol team, on noticing that four-five persons were trying to wade through a water body with loads on their heads towards India from Bangladesh in the Kalyani border outpost area, tried to stop them. They managed to flee the spot, but left their belongings behind, said a BSF official, who did not wish to be identified. The BSF team recovered four big plastic containers hidden under water hyacinth, with 200 kg hilsa worth around Rs 2.4 lakh in the Indian market. The seized fish was handed over to the customs office at Petrapole. The BSF has seized 2,800 kg of hilsa fish so far this year while being smuggled into India from Bangladesh, said the official.

URL: https://economictimes.indiatimes.com/news/economy/foreign-trade/bangladesh-gives-traders-special-permission-for-hilsa-export-to-india/articleshow/78059441.cms?utm_source%3Dtwitter_web%26utm_medium%3Dsocial%26utm_campaign%3Dsocialsharebuttons

Bangladesh: Blockchain set for Bangladesh aquaculture launch

ByteAlly has partnered with the USAID initiative Feed the Future – Bangladesh Aquaculture and Nutrition Activity (BANA) for the trial, which aims to implement a blockchain-based system to trace the journey of a new high-yield carp variety from farm to plate. The project will actively promote the food traceability system and its benefits to seafood stakeholders in Bangladesh. "By reducing the timeframe to trace the origin of a given food to a matter of seconds, we're able to

solve three of the core consumer concerns that deter them from enjoying seafood: safety, sustainability, and authenticity, explains Rajendra Rao, general manager of the IBM Food Trust. The \$24 million BANA project, which launched in 2018, has already developed a new, high-yield variety of carp that can grow to market size in about 18 months, instead of 24, leading to a substantial increase in incomes for farmers who raise the new variety. Given BANA's focus on improved nutrition and profitable agriculture to provide it, there is a high interest in moving these fish into the market more quickly. BANA wants to use a blockchain system to track and trace this carp's journey through the value chain – to establish trust, manage risk, and ensure the quality of the product. Technology ByteAlly will be using IBM Food Trust blockchain, combined with the following components built by themselves. – Cloud-based ERP – to replace the paper-based processes and to manage the farm operations. It will act as the data source from which data will be uploaded to the blockchain. – Android application – for the participating stakeholders to upload traceability information from their smartphones. – GS1 EPCIS API – to format the data received from multiple sources (software systems, mobile apps, IoT, etc) into interoperable data (GS1 EPCIS compliant). GS1 EPCIS is a standard developed by GS1 for interoperability within supply chains. IBM Food Trust – Blockchain requires the uploaded data to be in GS1 EPCIS standard. – IoT cloud Infrastructure – to receive data from IoT sensors and transmit them to the blockchain network. “This is the first large scale food traceability blockchain focusing on aquaculture in the region. It will demonstrate the ability to track the provenance of the fish and ensure food quality, thus yielding a higher selling price for the fish farmers,” Anand Sukumaran, VP of growth at ByteAlly, explains. Stakeholders involved The first phase of the project will involve hatcheries, nurseries, and grow-out operations fish farms from the Jessore district of Bangladesh. The second phase will involve distributors, processors and retailers.

URL: <https://thefishsite.com/articles/blockchain-set-for-bangladesh-aquaculture-launch>

Bangladesh: Blow for Bangladesh's female crab farmers as Covid stops exports

Female crab farmers in Bangladesh are struggling to feed their families after exports to China collapsed due to Covid-19, a charity has warned. Despite the crab harvesting season being in full swing in Mongla, southern Bangladesh, continued lockdown across the nation and the closure of lucrative external markets have impacted not only farmers' livelihoods but also the country's GDP, which relies heavily on the \$43m (£33m) crab export industry, according to the charity Voluntary Service Overseas (VSO). “With exporters in Dhaka seeing reduced demand from profitable markets in China, it's likely that when schools reopen in Bangladesh children will be unable to go to school and households will continue to suffer, said VSO's project lead, Shafiqur Rahman, who has been helping a cooperative of 358 female farmers export crabs to live markets in China and south-east Asia, and to frozen crab markets in Europe. The VSO cooperative project saw the women receive an average yearly income of around £580, 18% higher than the average for low-skilled workers in the country, says the charity. “It has proved that women can contribute equally to society by giving them access to finance, export markets and technology, said Rahman. Sathi Das, who started crab farming in 2014 and now leads the women's crab farming cooperative, said the closure in February of the Dhaka crab market – where Chinese buyers usually buy crab in bulk – has made her fearful for her family's future. “I have no

savings. I sold all my assets to keep the family going, but it still wasn't enough, she said. "My husband's business is also struggling and we're now both unable to put food on the table. We borrow money from our neighbours. I'm not sure when and how we're going to be able to pay off our debts. It's a very uncertain and challenging time for us. Although Das and others are able to sell crab to local markets, lack of demand has seen the price drop by 80%, from 1,000 taka (£9) a kilo to 200, she said. Despite the upcoming mid-autumn festival in China – when crab is usually consumed as part of the festivities – there are still no signs from exporters in Dhaka that the market will reopen anytime soon, said Rahman. As a result, female farmers have returned to breeding white fish and shrimp in the same pond as they were breeding crab, a far more laborious process with lower market prices, says VSO. The farmers have also been affected by high tides caused by Cyclone Amphan, which flooded the fish farms and ruined the crops. Das said she missed being financially independent and able to support her family. "Mongla is quite a conservative society, which prevents women from working and earning an income on their own. Life was often a struggle for me. I hope that we can start our crab business again soon and be able to return to how things were before the pandemic.

URL: <https://www.theguardian.com/global-development/2020/sep/11/blow-for-bangladeshs-female-crab-farmers-as-covid-stops-exports>

Bangladesh: Initiative needed to protect fishing community'

The 65-day ban on fishing has increased fish resources in the Bay of Bengal. But the socioeconomic condition of the fishermen suffers during the ban. Many do not receive the assistance provided by the government. So attention must be paid to the living standards of the fishermen while boosting fish resources in the bay. The fund created for the fishermen in this connection must be increased. These observations were made on Sunday at the virtual roundtable on '65-day ban: State of fishermen during corona times and future plans'. The roundtable was organised by Prothom Alo and Manusher Jonno Foundation. Speakers at the roundtable laid stress on preparing and implementing an appropriate plan for sustainable harvest of the Bay of Bengal's resources. Senior programme manager of Manusher Jonno Foundation, Sheikh Giasuddin Ahmed, presented the results of a study in this regard. He said that as it was, the fishermen were suffering during the coronavirus pandemic. Then the 65-day ban on fishing was imposed from 20 May. As a result, one-third of the fishermen became day labourers. Another one-third was unemployed. The rest took up other occupations. He said, before the ban they would earn Tk 371 a day and in the 65 days this dwindled to Tk 107. They took high-interest loans from the moneylenders in this period. They had to cut costs on health and education. There were many positive outcomes of the 65-day ban, but there needed to be further research on what would be the ideal span of time for the ban. The coastal people were marginalised as it was and, on top of that, they risked their lives to catch fish in the ocean.... Alternative employment must also be planned for them, Shaheen Anam, executive director of Manusher Jonno Foundation. Speaking as chief guest at the roundtable, joint secretary (blue economy) of the fisheries and livestock ministry, Md Towfiqul Arif, said that talks would be held with India and other countries of the Bay of Bengal region so that the ban on fishing could be imposed at the same time. He said that the Tk 50 billion (Tk 5000 crore) stimulus package announced by the government during the coronavirus pandemic, had provision for loans at 4 per cent interest in the

agriculture sector. The fisheries sector would get loans from that too. He said that the fisheries department would update the data bank concerning fishermen and that efforts were being made so that the fishermen would be able to avail low-interest loans. Executive director of Manusher Jonno Foundation, Shaheen Anam, said that there were many positive outcomes of the 65-day ban, but there needed to be further research on what would be the ideal span of time for the ban. She said that the coastal people were marginalised as it was and, on top of that, they risked their lives to catch fish in the ocean. She said that thought must be given as to how to minimise their marginalisation. Alternative employment must also be planned for the fishermen, she added. Shaheen Anam went on to say, the fishermen have been catching fish for generations, but their children needed to be educated so they could take up other vocations. She appealed to the government to ensure the economic empowerment of the women of fishing community families, pointing to the increase in child marriage and child labour during the prevalence of coronavirus. Children were increasingly becoming victims of abuse. So there was need to think about the overall lives and livelihood of the fishermen. Former director general of the fisheries department, Syed Arif Azad, said most of the initiatives taken by the government in the fisheries sector were spontaneous. But these decisions did yield results. He said there was need for further discussions on the 65-day ban. He said India had imposed a 61-day ban this year, but then lessened it to 41 days due to coronavirus. He stressed the need for a holistic development plans regarding the fishermen's living standards. Child marriage had increased in the fisher community families. There were 20 million members of fishing families in 24 coastal regions of the country. And one in every five will have to shift from the coast due to climate change. Team leader of World Fish, Bangladesh's eco-fish project, Abdul Wahab, said if you add up the various bans on fishing throughout the year, it totals 148 days. Some section or the other of the fisher community cannot catch fish during this time. So the fishermen throughout the year contribute to increasing the fish resources. Keeping their contribution in mind, the social safety net for them should be increased. Each family should be given Tk 2000 a month during the ban period. Alternative employment must be arranged for them. A separate payment for ecosystem allocation must be kept for them. Chief scientific officer of the marine fisheries survey unit in Chattogram, Dr Mohammad Sharifuddin said, we will select 100 model villages for the fishermen, train 18,000 youth and given management development training to 64,000 fishermen. In his opening statement, Prothom Alo associate editor Abdul Quayum emphasised on the need for alternative employment for the fishermen. He said that the country's success in boosting hilsa production should be put to use in planning development of marine resources. Executive director of Coast Trust, Rezaul Karim Chowdhury, said child marriage had increased in the fisher community families. There were 20 million members of fishing families in 24 coastal regions of the country. And one in every five will have to shift from the coast due to climate change. He said consideration could be given to lessening the 65-day ban. Social welfare secretary of the National Workers Federation, SM Zakir Hossain, said though rice was supposed to be allocated in two phases during the 65 days, this was being given only once. He said every month 60 to 65 kg of rice and Tk 3000 should be provided. He also said that during the ban, influential quarters caught fish with contraband nets and poisoned bait during the ban. It should be seen whether India's ban could be imposed at the same time, he said. Adviser to the Cox's Bazar Fish Workers Association Mizanur Rahman Bahadur said, climate change causes frequent depressions in the bay and so the fishermen cannot catch fish. During the coronavirus pandemic, the fish workers have not received NGO loans and so they are taking loans at high interest rates from the money lenders. General secretary of Jatiya Sramik Jote, Bangladesh, Naimul Ahsan Jewel said that a data bank is fishermen must be

prepared. When they do not have work they must be given an incentive. They must have proper identity. Many of them are lost at sea and their families have no idea. This will provide social security to them. The UN Food and Agriculture (FAO)'s National Operation Officer Begum Nurunnahar said there was need to increase research on marine fish resources. Assistant professor of the University of Liberal Arts, Bangladesh, Rumana Sultana, called to spread education among the fishing community families.

URL: <https://en.prothomalo.com/bangladesh/initiative-needed-to-protect-fishing-community>

Bangladesh: Bagerhat shrimp industry reeling under double whammy of rain and drought

Shrimp farmers in Bagerhat have been left reeling by the storm surge, and aftermath and excessive drought while the price of shrimp continues to fall due to the outbreak of the Covid-19 epidemic. At present, thousands of enclosures in different areas of Bagerhat are submerged due to excessive rains and abnormal tides and various species of fish including shrimp worth crores have been washed away. Earlier, during cyclones Amphan and Bulbul, the same thing happened which is why farmers are losing interest in shrimp farming. According to the district fisheries division, at least Tk 23 crore has been lost in 19,301 shrimp enclosures in Bagerhat district due to those calamities while farmers say the amount of damage is several times more. In different areas of Rampal and Chitalmari upazilas of Bagerhat district, fences of enclosures have broken down and become one with the other ones. The work of raising the fence of some enclosures is going on and although the rivers and canals have started receding, there is still excess water in many areas. Shrimp farmers say water has flowed over the enclosure at a height of one and a half to two feet in some places. A shrimp farmer from Rampal, Abdul Wahab, said he has shrimp enclosures on 35 acres of land. He has been in the fishing business for 30 years. "Shrimp farming is facing one disaster after another due to storm surge, excess water, drought, and viruses. Cyclones Amphan, Bulbul and the latest abnormal tidal waters have caused extensive damage to my enclosures," he said. He noted that, in addition to these hazards, the price of shrimp has come down due to Covid-19 pandemic and there are almost no buyers of shrimp in the market at present. Yusuf Sheikh, another farmer, said all the fish of his 16 bigha enclosure have been washed away. "Three times in nine months, the enclosures sank under excessive water. Although every time after a disaster he builds enclosures with new vigor this time he could not overcome the loss and has lost interest in fish farming. Other farmers of the area demanded financial assistance from the government. According to the Bagerhat District Fisheries Office, 6,753 fish enclosures in Bagerhat district have been submerged due to recent heavy rains and abnormal tidal waters, causing a loss of Tk 14.26 crore. In May, 5,124 fish enclosures sank in the Amphan tidal wave, causing a loss of Tk 5.71 crore. Bagerhat District Fisheries Officer Khaled Kanak said 19,301 fish enclosures submerged in three phases in different areas of Bagerhat costing Tk 23 crore in damages. Bagerhat District Shrimp Farmers' Association President Fakir Mahitul Islam Sumon said farmers are losing their livelihoods because of one disaster after another. "Shrimp farmers have lost hundreds of crores of taka in three phases from November last year to August this year. He demanded financial assistance from the affected farmers to keep the shrimp industry alive. According to the Fisheries division, there are 76,730 fish enclosures on 68,165 acres of land in Bagerhat district and 65,804 people are involved in shrimp farming.

URL: <https://unb.com.bd/category/Special/bagerhat-shrimp-industry-reeling-under-double-whammy-of-rain-and-drought/56767>

Bangladesh: Fish sufficiency at stake as flood causes loss of Tk 500 crore

Over 72,000 fish farmers have suffered nearly Tk 500 crore loss during the flood that continued to wreak havoc in parts of Bangladesh until Thursday, two months after it began in the north on June 27. Though most of the rivers have fallen below their flood levels, except for the Padma and Meghna in central Bangladesh, low-lying areas of northern and central Bangladesh remained largely under water, preventing fish farming. Flooding of coastal region continued to drive dozens of families out of their homes and wash away new shrimp farms as seawater kept entering through embankment breaches into polders overrunning new land for a week until Thursday. 'The flood caused over Tk 479-crore loss to fish farmers in seven of the eight divisions,' said Azizul Haque, deputy director of aquaculture at the department of fisheries. The estimate that the DoF provided excluded Khulna where shrimp farmers were facing the worst nightmare with an untimely and unexpected flooding that inundated parts of Satkhira and Khulna. Like flood loss estimates from other government offices such as the agriculture, the DoF estimate also greatly mismatched with reports prepared by its field offices. Over 31,000 tons of fish and fries were washed away from more than 91,000 fish farms in the country, the DoF said, adding that the flood-affected farms covered 17,232 hectares. Nearly 45 per cent of the fish farms were in Dhaka division while the second worst affected division was Barishal with 3,259 hectares of fish farms affected. The official estimate released by the DoF showed that in Rangpur the number of affected fish farms were 4,376, a third of what was actually reported by the divisional office of the fisheries authority. Faisal Azam, additional director, DoF, Rangpur, told New Age correspondent in Lalmonirhat that they counted 13,120 fish farms getting affected by the flood causing Tk 185-crore loss in eight districts. Fish farmers see in the underestimation of the loss, the government's intention to deny responsibility as well as a refusal to help the affected farmers. 'The government has never stood by farmers in the past and it does not even have any idea about how many farmers are there in the country,' said Bangladesh Fish Hatchery and Farm Owners Association president Sazzad Hosssain told New Age. He said that 80 per cent of fish farms were affected in the flood-affected area which covered 40 per cent of the country at the peak of the flood. Fish is still cultivated in low-lying areas in the country because it allows easy access to water to farmers having hardly any technological support. Bangladesh is one of the world's leading inland fishing producers with 43 lakh tonnes produced a year, over half of it supplied through cultured fish, said Sazzad. Golan Mostafa, a farmer of Nouhali in Gangachara, Rangpur, saw all three of his fish farms wash away in the flood that ravaged the northern districts for over a month until early August. 'With the latest one, my loss from floods over the last four years reached Tk 32 lakh,' said Mostafa, who made sure to include his name in the government list every year but without ever receiving any help. Anwar Hossain, a famed fish farmer in Rajarhat, Kurigram saw fish in a dozen of his farms wash away during the flood. 'I turned a beggar overnight,' said Anwar, who never received any government help either. DoF's Faisal said that they always asked for allocation to help farmers after every flood that hit the country over the last four years but did not receive anything in response from the government. 'Many people are set to call it a quit on fish farming,' commented Moniruzzaman, a farmer of Goddimari of Hatibandha in Lalmonirhat, who lost Tk 26 lakh investment due to the deluge.

Sazzad said that a crisis seemed inevitable in fish production as the flood damage came after the coronavirus crisis had already halved fish production. ‘The crisis is likely to become visible in December or early next year when fish will be dear,’ said Sazzad. Satkhira’s Ashashuni union parisahd member Tarikul Awal said that seawater washed away shrimp farms in more than half of the total area in his union. ‘There is so much water around that people cannot even dare to go see their farms lost in vast flooded land,’ said Tarikul. He said that dozens of people were living their houses everyday as 20,000 people got stranded in his union alone. The relief assistant the government sent was far less than the demand like elsewhere in the country and people struggled to cook amid flooding and rains. New Age correspondent in Barishal reported that the Kalabadar River devoured a government primary school at Charbogi Chowdhuripara of Sreepur in Mehendiganj. Bangladesh Meteorological Department withdrew the signal No 3 issued to four maritime ports as the sea calmed down on Thursday after the low over north bay weakened.

URL: <https://www.newagebd.net/article/114719/fish-sufficiency-at-stake-as-flood-causes-loss-of-tk-500-crore>

Bangladesh: Allocates loans to support pandemic-hit fisheries sector

The government of Bangladesh has disbursed loans totaling BDT 260 million (USD 3 million, EUR 2.54 million) to help the fisheries sector overcome difficulties caused by the COVID-19 pandemic. The loans, with an interest rate of four percent, were provided by several public and private banks to 1,326 fishermen and farmers in the country as of July, The Financial Express reported, citing Bangladesh Department of Fisheries Additional Director General and Chief Scientific Officer Ramzan Ali. The financial support is part of a stimulus package worth BDT 50 billion (USD 578.5 million, EUR 488.3 million) that the government has introduced to aid the agriculture sector during the pandemic. Additional loans under the program are expected to be allocated to fishermen and farmers in coming months, Ali said. The fishermen and farmers have used the financial support to buy aquafeed and other inputs to boost their fish production. In addition to providing loans, the Ministry of Fisheries and Livestock has taken other measures to assist the local fisheries sector, including offering incentives for fish farmers, fishermen, and shrimp exporters to help them maintain their business operations. The ministry has also asked the Department of Fisheries and other relevant agencies to make sure the supply chain in the fisheries sector is not disrupted during the COVID-19 crisis. A hotline has been launched by the ministry to provide fish farmers and fishermen with information and advice from the government. The aquaculture output in Bangladesh accounts for 56 percent of fish production, which has achieved an average growth of 5.3 percent per year for the last 10 years. The country exported 68,935 metric tons (MT) of fisheries products with the total value of USD 514 million (EUR 433.8 million) in its fiscal year 2017-2018, according to Department of Fisheries data.

URL: <https://www.seafoodsource.com/news/business-finance/bangladesh-allocates-loans-to-support-pandemic-hit-fisheries-sector>

Bangladesh: Madaripur fish farmers suffer loss of over 19C for flood

As many as 3,035 fish farmers in Madaripur district have suffered huge losses, estimated at around Tk19.31crore, in this year's floods that washed away their ponds. After the floods washed away 3,297 ponds in Madaripur Sadar, Shibchar, Kalkini and Rajoir upazilas of the district, about 1,000 tons of fish from the ponds escaped into floodwaters, according to the Fisheries Department in the district. Fisheries Officer Ripon Kanti Ghosh said the flood caused Tk19.31 crore worth of loss to the fish farms and Tk3 crore of it is infrastructural damage. The loss also includes Tk25 lakh worth of baby fish which were washed away by floodwaters. Fish farming plays a vital role in meeting the demand of protein intake for Madaripur's 12.11 lakh inhabitants as the local farms, run by 3,035 farmers, produce almost half of the fish required annually in the district, he also said. Many affected farmers said their loss was extensive this time since most of their ponds were stocked with a large quantity of fish. While speaking with this correspondent, fish farmer Sazzad Molla, from Sadar upazila, said this year he spent Tk 6 lakh on 10 acres of land, and before getting flooded, the ponds had 50 to 60 maunds of fish, each weighing 500 to 600 grams. He said all the fish have been washed away by the floodwater. Otherwise, three months later, he could make Tk 10 to 12 lakh from the fish and 50 percent of it would be profit. Enayet Bepari, another fish farmer from Charkhagadi area of the upazila, said she invested Tk6 lakh on 196 decimal land. He lost the entire investment due to the flood of the Arial Khan River. Without assistance from the authorities concerned, especially without loans or subsidies, the fish farmers might not be able to recover the loss and stand up on their feet again, said Enayet Bepari. Fisheries Officer Ripon Kanti Ghosh said a list of the loss of fish due to ongoing flood water has been sent to higher authorities. "I hope steps will be taken soon, he added.

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/08/25/madaripur-fish-farmers-suffer-loss-of-over-19c-for-flood>

Bangladesh: Fisheries sector entrepreneurs get Tk 260m loans so far

The government has disbursed around Tk 260 million as loans to the entrepreneurs of fisheries sector to help offset the financial losses due to the Covid-19 pandemic, an official said. The loans have been disbursed following the Prime Minister's declared Tk 50 billion stimulus package to save the country's agriculture sector from the financial losses inflicted by the novel coronavirus. "Upon the directives of the government the banks until July have disbursed Tk 260 million to 1,326 entrepreneurs of fisheries sector so far," additional director general and chief scientific officer of the department of fisheries Md Ramzan Ali told the FE. He said several public and private banks have disbursed loans with only four per cent interest. He said that the fisheries department which is under the ministry of fisheries and livestock (MoF&L) has been supervising the matter. He also said that process is underway to provide loans to more fishermen. The fisheries department official further said with the loans, the fish farmers and fishermen could buy fish feeds and others inputs for boosting fish production. The government has taken measures to save the country's fisheries sector from the possible financial damages inflicted by the pandemic. Under the move, the MoF&L has taken short, mid and long-term measures to help save the sector from the pandemic fallout. The measures include giving incentives to fish farmers, fishermen and shrimp exporters to keep the production wheel of the sector running. The official also informed that fisheries and livestock minister S M Rezaul Karim has also requested the

stakeholders and concerned government departments to help the fish farmers and fishermen gear up fish production, supply and marketing. The MoF&L has also directed the officials of the department to coordinate with the deputy commissioners and law enforcement agencies including police to ensure the supply chain of fisheries free from disruption during the coronavirus-induced crisis. The MoF&L has launched hotline telephone number 02-9122557 so that the fish farmers can get help/information/advice from government. Bangladesh is one of the world's leading fish-producing countries. Average growth performance of this sector is 5.26 per cent for the last 10 years. The aquaculture production contributes 56.24 per cent of the total fish production in the country. Bangladesh has already emerged a self-sufficient country in fish production, with a per capita fish consumption of 62.58 g/ day against a set target of 60 g/day. The country exported 68,935 tonnes of fish and fisheries items worth US \$514 million in fiscal year 2017-18, according to the fisheries department.

URL: <https://thefinancialexpress.com.bd/economy/bangladesh/fisheries-sector-entrepreneurs-get-tk-260m-loans-so-far-1597377468>

Bangladesh: Maritime ports asked to hoist local cautionary signal 3

Bangladesh Meteorological Department (BMD) on Wednesday asked the maritime ports of Chattogram, Cox's Bazar, Mongla and Payra to keep hoisted local cautionary signal three. In a bulletin, the BMD said under the influence of strong monsoon and steep pressure gradient over North Bay, squally weather may affect the maritime ports, North Bay, and adjoining areas of Bangladesh. It advised all fishing boats and trawlers over North Bay to remain close to the coast and proceed with caution till further notice.

URL: <http://unb.com.bd/category/Bangladesh/maritime-ports-asked-to-hoist-local-cautionary-signal-3/55907>

Bangladesh: Flooding continues to improve across the country

Flooding across the country is continuing to improve at all river basins, including the Ganges, Brahmaputra and Meghna (GBM) basins, as the onrush of water from hills upstream is dwindling. The water levels of the Brahmaputra and Jamuna Rivers have been in decline may remain steady, while the Jamuna River may continue falling for next 24 hours, according to a bulletin by the Flood Forecasting and Warning Centre (FFWC) issued on Monday morning. The water levels of the Ganges and Padma Rivers are also falling and may continue to recede for the next 48 hours. Except the Kushiara, the rivers of the upper Meghna basin in the north-eastern region of the country are falling as well and the trend may continue for the next 24 hours. The water level of the rivers around Dhaka decreased on Monday and it will continue to fall for the next 48 hours, the bulletin said. Flooding may improve in Sirajganj, Tangail, Natore, Manikganj, Rajbari and Faridpur districts as well as the low-lying areas adjacent to Dhaka city in the next 24 hours. Normalcy has started returning to the flood victims in Rajshahi region, as the flooding has improved in the Ganges basin, the BSS Rajshahi correspondent reports. "We are hopeful of further improvement in the flooding in Rajshahi division, as precipitation and the onrush of

water from hills upstream are dwindled at a significant rate, Superintending Engineer of Bangladesh Water Development Board (WDB) Mukhlesur Rahman told BSS. Of 30 river points monitored in the Ganges basin on Monday, water levels declined at 21 points, went up at eight points and remained stable at one point. The rivers of the basin were flowing below the danger level at 28 points and above the danger mark at four points on Monday morning. A declining trend in the water level was recorded at all four points of the Ganges River basin in the last 24 hours ending 9 am on Monday, Mukhlesur said. The Ganges River was flowing 170cm, 182cm, 107cm and 99cm below the danger levels at Pankha, Rajshahi, Hardinge Bridge and Talbaria points, respectively, while the Padma River was flowing 14 cm above the danger mark at Gualundo point, he added. Besides, the water level of the Korotoa River and the Jamuna River under the Brahmaputra Basin, flowing through Bogura and Sirajganj districts, also saw a falling trend. FFWC executive engineer Arifuzzaman Bhuiyan said water levels decreased at the 16 river points in both the Ganges and Brahmaputra basins under Rajshahi division on Monday morning. He also said the rivers were flowing below the danger level at 14 points and above the danger mark at two points. Bhuiyan said there is no possibility of any new flooding this year. In Jamalpur, flooding improved significantly as the water level of the Jamuna dropped sharply, the BSS Jamalpur correspondent reports. The Water level of the Jamuna River continues to fall and it was flowing 90cm below the danger level at Bahadurabad ghat point at noon, BWDB officials said.

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/08/10/flooding-continues-to-improve-across-the-country>

Bangladesh: Chandpur is a happy place for Hilsa trade. But fishermen lament shrinking catch from rivers

The fishermen complain that the nearby estuary of Padma and Meghna rivers is bereft of Hilsa. All the fish seen at the trading hub is captured at different points of the deep sea, not at the Padma-Meghna estuary. “There is hardly any Hilsa left in the rivers of Padma and Meghna, said Shabe Barat, general secretary of Chandpur Matsya Banik Samity, an association of fish traders. He holds out hope that more Hilsa would be caught in the estuary soon again. Hilsa fishing at the sea resumed after a 65-day ban, but hardly any fish was caught in the nets of the local fishermen. Increased siltation in the rivers has reduced the yield of Hilsa, said Abdul Gafur, a fish trader. Some Hilsas are caught when the rivers have a better water flow at the end of the season, he said. “Hilsa is found in the rivers in Chandpur during winter, but those are the very small ones called Jatka, said Gafur Jamadar. Hilsas from the coast and from the rivers have a big difference in prices. A Hilsa from the sea weighing one kg is sold for Tk 700-800 per kg, while the one from Chandpur rivers is sold for Tk 1,000 to Tk 1,100 per kg during the season. Before the Eid, a maund (37.32 kg) of Hilsa with each fish weighing up to 700 grams was sold for Tk 25,000, while the same quantity from Chandpur rivers was sold for Tk 38,000. Many customers from across the country visiting the market to buy ‘Chandpur hilsa’ at a lower price are returning home empty-handed — dejected. “Those Hilsas weighing a kg that I used to buy for Tk 800-900 are now sold for Tk 1,000-1,200, said Emdadul Hasan, a local resident. “It is expensive but the Hilsa from the river Padma tastes much better than those from the sea. But I failed to get some, said Mustafa Amir who travelled all the way to Chandpur from Dhaka. The Harina pier, another

busy place for fish, is situated 6km away from central Chandpur where local fishermen sell their catch. In the past years, they were seen coming with trawlers filled with Hilsas. This year, scenes are dismal: their empty trawlers are seen stranded at the pier. Hossain Ali came back from the river with only six medium-sized Hilsas, a few days prior to the Eid day.

URL: <https://bdnews24.com/bangladesh/2020/08/02/chandpur-is-a-happy-place-for-hilsa-trade.-but-fishermen-lament-shrinking-catch-from-rivers>

Bangladesh: A Quarter of Bangladesh Is Flooded. Millions Have Lost Everything

Torrential rains have submerged at least a quarter of Bangladesh, washing away the few things that count as assets for some of the world's poorest people their goats and chickens, houses of mud and tin, sacks of rice stored for the lean season. It is the latest calamity to strike the delta nation of 165 million people. Only two months ago, a cyclone pummeled the country's southwest. Along the coast, a rising sea has swallowed entire villages. And while it's too soon to ascertain what role climate change has played in these latest floods, Bangladesh is already witnessing a pattern of more severe and more frequent river flooding than in the past along the mighty Brahmaputra River, scientists say, and that is projected to worsen in the years ahead as climate change intensifies the rains. "The suffering will go up, said Sajedul Hasan, the humanitarian director of BRAC, an international development organization based in Bangladesh that is distributing food, cash and liquid soap to displaced people. This is one of the most striking inequities of the modern era. Those who are least responsible for polluting Earth's atmosphere are among those most hurt by its consequences. The average American is responsible for 33 times more planet-warming carbon dioxide than the average Bangladeshi. This chasm has bedeviled diplomacy for a generation, and it is once again in stark relief as the coronavirus pandemic upends the global economy and threatens to push the world's most vulnerable people deeper into ruin. An estimated 24 to 37 percent of the country's landmass is submerged, according to government estimates and satellite data. By Tuesday, according to the most recent figures available, nearly a million homes were inundated and 4.7 million people were affected. At least 54 have died, most of them children. The current floods, which are a result of intense rains upstream on the Brahmaputra, could last through the middle of August. Until then, Tajjul Islam, a 30-year-old sharecropper whose house has washed away, will have to camp out in a makeshift bamboo shelter on slightly higher ground. At least he was able to salvage the tin sheet that was once the roof of his house. Without it, he said, his extended family of nine would be exposed to the elements. Mr. Islam's predicament is multiplied by the millions among those on the front lines of climate change. Vanuatu is literally sinking into the Pacific. Pastoralists in the Horn of Africa are being pushed to the edge of survival by back-to-back droughts. In the megacity of Mumbai, the rains come in terrifying cloudbursts. The inequity is striking, no matter which way you slice it. One recent analysis found that the world's richest 10 percent are responsible for up to 40 percent of global environmental damage, including climate change, while the poorest 10 percent account for less than 5 percent. Another estimated that warming had reduced incomes in the world's poorest countries by between 17 percent and 30 percent. Poor countries have long sought a kind of reparations for what they call loss and damage from climate change. Rich countries, led by the United States and European Union, have resisted, mainly out of concern that they could be saddled with liability claims for climate damage. It doesn't help

that the rich world has failed to deliver on a \$100 billion aid package to help poor countries cope, promised as part of the 2015 Paris accord. Coronavirus recovery plans have lately begun to open the door to new discussions about debt relief linked to climate resilience. In June, the Alliance of Small Island Developing States, led by Belize, pressed for what it called a new compact with private and bilateral creditors “to deliver debt relief and increase resilience financing. Caribbean countries, with their economies ravaged by hurricanes in recent years, now find themselves falling deeper into debt as the pandemic dries up tourism revenues. A study commissioned by the United Nations found that the 20 most climate-vulnerable countries have paid more than \$40 billion in additional interest payments because of losses stemming from extreme weather events. In Bangladesh, the flooding of the Brahmaputra reflects the unequal pain of extreme weather. The floods began in June. In most cases, heavy rains upstream in neighboring India swelled the river basins that flow through Bangladesh before draining into the Bay of Bengal. Those who live along the Brahmaputra are no strangers to flooding. When the river swells, work stops, land erodes, people move to higher ground and wait for the waters to recede. They rely on their savings or aid to feed themselves. This year was different, though. By the time the river flooded, in June, people were already running out of food, said Mr. Hasan of BRAC. Because of the lockdown, working people had all but stopped working. Remittances from relatives abroad, many of them newly unemployed, had dried up. In the countryside, people had begun to sell their goats and cattle at bargain prices. They had no food to eat. When the river first swelled, Tajjul Islam, the sharecropper from the Kurigram district in the country’s north, rushed to save his livestock cattle, goats, chickens, ducks. A few, he rescued. Many, he lost. The river took away the small vegetable garden next to his house, then his house, where he had stashed roughly 1,300 pounds of rice. Then it washed away a small shop that he ran when he wasn’t working on other people’s land. Also the school that his 6-year-old son attended in the village. All he can think of now is where he can go to earn a living. He is the sole breadwinner of his extended family. All nine of them had been living on rice, boiled potato and lentils. Vegetables are unaffordable, let alone fish or meat, which, he said, “are now unimaginable. Akkas Ali, 48, had already been through a bad flood. He moved to Mr. Islam’s village six years ago, when his old village washed into the Brahmaputra. Two weeks ago, as the river rose, breaking through its embankments, his four acres of farmland went underwater. The village mosque and market washed away. So, too, a secondary school where more than 250 children were enrolled. Mr. Ali worried where they would go to school now, if at all. His house still stood this week, but the river, which had been a quarter mile away, had rushed dangerously close. He was sure it, too, would wash away soon. The Brahmaputra is a fearsome, shape-shifting 2,400-mile river that erupts from the Tibetan Himalayas and spills into northeastern India before merging with the Ganges in Bangladesh and emptying into the Bay of Bengal. It irrigates vast areas of farmland but it’s also unpredictable, often swallowing the islands that form within it, like the one where Mr. Ali’s village once stood. Climate change, too, is altering its fate and that of the people who live along its banks. The rains are more unpredictable and the river is rising above dangerous levels far more frequently than it did before, according to 35 years of flooding data analyzed by A.K.M. Saiful Islam, a water management expert at the Bangladesh University of Engineering and Technology in Dhaka. The last five years alone have brought four major floods, eroding people’s capacity to adapt, Dr. Islam said. More and worse floods loom. Even if average global temperature increase modestly by 2 degrees Celsius over the average for preindustrial times flooding along the Brahmaputra in Bangladesh is projected to increase by 24 percent. With an increase of 4 degrees Celsius, flooding is projected to increase by over 60 percent. No matter what, Dr. Islam said, the country

will have to adapt. That requires money to dredge rivers, maintain embankments, improve drainage and offer aid to those who are repeatedly displaced and impoverished. Advocates for the poor say Bangladesh's predicament with disasters illustrates exactly why climate negotiations, postponed until 2021, need to deliver compensation for people who have not caused the problem. "People are losing whatever little they have, said Farah Kabir, the Bangladesh country director for ActionAid International. "When and how are they going to be supported? When is the global community going to take responsibility?"

URL: <https://www.nytimes.com/2020/07/30/climate/bangladesh-floods.html>

Bangladesh: Increase R&D on fish production: Fisheries Secretary

Fisheries and Livestock Secretary Raunak Mahmud on Monday asked officials to ramp up research and development to increase the production of native fish species. The Fisheries and Livestock Secretary came up with the remark during an online views-exchange meeting with the officials concerned of the Fisheries Department and Divisional Fisheries Department, on the closing day of the National Fisheries Week-2020. Additional secretary to the Fisheries and Livestock Ministry Shyamol Chandra Karmakar, Director General of Department of Fisheries Kazi Shams Afroz, and other high officials of the ministry were present at the meeting. "We need to work more for doubling the fish fries released from previous year to increase the country's fish production and we need to produce more fish fry in the government-owned hatcheries and provide them to the people involved in fish farming after the improvement of flood situation, said Raunak. He also asked to involve the owners of the private hatcheries in the fish fry releasing activities. This year, the Fisheries Week has been observed from July 21 to 27 with the theme 'Machh Utpadan Briddhi Kori, Shukhi Samridha Desh Gori' (Let us increase fish production and build a happy and prosperous country). Prime Minister Sheikh Hasina inaugurated the National Fisheries Week 2020 formally on July 22 by releasing fish fingerlings into the lake of her official residence Ganobahaban in the city.

URL: <https://unb.com.bd/category/Bangladesh/increase-rd-on-fish-production-fisheries-secretary/55248>

Bangladesh: Reaping blue economy benefits: Supporting coastal fishing communities essential

Fish is an integral part of food habit of people in Bangladesh. About 19 million people are directly and indirectly involved in this sector. Contribution of the fisheries sector to the national GDP (Gross Domestic Product) is 3.57 per cent. Fish production in Bangladesh reached 4.3 million tonnes in 2019, which is about a six-time increase from 1980, whereas the country's population increased a little over two times during this period. Bangladesh has always abounded with inland capture fisheries and different aquatic fauna and flora, and until 1960, those were enough to meet the daily needs of domestic protein and other necessities. At present, about 260 fish species of different sizes, color and taste from darkina to rohu and about 34 species of chingri from gurachingri to goldachingri are available in the country. But fish biodiversity and its production from inland capture fisheries have witnessed a serious decline, with efforts in rice

production and construction of flood control, drainage and irrigations projects (FCD & FCDI) intensifying around the country. In the 1960s, Bangladesh gradually stepped into pond aquaculture through a collection of carp seeds from large rivers. Later by means of a decade of dedicated efforts, including recruitment of a large number of technical fisheries graduates, the Department of Fisheries (DoF) established itself as a prominent department of the government and started promotion of aquaculture of carps and shrimps/prawns in the country. The production of fish and fishery products was merely about 0.8 million metric tonnes in 1980s. Through the concerted efforts of the Department of Fisheries (DoF), Bangladesh Fisheries Research Institute (BFRI) and Bangladesh Fisheries Development Corporation (BFDC), universities and private sector initiatives, the fisheries sector has gradually overcome the problems related to fish breeding, feeds and feeding and pond water quality management and developed diversified modern production technologies. Thus, the growth of the fisheries sector has surpassed an all-time record again with a current fish production of 4.3 million tonnes. Now we are a leading fish producing country in the world. Dream for future The current fish production has made Bangladesh self-sufficient with a surplus of about 250,000 tonnes of exportable fin and shell fishes. We have the potential of producing up to 6.5-7.0 million metric tonnes over next 15-20 years. In doing so, all ponds should be brought under the scientific modern aquaculture. We have to triple the per unit production from all ponds through mechanisation. In the future, all rice fields located in the relatively low-lying areas may be used for two crops of rice production and one crop of fish production. We need to bring about a paradigm shift in shrimp aquaculture. Instead of low production gher system, we need to introduce the pond-based culture system with smaller units and bottom-lined system with aeration. Freshwater prawn culture in 'gher' may continue with diversification through other fin fishes and integration of planned dyke-cropping. Except the current PLs issue, our gher system is so far unique in the world. Mud crab is another highly desired species due to its taste and delicacy, grown in the southeastern countries. Bangladesh needs to pick up its pace in coastal and marine finfish farming. One most promising and much-talked-about species is sea bass, in which breeding we haven't made any success. Its culture is in progress from natural source of seeds but we need to hasten our success in the sea bass breeding. Sea bass has a big market at home and abroad. Not only sea-bass, at least five marine and brackish water fish species should be bred in the next five to ten years to bring a true success to support our much-cherished blue economy. We have made a commendable success in Hilsa fish conservation and management. Bangladesh is the largest producer of Hilsa with a production of over 0.5 million tonnes that has made us the third inland capture fish producer in the world over the last four years. We have the potential of producing 0.7 million tonnes of Hilsa from coastal rivers and marine environment. We may start export of Hilsa and value added Hilsa products keeping 0.5 for domestic consumption. The river catfish Pangas may be conserved by refraining from catching of small Pangas using detrimental traps, Chai. Marine fish production is low and contributes only about 15 per cent to total fish production, but there is a room for doubling this production in 10 years next. Marine fish catch increased in 2019, possibly due to 65 days of marine fishing ban. Both marine fish conservation and sustainable exploitable should go hand in hand to increase biodiversity and production of fish and crustaceans from the Bay of Bengal. Strengthen research and extension efforts The BFRI and universities will continue to develop diversified production technologies and better management practices for both the aquaculture and small-scale fisheries as well as support the government with policy frameworks. We need to strengthen research on genetically improvement of carps, low cost plant-based feeds, best practices and diseases control, mechanisation in aqua-farming, and production of value-

added products. The DoF will strengthen its efforts in training and dissemination of modern aquaculture technologies and high yield carp variety (HYCV), and enhance conservation and management of hilsa and marine fishes, ensuring participation of various stakeholders. We need to modernise our fish landing and post-harvest facilities including provision of improved cold chain. BFDC may introduce countrywide marketing of farmed and harvested fishes in insulated vans. A transformative approach of generous public support for resilient coastal fishing communities is essential to reap the benefits of blue economy and improve the compliance of conservation measures. Our concerted and consistent efforts towards science-based sustainable management of coastal and marine fisheries by improving the resilience of the ecosystems and coastal communities reliant on it will translate our dream into reality with increased marine fish catch and realising the blue economy. We are not far away when fish and fisheries products from Bangladesh will find large overseas markets.

URL: <https://thefinancialexpress.com.bd/views/reaping-blue-economy-benefits-supporting-coastal-fishing-communities-essential-1595496650>

Bangladesh: Use modern methods to save local fish from extinction: PM

Prime Minister Sheikh Hasina on Wednesday urged the people to protect the local species of fish from extinction by using advanced and modern fish farming methods. “The Prime Minister has asked the people to protect the native species of fish from extinction coming out of the traditional fish farming methods by adopting advanced and modern systems, said PM’s Press Secretary Ihsanul Karim. Sheikh Hasina made this call while inaugurating the National Fisheries Week 2020 formally in the morning by releasing fish fingerlings into the lake of her official residence Ganobahaban in the city. She said there are some 475 species of marine fish and more than 250 varieties of freshwater fish in the country. There is also a huge demand for shrimp, crabs, snails and other fisheries resources in the regional and international markets, she added. Sheikh Hasina said as a result of investment in the fisheries sector, new jobs are being created on one hand and on the other hand the national economy is being enriched. Realising the importance of the fisheries sector, the Awami League government has taken various effective and fruitful measures to protect the country’s fisheries and boost fish production, she said. “As a result, fish production has increased by more than 50 percent in the last 11 years, she said, adding that according to the 2020 report of the Food and Agriculture Organization of the United Nations, Bangladesh has risen to the second position in the world in terms of the growth rate of freshwater fish production. “The country today is self-sufficient in fish production. At present, we are consuming 62.58 grams of fish against the daily demand of 60 grams per capita, said the Prime Minister praising the role of the concerned for the development of this fisheries sector. She thanked all the concerned, including the staff of the Department of Fisheries, for the way they continued to produce, market and export fishes at risk amid the outbreak of Covid-19 pandemic. “This trend will have to be continued for the interest of the country, she said. Not only meeting the nutrition demand of the country’s people by increasing the production of fishes, but also generation of massive employment as well as earning foreign currencies from fish export are one of the government’s main targets, said the Prime Minister. She recalled that Father of the Nation Bangabandhu Sheikh Mujibur Rahman officially released fish fry at Ganobahaban Lake in 1973 to inspire the people to increase fish production through farming. The Father of the Nation had

mentioned that fish alongside jute, leather and tea as the export products of Bangladesh as well as hoped that fisheries would be the second major source for earning of foreign currencies. Fisheries and Livestock Minister SM Rezaul Karim said some 6.5 million people got employed in the fisheries sector in the last 11 years and income of fish farmers and fishers increased. Fisheries and Livestock Secretary Rawnak Mahmud, PMO Secretary Md Tofazzel Hossain Miah and PM's Press Secretary Ihsanul Karim were present on the occasion. This year, the Fisheries Week is being observed from July 21 to 27 with the theme 'Machh Utpadan Briddhi Kori, Shukhi Samriddha Desh Gori' (Let us increase fish production and build a happy and prosperous country).

URL: <http://unb.com.bd/category/Bangladesh/use-modern-methods-to-save-local-fish-from-extinction-pm/55006>

Bangladesh: Women in online fish market: Changing social norms and the economy

Women entrepreneurs told Dhaka Tribune of their bitter experiences when they started their fish business, a sector traditionally dominated by men in this country. Women in Bangladesh are not only contributing to the development of the country's business sector but also have been playing a vital role in changing social norms of doing business. Going against the tide, several women entrepreneurs are now selling fresh fishes online instead of traditional women-oriented businesses like boutiques and ornaments. Farzana Akter, a new entrepreneur and a journalist of a private television, started selling fresh-water fishes through the Facebook page "River Fish on March 29 last year. With an initial investment of only Tk10,000, her efforts turned her into a successful entrepreneur within a year with a profit margin of Tk8.1 lakh per month. "I tried starting business earlier and failed. But, I never gave up and started again. Since I hail from the Haor area, it became a plus point for me to get success, Farzana said while talking to Dhaka Tribune. Through her Facebook page, she sells formalin-free natural and non-frozen fishes directly from rivers, Haors and swamp areas, which quickly gained popularity among consumers across the country. Farzana said although she initially had no idea about fishes, their name or nature, she put her effort to learn more on fisheries from the internet and local fish markets. She also received help from fisheries officials in understanding the difference between farmed fishes and naturally-harvested fishes. After receiving huge responses from consumers, she hired employees for digital marketing and established an office and a warehouse just after five months into her business venture. "I re-invest from my profits. Within the eighth month, my sales rose to Tk80,000 to Tk1.2 lakh per day. Now, it is around Tk1 lakh to Tk1.4 lakh per day and my profit is around Tk8.10 lakh per month, She said. Currently, Farzana's business has 19 permanent employees with salaries ranging from Tk15,000 to Tk40,000 per month, and also few part-time employees. Delivery persons earn from Tk25,000 to Tk50,000 per month from her business. More women entrepreneurs entering the sector Like Farzana, two other women entrepreneurs, Aysha Siddika and Pritilota, have also started selling fish online. However, they established their business through WE, a Facebook-based platform founded by Razib Ahmed, former and founding president of e-Cab. Aysha Siddika started "fishdhaka.com with Tk 45,000 on January 8 after leaving 13 years of service in the banking and garments sector. She currently has eight employees and is earning sales worth Tk12,000 to Tk15,000 per day. Asked why she chose this business, Aysha told Dhaka Tribune: "I grew up in a fish export and packaging area in Khulna.

My father and my uncle had fish farms and I know about this sector. Therefore, I can serve better, fresh and formalin-free fishes to my consumers. Pritilota, an MBA student, entered into the sector just a month ago with her facebook page “Chai Chandpur er Ilish. “I sell only Ilish (Hilsa) fish since I live in Chandpur with my husband. I am now branding myself, not thinking about profit. This is because people only buy from those who they know, she said. Fighting social norms Women entrepreneurs told Dhaka Tribune of their bitter experiences when they started their fish business, a sector traditionally dominated by men in this country. “At the beginning, some customers became puzzled when they learned that I was a woman selling fish online. I faced awkward questions on why I was selling things like fish. These people think women can only run a boutique business, not fish business, Farzana said. “But their criticism gave me more strength. I worked harder to make myself a successful entrepreneur to prove them wrong and to change this social norm, she added. Pritilota said she sometimes feels uncomfortable while collecting fish from the wharf because of the negative attitude of people there. But, she has gradually adapted to it. Aysha also has similar experiences. “At first, my friends and relatives thought I can’t do this business since I am a woman, but later they got inspired by me. Sometimes labourers used bitter words and teased me when I went to the fish market early in the morning amid a crowd full of men said Aysha. Challenges for women entrepreneurs When asked about the challenges women entrepreneurs face in this sector, all three women fishmongers said that apart from holding the position of a woman entrepreneur in the fish business, collecting and delivering fresh fishes to consumers has been another major challenge for them. “Consumers in Dhaka find rotten fishes after buying them from the kitchen markets. Upholding their trust by providing fresh fish is a challenge, Farzana added. Meanwhile, Aysha said: “Delivering fresh fishes by courier or delivery person is important. I recruited my own delivery man so that I can deliver on time. “Fishmongers are considered as low class people in our society. It is not right to judge people on the basis of their occupation. I chose this as it is a challenge for me instead of going for a boutique. Pritilota added. By establishing herself as a successful fishmonger, Pritilota wants to turn herself into a role model for the society so that no one feels shy to do fish trade. “It is true that there are many women entrepreneurs working with food, clothing or jewellery, but there are very few women entrepreneurs working with fish. This is actually due to the negative attitude of the society. Women entrepreneurs now can easily establish through online by opening a facebook page, said Razib Ahmed. “We are working with local products in the WE Group, which is creating a customer base platform. It is very effective for women entrepreneurs from every sector, he mentioned. “However, challenges in logistics are to be blamed for the negative attitude. If good courier service is available, many women will be able to do fish business. Maybe it will take another year but it will happen, he added.

URL: <https://www.dhakatribune.com/bangladesh/2020/07/16/women-in-online-fish-market-changing-social-norms-and-the-economy>

Bangladesh: Almost 50% coastal fishermen in food crisis due to fishing ban: Study

About 70 percent fishermen in coastal areas have no work at the moment because of the ongoing 65-day ban on fishing in the Bay of Bengal. And due to the lack of income, coupled with the failure to include their names in the government aid list, about 50 percent coastal fishermen can no longer afford three meals a day, according to a study conducted from June 23 to July 1 by

non-governmental organisation COAST Trust. COAST prepared its report based on information taken from 264 fishing families in the coastal districts of Cox's Bazar, Lakshmipur, Bhola, Patuakhali, Khulna and Bagerhat, according to a press release issued on Tuesday. Iqbal Uddin, a researcher at COAST Trust, said the study was conducted to analyse the impact of the ban on fishermen's socio-economic lives. According to the study, 42.4 percent of the families had an average monthly income of Tk6,000-Tk10,000 before the ban. But now 60.8 percent of the families have no income at all. As a result, whereas 95.8 percent of the families used to eat three meals a day before the ban, only 51 percent of the families can eat three times a day now. The government is providing 43kg of rice per month to help out the fishermen's families during the ban. But even though 65.8 percent of the fishing families got the rice, 34.2 percent of the families have yet to receive the government aid. Half of those who got the rice received it about a month after the ban began. Furthermore, 40 percent of the fishermen complained that despite fulfilling all conditions, their names did not appear in the government list for aid, so they got nothing. According to the study, 67.5 percent of those receiving rice as government aid said rice was not enough to support their families as there was no cash assistance to meet other household expenses. Some 96.1 percent of the fishermen did not receive any assistance under any other social safety net programmes. The study also found that violence against women in fishermen's families increased during the ban. Rezaul Karim Chowdhury, executive director of COAST Trust, said, "Most of the fishermen lead inhumane lives during the fishing ban. Rice assistance alone is not enough during the ban; cash assistance is also needed for other household expenses." The fishing ban began on May 20 this year and will end on July 23.

URL: <https://tbsnews.net/bangladesh/almost-50-coastal-fishermen-food-crisis-due-fishing-ban-study-103099>

Bangladesh: Submerged homes, flooded fields, derailed lives: The aftermath of Cyclone Amphan in Bangladesh, in photos

In the aftermath of Cyclone Amphan, with homes and livelihoods washed away, most residents in Bangladesh try to survive, some migrate. Sahil Uddin Moral, 57, used to work as a labourer to support his family of six. They live in Kurikahnia, a village in the district of Satkhira, south-west Bangladesh. In May, Cyclone Amphan washed away their hut. Moral has no money to build another, and no work as the cyclone destroyed the fisheries where he used to work. "How do we survive now? Moral said. "I have no way other than leaving Satkhira. I am going to Sylhet [in north-east Bangladesh] tomorrow. I have some relatives there who left Satkhira a few years ago. If I can get some work, I will take my family members there. Cyclone Amphan made landfall in West Bengal, India, on 20 May, and devastated the area, with indigenous residents worst affected. The effects were just as severe in Satkhira, the adjacent district in Bangladesh. The cyclone washed away embankments, homes and the fisheries on which thousands of families used to survive. Moral said, "During the cyclone, we were at the cyclone shelter. When we returned, we found water everywhere. We don't know how we will recover from this damage. According to government estimates, approximately 150 kilometres of embankments – meant to protect villages and farms from storms and high tides that bring saline water to this coastal region – were washed away, 55,667 houses damaged beyond repair and 18,235 drinking-water points destroyed. Many freshwater ponds are flooded with saline water.

URL: <https://www.firstpost.com/world/submerged-homes-flooded-fields-derailed-lives-the-aftermath-of-cyclone-amphan-in-bangladesh-in-photos-8563401.html>

Bangladesh: EU supports early action in Bangladesh anticipating severe floods

The European Union (EU) is providing 100,000 for early anticipatory action to reduce the negative impact on the most affected communities due to floods in Bangladesh. EU's aid is coming in response to the severe flooding that submerged many parts of Bangladesh in late June, reports UNB. The aid will benefit over 3,300 families in some of the hardest hit areas in Kurigram, Gaibandha, and Jamalpur districts, said the EU Embassy in Bangladesh on Tuesday. The EU funding supports the Bangladesh Red Crescent Society in using reliable scientific forecast information and risk analysis to foresee the potential impact of the floods, and to take early actions aimed at reducing human suffering, losses and damage. The aid includes evacuating the most vulnerable communities to safe shelters with their assets and livestock, providing unconditional cash grants, as well as providing first aid treatment. The funding provided is part of the EU's overall contribution to the Forecast-based Action (FbA) by the Disaster Relief Emergency Fund (DREF) of the International Federation of Red Cross and Red Crescent Societies (IFRC). Heavy monsoon rainfall triggered extensive floods in northern and eastern areas of Bangladesh, causing extensive damage to homes and farmlands across the nation's vast northern regions. Thousands of people have found themselves marooned or displaced, said the EU. The flooding could affect up to a million households over the first days of July, it said.

URL: <https://www.dhakatribune.com/bangladesh/2020/07/07/eu-supports-early-action-in-bangladesh-anticipating-severe-floods>

Bangladesh: Dairy seeks Tk 50 bln for fisheries, livestock

Bangladesh Dairy Development Forum (BDDF) has demanded Tk 50-billion (\$523 million) allocation for fisheries and livestock in the next budget from the proposed Tk 31.93 billion to fight coronavirus impacts. It sought collateral-free loans for marginal cattle farmers, subsidy for fodder and farm machinery, and tax exemptions on local dairy products to offset the COVID-19 shock on the sector. The platform also exhorted the government to impose at least 25-per cent duty on all types of imported dairy products in the next fiscal to save the local industry. The BDDF made the demands through a virtual press conference styled 'Reaction to National Budget 2020-21: How the Dairy Budget Looks Like' hosted on Thursday. BDDF vice-presidents Uzma Chowdhury and Dr Quazi M Emdadul Huque, joint secretary Dr KBM Saiful Islam and communications secretary Mutashim Billah addressed the event chaired by BDDF president Umme Kulsum Smrity. The BDDF, an advocacy platform for local dairy industry, placed a 12-point demand to help the sector recover from the fallout of the pandemic. It suggested slashing duty on cattle feed imports and subsidising farmers in buying fodder and farm tools. The BDDF also sought collateral-free loans to marginal farmers under the stimulus package and called for creating a 'guarantee fund' under a medium to long-term strategy for mechanising dairy farms. Other demands include tax holiday for dairy industry for 10 years, cattle insurance to reduce risk

of investment, preventing meat import, approving dairy policy and forming a dairy development board. In a presentation, Dr Islam said local dairy industry meets nearly 63-per cent demand for dairy products in Bangladesh while the remaining 37 per cent is imported. The demand for dairy products now stands at 15.20 million tonnes. Of them, 9.9 million tonnes are locally produced, he disclosed. Dr Islam said the coronavirus outbreak has caused an estimated Tk 40 billion in losses to the industry in the last three months, around Tk 500 million a day. There is only 10-per cent import duty on milk powder in Bangladesh but other regional countries have imposed up to 50-per cent duty to safeguard industry, he added. “We propose imposing at least 25-per cent duty on the import of all types of milk and dairy products to protect the local industry.” BDDF vice-president Dr Huque suggested imposing anti-dumping duty on milk products.

URL: <https://www.salaamgateway.com/story/bangladesh-dairy-seeks-tk-50-bln-for-fisheries-livestock>

Bangladesh: WorldFish to support Amphan-affected fishers in Cox’s Bazar

WorldFish Bangladesh has extended its support among the cyclone Amphan-affected fishers in Cox’s Bazar. The organisation will operate a humanitarian assistance of \$29,000, or Tk 2.46 million, to 426 households in four upazilas of the district under its USAID-funded ECOFISH II project activities in zones of resilience, according to a press release. It has prepared a list of the victims and nature of damage to boats, houses and livestock, etc. in collaboration with local government representatives, Department of Fisheries and upazila administration. With the allocated amount, the organisation will distribute goats, sheep, chickens, ducks and vegetables, and seeds among 200 fisher families and help reconstruct 44 fishing boats at Teknaf, Ukhiya, Moheshakhali and Cox’s Bazar Sadar upazilas. It will also help renovate 25 damaged dry fish yards that belong to fisherwomen and rebuild 100 fishing household shelters. Worldfish will also provide support to 50 fish labourers working at the Bangladesh Fisheries Development Corporation (BFDC) landing centre, and seven seaweed and green mussel farmers involved in marine farming. WorldFish would also seek support from the district administration and the World Food Program to provide support to approximately 10,600 fish processing labourers who have no fisher ID cards to cope up with the marine fishing ban and the Covid-19 pandemic situation.

URL: <https://thefinancialexpress.com.bd/national/worldfish-to-support-amphan-affected-fishers-in-coxs-bazar-1593499275>

Bangladesh: Important coastal barrier at risk from increased pollution

Bangladesh coal plants threaten world’s largest mangrove forest, Human Rights Watch (HRW) has said. Cyclone Amphan, the most powerful storm to strike in the Bay of Bengal in 20 years, made landfall on the India-Bangladesh coast last month. Amphan ripped off roofs, washed away homes and flooded farms. Crucially, Bangladesh was able to mitigate impact and save lives because of its robust emergency response system with early warnings and mass-evacuations. A statement to this regard was issued on its website on June 18. But coastal communities were also

protected by Bangladesh's natural storm shield: the Sundarbans. A protected World Heritage site, this mangrove forest holds land together with its roots as the tides rise. As climate change increases the intensity of extreme weather events like Amphan, the Sundarbans are at risk when they are needed most. But the Bangladesh government threatens to destroy these life-saving forests by building coal-fired power plants that could subject them, and the nearly 2.5 million people who depend on them for their livelihoods, to harmful pollution. And while the mangroves slow climate change by soaking up carbon, coal-fired plants contribute greenhouse gas emissions that fuel global warming. Of particular concern is the proposed Rampal Thermal Power Plant, just north of the Sundarbans. Scientists and activists have repeatedly voiced concerns that the plant could spell disaster for the world's largest mangrove forest. But the government has fought calls to cancel or relocate the project, using tear gas and rubber bullets against protestors and insisting, contrary to scientific evidence, that the plant will do no harm. Meanwhile, international efforts to protect the Sundarbans have been stymied. A recommendation by the International Union for Conservation of Nature to add the Sundarbans to the list of World Heritage Sites in Danger was rejected by UNESCO's World Heritage Committee, which is chaired by China. The Chinese, Bosnian, and Cuban delegations even passed an amendment erasing mention of the Rampal power plant and two joint Bangladesh-China coal-fired power plants from the decision. Climate change is a very real, immediate threat to the nearly 165 million people in Bangladesh where a one-meter sea level rise could submerge almost 20 percent of the country and displace millions. Implementing rights-respecting climate policies that are consistent with the best available science is part of the government's duty to respect, protect, and fulfill human rights. Bangladesh has been a global leader in climate change adaptation and accordingly should act swiftly to protect the mangroves. If not, it risks making the climate crisis worse while facing even more powerful cyclones without the country's natural defense system.

URL: <https://thefinancialexpress.com.bd/national/important-coastal-barrier-at-risk-from-increased-pollution-1592657246>

Bangladesh: Frozen food exporters demand cut in corporate tax

Exporters of frozen food products, especially shrimp, have demanded that the government reduce corporate tax from 32.5 per cent to 15 per cent in the proposed national budget to help the sector recover from a significant fall in international sales. The demand for frozen shrimp and similar luxury food items has fallen drastically in western countries, Bangladesh's main export market, due to the ongoing novel coronavirus pandemic. Not only did this lead to a decline in shipments but also got international buyers, who were mostly European, to either return or cancel several consignments of frozen food items amounting to Tk 460 crore in value. Traders have been exploring Russia and China as potential export destinations over the past few years but the Covid-19 outbreak has laid waste to consumer demand in both nations. In order to recoup their losses, exporters attempted to borrow funds from the banking sector, using the returned consignments as collateral. However, the financial institutions did not accept their proposal. Besides, with international markets yet to reopen due to lockdowns aimed at curbing the spread of coronavirus within their countries, there is uncertainty over whether buyers will pick up their orders anytime soon. Considering all these issues and the absence of bank loans from the government's stimulus package, both producers and exporters seem to be at risk of a working

capital shortage. Exporters claim that the demand for shrimp at international markets fell by around 30 per cent during the April-May period year-on-year while prices were reduced in the process as well. Before the Covid-19 pandemic began, the price for a kilogramme (kg) of shrimp was between \$12.50 and \$13. Now it is down to \$10.50 or \$11.0. “However, it gives us hope that buyers started to return last week,” said Shyamal Das, managing director of MU Seafood. MU Seafood shipped three containers of shrimp in May. “Exports are slowly returning to normal,” he added. During June, his peak time for sales, Das ships up to 12 containers of shrimp. This is dThis June however Das can at most expect to ship seven containers due to the 30 per cent fall in demand in western countries. For the last five years, the total value of his shipments ranged between Tk 101 crore and Tk 108 crore annually. At this rate, the company might be able to make a little more than half of his usual export earnings at Tk 70 crore through shrimp and other fish by the end of the year, Das said. Similarly, Md Jalal Uddin, director and chief executive officer of Crimson Rosella Seafood, said when Italy was ravaged by Covid-19 earlier this year, exports to the European nation fell sharply. “We need bank support now. The banks are not providing loans from the stimulus packages without collateral,” Uddin said, adding that since exports in this sector were on the rebound, exporters and producers need financial support in order to grab the market even during this time of crisis. “During the March-April period, 90 per cent of our orders were cancelled,” said Md Rezaul Hoque, managing director of Modern Seafood. In most cases, buyers asked for big discounts on previously shipped consignments or wanted to return the goods during that time. Making matters worse, farmers and exporters in Khulna and Satkhira have been counting their losses following the damage caused by cyclone Amphan amid the slump in demand, Hoque said. Typically, Modern Seafood exports about Tk 320 crore-worth shrimp each year. This year however, the company would be happy if it makes half of that. Modern Seafood has already lost Tk 25 crore in order cancellations while the company’s single fish farm in Khulna was badly damaged by last month’s cyclone. “I am trying to revive my business by exporting smaller sized shrimp. I hope business returns to normal soon as buyers are now responding to my calls,” Hoque told The Daily Star over phone. The industry now requires government support to face the coronavirus fallout. “Primarily, we want a reduction of corporate tax from the proposed 32.5 per cent to 15 per cent,” said Kazi Belayet Hossain, president of Bangladesh Frozen Foods Exporters Association. Source tax should also be slashed from the proposed 0.50 per cent to 0.25 per cent, he added. Hossain also asked the government to make securing disbursements from the stimulus package an easy process so that exporters can cope with the low demand and even lower export. In some cases, buyers repurchase the returned consignments but at discounted prices, Hossain said.

URL: <https://www.thedailystar.net/business/news/frozen-food-exporters-demand-cut-corporate-tax-1917949>

Bangladesh: Aid sought as shrimp sector sliding into deep crisis

Shrimp sector stakeholders and industry leaders have appealed to the government of Bangladesh to help the shrimp industry as it is sliding into a deep crisis due to the ongoing global Covid-19 pandemic and the devastation caused by the recent super cyclone Amphan, says a joint statement received on Tuesday. Shrimp culture is practised on 2,58,681 hectares of land in the country, mostly in the south-western part of Bangladesh. During the last three months of the FY 2019-

2020, the sector came under severe strain due to the ongoing global Covid-19 pandemic and the recent super cyclone Amphan, the statement said. In the context of serious problems being faced by the shrimp sector due to these two unexpected problems, the members of Shrimp Hatchery Association of Bangladesh (SHAB), Bangladesh Shrimp and Fish Foundation (BSFF) and Bangladesh Aqua Products Companies Association (BAPCA) reviewed the situation arising out of the Covid-19 pandemic and cyclone Amphan. The review has highlighted the enormity of the problems being faced by the sector. The Covid-19 pandemic has had a disastrous impact on the shrimp sector on several fronts. During the pandemic-caused crises, prolonged lockdown, restricted movement and social distancing have resulted in dislocations and severe workforce shortage both in the hatcheries and in the farms. This has resulted in a decrease in production of PLs and their actual field level distribution and procurement by farmers. The loan disbursement from banks has also decreased significantly affecting the hatcheries and shrimp farmers. The shrimp sector in Bangladesh is critically dependent on imported feed and other inputs which have also been disrupted. As a result, input supply has become uncertain and their prices have gone up. The crisis has adversely impacted the shrimp hatcheries and farms. The losses incurred by both hatcheries and the farmers have been of a great magnitude and they are finding it difficult to remain financially viable. The joint statement was signed by Asheq Ullah Rafaiq M.P., President, SHAB, Syed Mahmudul Huq, Chairman, BSFF and Mohammed Tarique Sarker, President, BAPCA, on behalf of the stakeholders in the sector. Attention of the government has been drawn to the fact that the impact of cyclone Amphan in the south western part of Bangladesh has further aggravated the problems of the shrimp sector equally affecting the hatcheries and the grow-outs. During the cyclone Amphan the vast expanse of water bodies in the South Western part of Bangladesh were flooded, important infrastructure destroyed, farm establishments dismantled. Enclosures and ponds prepared for the next production cycle were also badly damaged. The shrimp farmers in the affected areas have been rendered seriously unable to freshly prepare their enclosures and ponds, procure PLs and other inputs as they have very little financial resources of their own to overcome the problems in hand. Moreover, 90 per cent of the shrimp farmers who are small, have no access to institutional finance, especially loans from banks. The BSFF and the members of SHAB and BAPCA, however, expressed their appreciation of a series of initiatives taken by the government to mitigate the consequences of Covid-19 pandemic and cyclone Amphan. They specially commended the compensation packages announced by the government to revive economic activities in all important sectors in the economy and the concessional loan disbursement as well as financial packages for badly affected target groups. Immediate and urgent assistance packages would be helpful now that the farmers at the grow-out level are preparing for the next production cycle for the black tiger shrimp which accounts for more than 90 per cent of the export of the fisheries products of Bangladesh. They stressed the fact that one of the concrete measures, which the government may take, is expeditious disbursement of concessional agricultural credit for shrimp sector stakeholders. They especially mentioned about developing an assistance package for the small shrimp farmers who do not have any access to any formal institutional finance; but account for more than 90 per cent of the country's shrimp production and exports. In order for the sector to recover from the present crisis, they spelt out following concrete support measures: In order to help the affected shrimp farmers to rehabilitate their ponds and enclosures and for urgent procurement of PLs and other inputs needed for the shrimp production in the next production cycle, financial assistance should be extended to the shrimp farmers and for this purpose the government may allocate adequate resources. Since the imported inputs play a major role in the

shrimp production, as an urgent measure to help the shrimp farmers procure imported inputs at affordable prices the import duty on imported feed and other necessary inputs used in the sector may be exempted, at least for the next two years. The government may through consultation and coordination with relevant private sector stakeholders may fix the Maximum Retail Price (MRP) of the imported inputs so that the benefits of the duty exemption can be reaped by actual users in the hatcheries and farms. The government may consider forming a Monitoring Committee headed by the Senior Upazilla Fisheries Officer (SUFO) and including representation from target beneficiaries to ensure the enforcement of the MRPs fixed by the government on duty-exempted imported inputs so that the benefits of the duty exemption can be passed on to the target groups. To help facilitate import of shrimp feed and avoid administrative problems, NOC issued by the Department of Fisheries should be given the highest priority and other avoidable steps may be dispensed with. During the cyclone Amphan serious damages were caused to protection embankments, circulatory canals, enclosures and ponds and farm level relevant infrastructure and establishments in the South Western part of Bangladesh. The government may urgently assess the damages caused by cyclone Amphan in the shrimp production zones and initiate urgent rehabilitation work.

URL: <https://thefinancialexpress.com.bd/trade/aid-sought-as-shrimp-sector-sliding-into-deep-crisis-1592368946>

Bangladesh: Shrimp farmers seek soft loans to survive shocks

Stakeholders of the country's shrimp industry yesterday demanded soft loans from the government as the sector is in dire straits because of two natural disasters — the Covid-19 pandemic and super cyclone Amphan. The Shrimp Hatchery Association of Bangladesh (SHAB), Bangladesh Shrimp and Fish Foundation (BSFF) and Bangladesh Aqua Products Companies Association (BAPCA) made the call in a joint statement. Shrimp is being cultivated on around 258,681 hectares of land in the south and south western part of Bangladesh, they said. But in the last three months, production and sales of shrimp came to a halt due to a lack of workforce because of coronavirus, disrupting the whole supply chain. In the meantime, Amphan appeared and caused 40,800 farmers of shrimp, finfish and crab losses worth Tk 217 crore, according to the preliminary estimate by the Department of Fisheries. Shrimp farmers, who export their produce to the EU and US to earn the nation \$500 million annually, were the worst hit. Nearly Tk 175 crore was lost by 18,450 shrimp farms in the southern coastal regions due to the cyclone. Vast expanses of water bodies were flooded and important infrastructures, farm establishments, hatcheries and ponds which were prepared for the next production cycle were badly damaged, according to the statement. Now farmers are preparing for the next production cycle of black tiger shrimp, which accounts for more than 90 per cent of fisheries' export, they said. So, the associations demanded special financial assistance for shrimp farmers for their urgent rehabilitation and procurement of post larvae. Around 90 per cent of shrimp farmers are small entrepreneurs, and they are dependent on imported feed and other inputs, which have also been disrupted in recent times. The shrimp sector plays a significant role in building the economy as it creates numerous jobs and leaves a positive impact on the aquaculture value chain, poverty reduction and export earnings. Despite being huge contributors, shrimp farmers have limited access to institutional loans, the associations said. Besides, loan disbursement from banks

decreased significantly amid the prolonged shutdown. Asheq Ullah Rafiq, president of SHAB; Syed Mahmudul Huq, chairman of BSFF, and Mohammed Tarique Sarker, president of BAPCA, signed the statement.

URL: <https://www.thedailystar.net/business/news/shrimp-farmers-seek-soft-loans-survive-shocks-1911917>

Bangladesh: Protecting biodiversity for the future

Biodiversity means an ecological sachet ? the variety of species, their genetic makeup and the natural communities in which they occur. The theme for World Environment Day 2020 is “Celebrate Biodiversity”, and will be hosted in Colombia in partnership with Germany. Colombia is one of the largest “Megadiverse” nations in the world to hold 10.0 per cent of the planet’s biodiversity. Since it is part of the Amazon rainforest, Colombia ranks first in bird and orchid species diversity and second in plants, butterflies, freshwater fish, and amphibians. The air we breathe is a product of photosynthesis by green plants; insects, worms, bacteria and other tiny organisms break down wastes and aid in the decomposition of dead plants and animals to enrich soils. More than 90.0 per cent of the calories consumed by people are produced from 80.0 plant species, almost 30.0 per cent of medicines are developed from plants and animals. Some ecosystem services that benefit society are climate security, water purification, pollination and prevention of erosion. To feed such a large population, more land is being transformed from wilderness wildlife in agriculture, mining, lumbering and under areas for humans. Many people around the world depend on these species for their food, shelter and clothing. About 80.0 per cent of our food supply comes from just 20 kinds of plants. Some of the health issues influenced by bio-diversity are– dietary health and nutrition security, infectious disease, medical science and medical resources, social and physiological health and spiritual well being. A wide range of industrial materials are derived directly from biological resources. These include building materials, fibres, dyes, rubber and oil. It plays a part in regulating the chemistry of our atmosphere and water supply. At the same time, there are a lot of constraints to conserve the forest biodiversity. We are eliminating the species population faster than we can discover new ones. We cut down thousands of acres of virgin forest before we explore what was there. We replace our naturally diverse vegetation with artificial monocultures. We are pulling our environment and changing background of environmental conditions faster than nature can respond. Over the 100 years, Bangladesh has lost about 10.0 per cent of its mammalian fauna, 3.0 per cent avifauna and 4.0 per cent reptile species. IUCN report (2012) has said 58 species of fish, eight species of amphibians, 63 species of reptiles, 47 species of birds and 43 species of mammals in the country which are threatened under degree of risk of extinction. Studies show that 30.0 per cent of all natural species will be extinct by 2050. The land use pattern of Bangladesh is changing very rapidly. Estimated 25.0 per cent area of any country should be covered with trees and forest, for many reasons like production of wood, elimination of pollution, green natural environment, healthy air and many others. Bangladesh has 10.0 per cent of the landmass designated as forests. Out of 46,000 acres in Madhupur Sal forest, 7,800 acres have been given out to commercial plantation; 25,000 acres are under illegal possession. At hilly forest, tobacco farming is increasing rather than the mainstream food. In 2000, about 300 hectares land were used for tobacco farming which has increased to 4232 hectares in 2010 and it

is about 10,000 hectares. Shrimp farming has increased the rate of land encroachment more than double from 45,596 hectares in 2000 to 96,283 hectares in 2010 at Mangrove forest area. Deforestation and increased road building in the forest are a significant concern. In addition, cultivation of exotic plant species has become a widespread culture in Bangladesh. Native plant species like kumbi, koro, banza, sheura, jalpai, amlaki, bohera are being replaced by alien species like rubber, acacia, eucalyptus, teak etc. Research mentions, there are a total of 138 different species of wildlife mammals in Bangladesh, 11 of which are now recorded as extinct. Among the existing mammals, 17 species are categorised as critically endangered, 12 are endangered and nine are vulnerable. Habitat losses by changing pattern of climate and forest ecosystem as well as human intervention in the forests are considered as some of the primary reasons for the extinction of these species from the country. In 2000, the IUCN published the Red List of Fauna Species in Bangladesh, covering the status of 895 wildlife species under five categories – mammals, birds, amphibians, fish and reptiles. The 2000 list labelled several species, including gangetic gharial, saltwater crocodile, hoolock gibbon, Phayre's leaf monkey, ritha fish, pangas fish and baghair fish, as "critically endangered" due to the loss of their habitat and food scarcity. The species listed as Critically Endangered in Bangladesh are: Bengal tiger, leopard, clouded leopard, Asian elephant, hoolock gibbon, long-tailed macaque, Phayre's leaf monkey, Asiatic black bear, Malayan sun bear, Indian pangolin, Chinese pangolin, Eurasian otter, smooth-coated otter, gaur, sambar, hog deer and Himalayan striped squirrel. Among the 28 species of carnivores found in the country, seven are recorded as Critically Endangered. The species listed as Endangered in Bangladesh are: mainland serow, pig-tailed macaque, common langur, Assamese macaque, capped langur, barking deer, Asiatic wild dog, fishing cat, Indian hare, Bengal slow loris, Oriental small-clawed otter, parti-colored flying squirrel. The species listed as Vulnerable in Bangladesh are: Ganges river dolphin, rhesus macaque, Bengal fox, Asian golden cat, hog badger, yellow-throated marten, binturong, masked palm civet and Malayan giant squirrel. Article 18A of the Constitution of Bangladesh deals with the protection and improvement of environment and biodiversity and provides, "The State shall endeavour to protect and improve the environment and to preserve and safeguard the natural resources, bio-diversity, wetlands, forests and wild life for the present and future citizens". The Wildlife (Preservations) Order, 1973 was promulgated by the Government of Bangladesh which was further enacted as the Bangladesh Wildlife (Preservation) Act, 1973. Subsequently in order to provide safety and conservation of forest, wildlife and biodiversity, the National Parliament has enacted another Act in 2012 i.e., the Wildlife (Preservation and Security) Act, 2012 which has repealed the earlier enactment. At present this legislation is acting as the apex legal document for conservation of wildlife and biodiversity in Bangladesh. Though all legislations are commonly based on the sovereign decisions made at national levels, states are also bound by the provisions of the world treaties to which they are parties and hence should base their legislations on the provisions of these treaties. The enactment, implementation and enforcement of legislations on the cross-border movement of wildlife animals are performed by the national bodies of individual States. Likewise in Bangladesh, though few areas are protected under the existing laws, a large portion of its wildlife is currently under serious threat. In this context, sustainable conservation of forest requires an entirely inclusive approach, combining modern skill and art, government policies and the attachment of local communities, whose lives depend on biodiversity.

URL: <https://thefinancialexpress.com.bd/views/views/protecting-biodiversity-for-the-future-1591287521>

Bangladesh: Egypt interested to help Bangladesh in fisheries, livestock sectors

Egypt has expressed interest to help Bangladesh to boost production of fish and livestock. Egyptian Ambassador Walid Ahmed Shamseldin expressed the interest while meeting Fisheries and Livestock Minister SM Rezaul Karim at his house on Bailey Road on Friday. Shamseldin said Egyptian medicines, technological assistance and experience can be used in Bangladesh's fisheries and livestock sectors. "Egypt has achieved unimaginable success in fisheries sector which can be shared with Bangladesh, he said adding that especially Bangladesh can take world class medicine and vaccine of Egypt for domestic animal. Egypt is interested to provide all kind of assistance to Bangladesh for increasing production of poultry, fisheries and dairy products, the ambassador said.

URL: <http://unb.com.bd/category/Bangladesh/egypt-interested-to-help-bangladesh-in-fisheries-livestock-sectors/52245>

Bangladesh: Cyclone Amphan Joint Needs Assessment report, 31 May 2020

The 'super cyclone' Amphan made landfall on 20 May 2020 on Jammu island in West Bengal, India and crossed Bangladesh on 20-21 May. In Bangladesh, the worst impact was experienced in Satkhira and Khulna where the storm speed was recorded between 60- 90 KMPH with high tidal inundation. Barguna and Patuakhali also experienced high tidal inundation where the storm speed was recorded 60 KMPH. As the storm kept moving north, Jhenaidah, Chuadanga, Meherpur, Kushtia, Natore, Rajshahi, Naogaon, Joypurhat were also impacted by high winds and storms. It is notable that, due to the presence of Sundarbans, the wind speed reduced to minimal as well as the tidal surges were not that high as anticipated. The Government of Bangladesh (GoB) prepared for the cyclone through the leadership of the Ministry of Disaster Management and Relief (MoDMR) which started with coordination meetings with all relevant government and non-government stakeholders from 16 May. As soon as the cyclone grew in intensity from a 'very severe' cyclonic storm into a super cyclone, the GoB prepared 12,078 cyclone shelters in coastal regions. As per government record, more than 2.4 million people were evacuated, with the help of CPP, BDRCS, Fire Service and Civil Defence (FSCD), Police, Armed Forces, and other organizations, to 14,636 permanent and temporary shelters in 19 coastal districts before the cyclone hit the country's coast. Overall, 76 upazilas in 19 districts were affected where 8 districts were recognized having severe to moderate impact. The death toll was recorded at 26 people, where 2.6 million people were affected. More than 200,000 houses were fully or partially damaged along with more than 176,000 hectares of productive land with standing crops and fish/shrimp farms washed away. A large number of people lost their last resort of livelihood, which will have broader implications for on areas such as food security, WASH, protection, health and education. A large number of people lost their usual habitat and livelihood, which may force them to adopt negative coping mechanisms risking a potential increase in Gender-based violence, child labor, child marriage, human trafficking. A significant number of the

affected population are now without access to safe drinking water and sanitation facility, which increases the chance of communicable disease outbreak. Apart from that the health & nutrition services have been disrupted and inaccessible in many places due to lack of resources, the loss, and damage of infrastructure caused by the cyclone. Continuation of primary and secondary education is uncertain as a large number of institutions have been damaged and unable to provide remote based alternative education. The GoB has mobilized resources to support impacted communities. Assistance consists of – cash grants, dry food packages, young child-specific food, house repair items, and water purification units. A coordinated short term (03 to 06 months) humanitarian response will be needed to supplement these efforts, primarily to ensure that the most vulnerable communities receive targeted humanitarian assistance. This analysis looks at identifying risks for vulnerable populations due to their geographical locations and socio-economic conditions. It provides the basis of future planning, including where activities need to be focused, who is most in need, and how the programs can be best delivered. A medium to longer-term (06 to 12 months) early recovery and reconstruction effort will be needed to repair damaged infrastructure specially embankments, roads, houses, sources of safe drinking water, sanitation facilities, etc, restoration of livelihood, rehabilitate agriculture land contaminated by saline water. Considering the coming monsoon and COVID19 health crisis integrated relief and early recovery support recommended so that particularly people those compelled to live in makeshift places or inundated (by seawater) houses can get back to normal life sooner. Full report is available at:

https://reliefweb.int/sites/reliefweb.int/files/resources/cyclone_amphan_joint_needs_assessment_final_draft_31052020.pdf

URL: <https://reliefweb.int/report/bangladesh/bangladesh-cyclone-amphan-joint-needs-assessment-31-may-2020>

Bangladesh: Brood fishes finally begin spawning in Halda River

Fish breeders eagerly waiting for a successful spawning season were delighted to see brood fishes of a variety of indigenous fish species releasing thousands of eggs in the Halda River, Bangladesh's largest natural breeding ground for carp. Chittagong District Fisheries Officer Farhana Lovely said that a total of 616 spawn collectors have collected 25,536kg eggs from the Halda on Friday. Noted Halda River researcher, Prof Dr Manzoorul Kibria, told the Dhaka Tribune that the brood fishes started releasing eggs around 7:30am on Friday and local spawn collectors started collecting eggs in the river. Prompt vigilance by local administration, the shutdown of key pollution sources last year, and this year's countrywide coronavirus shutdown have helped the river detoxify itself, Dr Manzoorul added. He said recent efforts and the coinciding shutdown is a boon for the river, raising hopes for a big haul. Speaking to the Dhaka Tribune, the Hathazari Upazila Nirbahi Officer (UNO) said three government hatcheries and 60 "Kuas (small mud ponds) are all set for hatching. "We have also made a list of all spawn collectors and issued Halda cards to spawn and fry collectors for being able to transport their haul without restriction. We have heightened our vigilance on the river to ensure an undisturbed spawning environment, said the UNO. Veteran spawn collector of the Halda, Kamal Sowdagor, said the authorities should strengthen vigilance so that no one who is not authorised, can catch the brood fish in the spawning season. During the Bangla months of Baishakh and Jaishtha

(April and May) every year, different species of mother fish, like Catla (Catla catla), Ruhi (Labeo rohita), Mrigal (Cirrhinus mrigala) and Kalbaoush (Labeo calbasu) start migrating to the spawning grounds of the Halda, from rivers like the Karnaphuli, Matamuhuri, and Sangu. The Halda which flows through the Hathazari and Raozan upazilas of Chittagong, considered the only natural breeding ground in the world where these species of fish release their eggs at a certain time in the monsoon. Fry-collectors use unique methods to catch these eggs and sell to fish farmers across the country. After collecting the eggs, the fishermen keep the spawn in small mud ponds or “Kuas on the riverbank where the fry are hatched within 18 hours. After hatching, the fries are then sold out to fry collectors or hatchery owners.

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/05/22/brood-fishes-finally-begin-spawning-in-halda-river>

India and Bangladesh: Cyclone Amphan: UN chief commends India, Bangladesh for life-saving work

UN Secretary General Antonio Guterres has expressed sadness over the loss of lives and destruction in India and Bangladesh by Cyclone Amphan and commended the governments, first responders and communities for their “pre-emptive work to help people and ensure their safety. “The Secretary-General is saddened by the loss of lives and destruction as a result of Cyclone Amphan in India and Bangladesh. He extends his deep condolences to those who have lost their loved ones and wishes those injured and affected by the disaster a speedy recovery, UN Spokesperson Stephane Dujarric said in a statement Sunday. Guterres commended the governments, first responders and communities for their “pre-emptive work to make people safe ahead of the storm and to meet their immediate needs afterwards, saying the UN stands ready to support these efforts. The Secretary-General expressed solidarity with the people of India and Bangladesh as they face the impact of a devastating cyclone while also responding to the impacts of the COVID-19 pandemic, the statement said. Prime Minister Narendra Modi on Friday announced an advance interim assistance of Rs 1,000 crore for cyclone-hit West Bengal on Friday. In a video message after reviewing the situation with Governor Jagdeep Dhankhar and West Bengal Chief Minister Mamata Banerjee in Basirhat in North 24 Parganas district, Modi also announced an ex-gratia of Rs 2 lakh to the families of each of those killed during the devastation caused by cyclone Amphan, and Rs 50,000 for the injured. The UN Country Team in India said Cyclone Amphan, which ravaged areas in West Bengal, was considered more destructive than Cyclone Aila, which slammed the region in May 2009. Amphan hit seven districts badly, namely South 24 Paraganas, North 24 Paraganas, East Medinipur, West Medinipur, Howrah, Hooghly and Kolkata, with damages also reported in the district of Birbhum. Modi announced an advance financial assistance of Rs 500 crore for cyclone-battered Odisha. He made the announcement after an aerial survey of areas hit by cyclone ‘Amphan’ and holding a review meeting with Odisha Governor Ganeshi Lal and Chief Minister Naveen Patnaik.

URL: <https://timesofindia.indiatimes.com/india/cyclone-amphan-un-chief-commends-india-bangladesh-for-life-saving-work/articleshow/75948203.cms>

Bangladesh: Amphan aftermath: A trail of devastation in Khulna's Koyra upazila

Anyone may be surprised to see several hundred green mangos scattered on the ground. Some covered in mud, some partially damaged. Hit hard by worries, owner of the mango orchard with the help of his associates was collecting his prized produce one by one. "The cyclone has ravaged my mango orchard. I have to incur a loss of around Tk 2.5 lakh as most of the mangoes have been damaged," said Horinath Sen, owner of the orchard located at Magura village under Koyra upazila in Khulna district. He was talking to the local correspondent on Saturday, two days ahead of Eid-ul-Fitr when most people are rushing to buy daily essentials. But this year's Eid celebration might be subdued in this area as the recent Cyclone Amphan has devastated them. This, on top of the ongoing coronavirus pandemic. While visiting the area on Saturday, it was noticed the cyclone has left marks of its fury at every corner of the upazila. Water level of nearby Paikgacha upazila has seen a significant rise. So, vast areas of Amadi and Bangali unions have gone under water. "Normally, the areas were used as farmland, playground, grazing land for cattle. But now, they are submerged. We don't know when the water will recede," said Md Shahidul Islam, a local. Over half of the 9km road, stretching from Koyra upazila headquarters to Nowabaki area, has gone under waist-deep water. Villagers, who live near the road, were moving their household items from their homes to dry places. Many had already set up makeshift huts on dry places around the road. Cattle were kept in safe places beside them. The river protection dam has broken at 19 points in the area. As a result, water has entered the locality — inundating multiple villages. Talking to the correspondent, 72-year-old Ruhul Kuddus Sheikh, a resident of Harinkhola area, said he used to be solvent, but nature's fury has turned him homeless. "I had 20 bigha of land. But all of my land has been eroded by river. I have moved five times. My last house too has been damaged, due to Amphan," he added. Around 2 lakh people of the area have been affected by the cyclone Amphan, according to government officials.

URL: <https://www.thedailystar.net/cyclone-amphan-aftermath-trail-devastation-in-khulna-koyra-upazila-1905517>

Bangladesh: Cyclone Amphan reopens wounds of 'Aila' in Khulna region

Kalpana Rani had been forcibly taken to a shelter before cyclone Amphan hit last week. When she returned, she found her house, situated in the vicinity of the Sholmari River, completely shattered. Her blank gaze hovered over where her little house used to be. Cyclone Amphan left a trail of destruction in the coastal regions of Bangladesh still reeling from cyclone Aila which hit 11 years ago. The worst hit areas are Koyra and Paikgasa in Khulna, Shyamnagar and Assasuni of Satkhira, and Monga, Sarankhola and Morrelganj of Bagerhat. Amphan damaged thousands of houses and shops in the region the lucky ones partially and others completely. The cyclone, which hit the coast on Wednesday evening, only added more sufferings to the people amid the coronavirus outbreak just before Eid-ul-Fitr. A 10-km stretch of the dam in Khulna collapsed completely, flooding the low-lying areas and washing away fish enclosures and ponds. Crops on 1,700 hectares of land have been damaged. Palash Kumar Banerjee, executive engineer of Water Development Board Khulna-2, said a 40 kilometre of embankment has been damaged while a 10-km stretch has completely been destroyed in Koyra upazila. Besides, at least 30 kilometres of

embankment have been partially damaged in Dakop, Botiaghata, Paikgasa, and Dumuria upazilas. Akhtaruzzaman Babu, Khulna-6 constituency MP, said the worst-hit upazila is Koyra and estimated the damage to be Tk50 crore. In Satkhira, 12,257 fish enclosure and ponds have been washed away. Deputy Commissioner (DC) SM Mostafa Kamal said fish enclosures encompassing 13,477 hectares in 12 unions of Shyamnagar, Assasuni, and Kaliganj were flooded. These enclosures had 1,677 tons of fish and 2,531 tons of shrimp. The worst affected are the fish farmers are from Gabura, Padmapukur and Burigoalini union parishads, and Kaliganj upazila adjacent to the Sundarbans. DC Kamal said 370,000 people had been taken to 1,907 shelter centres before the cyclone. Before the storm, 350 tons of rice were allocated and another 375 tons have been allocated afresh. Bundles of corrugated tin-sheet and cash have been distributed among the victims. In Bagerhat, 4,500 fish enclosures have been flooded and crops on thousands of hectares have been damaged. At the same time, over 350 houses have been destroyed. DC Mamunur Rashid said there was no casualties as most people from the coastal areas were brought to shelters well before the storm. But many people, like Mustajibul Haque, have lost everything. Mustajibul, a resident of Koyra, said they are still reeling from cyclone Aila. “Cyclone Amphan hit when our wounds from Aila are yet to heal. Amphan wrecked our lives and destroyed whatever we had rebuilt, he said. “It’ll be difficult to live here if there’s no sustainable dam, Mustajibul added.

URL: <https://www.dhakatribune.com/bangladesh/2020/05/24/cyclone-amphan-reopens-wounds-of-aila-in-khulna-region>

Bangladesh: Cyclone floods coastal districts of Bangladesh, damages thousands of homes

The storm, which wreaked havoc on India’s West Bengal on Wednesday night, damaged 150 kilometres of dams in the coastal districts of Bangladesh, causing collapses at a number of places, an official said. Khulna was most affected, while reports of flooding due to dam breaches also came from Barishal and Chattogram, said Abu Bakr Siddique, the supervising engineer of Water Development Board’s monitoring department. The fish enclosures in Khulna were also flooded in Khulna, the district police’s spokesman Md Anisur Rahman said. The most affected areas included Koira and Dacope near the Sundarbans. At least 18,000 homes were damaged due to fierce wind gusts and storm surge in the district, he said. Dams collapsed at dozens of points. More than 350 homes were completely destroyed in Bagerhat, where the Bangladesh portion of the Sundarbans is situated, officials said. Over 4,000 fish enclosures and 4,500 homes were also damaged in the district. Md Moinuddin Khan, the forest conservator of Khulna, said the Forest Department was yet to assess the extent of the damage of wildlife. But it appeared the storm could not do as much harm as feared to the wildlife of the world’s largest mangrove forest, he added. He also said 80 freshwater ponds in the Sundarban’s were salinated by the flooding.

URL: <https://bdnews24.com/bangladesh/2020/05/21/cyclone-floods-coastal-districts-of-bangladesh-damages-thousands-of-homes>

Bangladesh: Cyclone Amphan intensifies in Bay of Bengal, ports raise cautionary signal 4

The tropical cyclone ‘Amphan’ is intensifying over the bay of Bengal as it moves towards Bangladesh, Myanmar and India. In the coming few days, the cyclone is likely to cause heavy rain, flooding, storm surge and strong wind in parts of Bangladesh, Myanmar and India. The exact direction of the storm remains uncertain but Bangladesh Met department has cautioned its sailors and fishermen not to venture into the sea. According to the special weather bulletin issued by Meteorological Department of Bangladesh, the cyclonic storm Amphan was centred 1345 km south-southwest of Chattogram port, 1280 km south-southwest of Cox’s Bazar port, 1275 km south-southwest of Mongla port And 1255 Km South-Southwest of Pyra Port. It is likely to intensify and move in a north-westerly direction. Local warning signal 4 was hoisted at maritime ports of Chattogram, Cox’s Bazar, Mongla and Pyra. Signal 4 signifies that the port is threatened by storm but danger is not yet so big to take any extreme precaution. The Met Department has advised all the fishing boats and trawlers in the North Bay and deep sea to come close to the coast and proceed with caution till further notice.

URL: <http://www.newsonair.com/News?title=Bangladesh%3A-Cyclone-Amphan-intensifies-in-Bay-of-Bengal%2C-ports-raise-cautionary-signal-4&id=388876>

Bangladesh: 63pc of Bangladesh’s coastal poor households borrow from local moneylenders’

A recent survey finds that about 63 per cent of coastal poor households have borrowed loan from local money lenders at high-interest rates due to absent of institutional credit facilities, reports UNB. The survey also finds 57 per cent of households are suffering from food crisis because of the lockdown, and about 46 per cent of households have experienced increasing violence against women. The monitoring and research department of the COAST Trust, a Bangladeshi NGO, conducted the survey. COAST Trust conducted the survey in eight coastal districts to know the impact on the livelihoods of poor people of the coastal areas because of the lockdown announced in the country to prevent the coronavirus infection. Rezaul Karim Chowdhury, executive director of the COAST Trust, said that a local money lender allegedly killed a poor man recently in Kutubdia of Cox’s Bazar as the man had failed to repay the loan he had taken. “We conducted this survey to understand the plight of low-income people for lockdown. COAST Trust has so far donated about Tk 2 million from its fund to the relief fund of nine coastal districts and 49 upazila administrations to help hapless people, he said. According to the COAST Trust’s monitoring and research department, the survey collected data from 240 poor, women-headed, and low-income families under 12 branches of the organization in six districts, including Chattogram, Noakhali, and Barisal. Around 83 per cent of respondents live in villages and 17 per cent in cities and 57.3 per cent of respondents are women-headed families. According to the survey, 42 per cent of families can get meals for 3 times a day, which is normal. Some 52 per cent of families are eating twice a day and 5 per cent of families are taking one time meal per day. Around 56 per cent of families used to eat regular protein i.e. fish, meat, or eggs 3-4 days a week which came down to 13 per cent because of lockdown. Around 87 per cent of households now consume such protein 1-2 days a week. Because of the lockdown, 34 per cent of households have lost their income completely, income has come down by one-fourth to 39 per cent, and half for 19 per cent families. This picture is unique to women-headed families. Some 46 per cent of households have lost their income completely, income has dropped to one-fourth for 30 per cent of households. Around 63 per cent of the households have taken loans from moneylenders at high-interest rates

to cope with the crisis and 18 per cent of households have borrowed from relatives and 13 per cent of households have received no loan. Some 48 per cent of households have broken down their savings in response to the crisis caused by the lockdown. Around 35 per cent of the families sold their cows and goats. Among women-headed households, 30 per cent of respondents said there was no way to break their savings, sell cows or goats or jewelry. Around 54 per cent of respondents said that the lockdown has increased the incidence of violence against women in their families. In 82 per cent of households, abusive or abusive language was used. 9 per cent of households have raised their hands and 9 per cent of households have been pressured for dowry. When asked what they plan to do if the lockdown continues, 78 per cent of households say they may need to take out a loan of high interest from an NGO or bank. If not, they will take a loan from a local moneylender at a high-interest rate. Besides, 38 per cent of households said that they should spend the remaining savings down. Some 20 per cent of households will sell cows, goats, or jewelry and 15 per cent will sell labor in advance to the local moneylenders, while in women-headed households, the rate is 18 per cent. Around 94 per cent of households have sought various types of loan support from NGOs, which were closed during the data collection. Some 41 per cent of respondents asked for a new loan, 13 per cent asked for an ongoing loan increase and 43 per cent asked for a cooperative loan or financial support. Note that most of the borrowers will invest for their livelihood and 69 per cent of the families have sought relief from the government in this situation and 21 per cent of the families have sought cash support. The department of monitoring and research of the COAST says, low-income people in the food crisis want to invest in small businesses to turn around. That is why they need a loan. In the absence of micro-credit or other institutional credit arrangements, they will have to borrow from local moneylenders at high-interest rates or will be more at risk of breaking up savings. Around 94 per cent of households have sought various types of loan support from NGOs, which were closed during the data collection. Some 41 per cent of respondents asked for a new loan, 13 per cent asked for an ongoing loan increase and 43 per cent asked for a cooperative loan or financial support. Note that most of the borrowers will invest for their livelihood and 69 per cent of the families have sought relief from the government in this situation and 21 per cent of the families have sought cash support. The department of monitoring and research of the COAST says, low-income people in the food crisis want to invest in small businesses to turn around. That is why they need a loan. In the absence of micro-credit or other institutional credit arrangements, they will have to borrow from local moneylenders at high-interest rates or will be more at risk of breaking up savings.

URL: <https://en.prothomalo.com/bangladesh/covid-19-63pc-of-coastal-poor-households-borrow-from-local-moneylenders>

Bangladesh: Preserving biodiversity: Govt plans to revive small rivers, canals, wetlands

The government has taken a massive plan to recover canals, wetlands and small rivers across the country and re-excavate those to increase their navigability and water reservation capacity, groundwater recharge and thus preserve the biodiversity. These activities will be done under a project titled “Re-excavation of small rivers, canals and wetlands inside 64 districts project (1st Phase), reports UNB. According to an official document, some 4,086.622km of 88 small rivers, 352 canals and eight wetlands will be re-excavated under 561 packages in 375 upazilas and two city corporations. The amount of excavated soil will be 15.15 crore cubic metres, 62.32 square

metres of turfing while that of plantable tress 13.41 lakh. The objective of implementing this project is to ensure removing water-logging from 5.20 hectares of areas and securing those from flood and climate-change onslaught, boosting food production of 3.50 lakh metric tonnes through irrigation in 1.30 lakh hectares of land, fish farming in 15,000 hectares, preservation of bio-diversity in 25,000 hectares, flood control in 3.65 lakh hectares, improving roads and communication in 4100 kilometres and easing river communications through 1,800 kilometres of waterways. Meanwhile, the government started removing illegal structures from the banks of small rivers, canals and wetlands on December 12 last year. So far, it has removed 5,574 illegal structures and recovered 593.12 acres of land from illegal occupants. “If the project is implemented, it will be possible to maintain the normal flow in small rivers and canals besides saving water reservoirs,” the document states. It further mentions that the formulation of another project titled, “Re-excavation of small rivers, canals and wetlands inside 64 districts project (2nd Phase), is underway. Under this project, the government will re-excavate five rivers, canals and wetlands in each upazila. Through this project, it will be possible to re-excavate 13,885.363km of rivers, canals, and wetlands, according to the document. A senior official at the Water Resources Ministry said the government is very serious about recovering rivers from illegal occupation. As the government is emphasizing the plying of passengers and transportation of goods through waterways, there is no way to increase the navigability of the rivers — small or big — across the country. “The government has already taken various projects to improve passengers and goods’ transportation through the waterways within the country,” he said. He also mentioned by the “Re-excavation of small rivers, canals and wetlands inside 64 districts project (1st Phase and 2nd Phase), will be very much helpful in preserving water during monsoon for the dry season. “With this, we will also be able to recharge the groundwater which is very much essential for preserving the biodiversity for the future generation,” the official added. Bangladesh is a riverine country with waterways crisscrossing much of its landscape. According to experts, re-excavation is very important as business and internal movement of people are largely dependent on waterways, particularly during monsoon.

URL: <https://www.dhakatribune.com/bangladesh/2020/05/08/preserving-biodiversity-govt-plans-to-revive-small-rivers-canals-wetlands>

Bangladesh: Coronavirus: \$597m frozen fish export orders cancelled

Frozen fish sector, the country’s fourth largest export earning entity, have faced order cancellations of \$597.78 million from their buyers, mostly in western countries, in the last couple of weeks as coronavirus pandemic almost savaged their economies, according to Bangladesh Frozen Foods Exporters Association (BFFEA). BFFEA President Kazi Belayet Hossain in a statement, issued yesterday, said the cancellations took place through 290 import orders from global buyers. “We export perishable items that require shipment within tight deadline but now we are failing to do so because of the virus spread,” he added and said that most of the processing factories incurred huge losses with their unsold fishes for shipments. On the other hand, new shrimp cultivation season, the major export item of the sector, was knocking at the door, said Belayet. He feared that fishermen, processing firms and exporters would be hit hard if the situation emerging from the coronavirus persisted. “To combat the fallout, we need a raft of fiscal policy supports including bank interest waiver for at least two years for the sector people,”

said the business leader. In addition, the government should provide interest-free loan for reviving the ailing sector, added Belayet. It also demanded 20% cash incentives instead of existing 10%. According to Bangladesh Export Promotion Bureau data, in July-January period of the current fiscal year, the country earned \$377 million from exporting frozen and live fish, down by 4.39% from a year-ago period. There are 105 frozen fish processing factories in the country while only 30 to 35 are involved in export business.

URL: <https://www.dhakatribune.com/business/2020/03/25/coronavirus-597m-frozen-fish-export-orders-cancelled>

Livelihood of fishermen under threat in Bangladesh

Hundreds of fishermen in Kurigram and Lalmonirhat are going through hard times as fish stocks in the Brahmaputra and Teesta rivers have drastically decreased over the years. With their traditional livelihood failing to provide for their families, many fishermen have taken loans at high interest from local moneylenders. “Usually, a group of four or five of us fishermen goes together to the river. After trying for hours, we get around five kilograms of fish,” said 46-year-old Sadhan Chandra Das of Majhipara village in Kurigram’s Chilmari upazila. “The situation worsens from December to June as the water level falls. We have no work during this period,” said Sadhan, who fishes in the Brahmaputra. Bishnu Chandra Das, a 56-year-old fisherman from the same village, said, “We are unable to provide for our families with the money we earn from fishing. So, we have to take loans from the Mohajon (moneylender) with high interest.” “We have to repair our fishing boats and nets at our own expense. So you can easily understand our misery,” he added. Hit hard by poverty, many have already left their ancestral profession and others are planning to leave. “Many fishermen in our village have already left and are now working as day labourers, some pull rickshaws, and others work in garment factories,” said 55-year-old Surendra Nath Das, a fisherman from Daspara village under Kurigram’s Rowmari upazila. “We are deprived of our rights even if the policy is ‘Jal Jar Khal Tar’ [those who have the net have the canal]. It is only on paper. We are not allowed to catch fish in the government canals as politically influential people have occupied those,” said Surendra. “We are instead forced to work as labourers for them.” “Following in my grandfather and father’s footsteps, I used to catch fish in the Teesta. But it became difficult for me to maintain my family with the little income from fishing. So, I left the profession,” said 38-year-old Nikhil Chandra Das of Daspara village in Lalmonirhat Sadar upazila. He now pulls rickshaw. “Around 10,000 families depend on the Brahmaputra and Teesta rivers in Kurigram and Lalmonirhat. Many are frustrated with their ancestral profession,” said 70-year-old Narayan Chandra Das of Majhipara under Kurigram’s Ulipur upazila. “The fishermen spend most of their income on repairing and buying fishing nets. That is why they cannot repair their houses while many don’t even have their own house,” he added. Lalmonirhat Sadar Upazila Fisheries Officer Hasmat Ali told The Daily Star that the canals are not under the control of fishermen. These have gone into the possession of non-fishermen with political influence. “In this case, we can do nothing for the fishermen. But we are trying,” Hasmat added.

URL: <https://www.thedailystar.net/country/news/livelihood-fishermen-under-threat-1886074>

Bangladesh: 158 rivers dry up in 57 years

The government's commitments and pledges to protect the rivers are nothing new. Even the court has ordered the government to take measures to save the rivers. All year round there is talk about various initiatives to dredge and revive rivers. But on ground, the encroachment and the pollution of the rivers continue unabated. The commitments remain mostly restricted to rhetoric and the rivers are steadily drying up. According to two studies, over the past 57 years, 158 rivers have dried up. Bangladesh Disaster Forum in 2010 published a report on the decrease in the number of rivers from 1963 till 2000. A team of researchers from the geography department of Jahangirnagar University were involved in drawing up the list. The report said that 115 rivers had dried up and were near extinction. Again, according to a report of Uttaran, a non-government organisation (NGO) which has been studying rivers and water of the northwest region of the country, 43 rivers have dried up over the past 20 years (2000 to January 2020). The death of the rivers cannot be prevented due to coastal embankments, construction of all sorts of infrastructure and encroachment. Director of Uttaran, Shahidul Islam, told Prothom Alo that the strong-flowing rivers of the northwest like Betna, Shalika, Shalita, Hamkura, Chuna and Hatitana had dried up and settlements had grown in place of these. Unplanned embankments are the reason that these rivers have died. On one hand the decrease in water flow has led to the rivers drying up, and on the other hand, the rivers are being killed by pollution. There is adequate water flow in some rivers, but river is so polluted that the water is totally unusable. Topping the list of such rivers are Buriganga, Balu, Sitalakhya and Dhaleswari. Three teachers of Dhaka University, Md Khalid Hasad, Abrar Shahariar and Kudrat Ullah, have analysed 143 studies published in international journals from 1991 to April 2019 regarding the qualitative aspects of the country's rivers. Their analysis was published in the May 2019 issue of the international science journal Heliyon. It stated there that there were metallic substances harmful to the human body detected in 32 rivers of the country. The most toxic metallic substances were found in Buriganga. Next were Balu and Sitalakhya. Bangladesh Inland Water Transport Authority (BIWTA) is in charge of the country's river routes, the Water Development Board is in charge of protecting the river banks and dredging, and the land minister is in charge of leasing out the rivers. The fisheries directorate looks after the fish resources. The ministry of forests is responsible for the dolphins, crocodiles and such animals in the river. Then again, the ministry of agriculture is in charge of irrigation and rubber dams. WASA and the department of public health engineering treat water from the river and supply it to the cities. And now the National River Conservation Commission is in charge of the overall protection of rivers. The rivers are spread out like a network all over the country and are interconnected. If one river dries, it has an impact on the others.

In February this year, the National River Conservation Commission updated a list of 39,558 river encroachers. According to the list, Cumilla has the highest number of encroachers. These encroachers include powerful industrial groups of the country, as well as influential individuals, companies and politicians. In recent times, reports highlighted ruling party member of parliament Haji Selim and Aslamul Huq MP using their political clout to obstruct eviction and keep control of the encroached rivers. Chairman of the National River Conservation Commission, Mujibur Rahman Howladar, told Prothom Alo that preparing a full-fledged list of the encroachers and eviction is being carried out simultaneously. He said that the rivers must be restored to their original form. However, the commission still does not have an accurate record of how many

rivers there are in the country. The rivers are spread out like a network all over the country and are interconnected. If one river dries, it has an impact on the others. No government organisation has an accurate number of the country's rivers either. Almost 10 years ago an official survey was carried out. The Water Development Board's six-volume study report of 2011 stated there were 405 rivers in Bangladesh. The Water Development Board's survey was based on NASA satellite pictures and field surveys. However, in 2005 the board had published a book on Bangladesh's rivers, putting the number at 310. Again, in Banglapaedia and other official documents, the number of rivers is put at 700 in some places and 800 in others. And accounts in literature and folklore put the number in thousands. A year after the survey report was published, in 2012 the water resources minister at the time, Ramesh Chandra Sen, told the parliament that there were 310 rivers in the country, of which 212 had a good flow and 97 were on the verge of vanishing. And after independence the river Bhola of Bagerhat disappeared completely. Former director general of WARPO (Water Resources Planning Organisation) and river researcher M Inamul Haque has put the number of rivers in the country at 1,516. BRAC University emeritus professor Ainun Nishat told Prothom Alo that 80 per cent of Bangladesh land is made up from river silt. The rivers are spread out like a network all over the country and are interconnected. If one river dries, it has an impact on the others. He said that when constructing on the rivers, no silt management steps have been adopted. The natural flow of the rivers is being obstructed and many rivers have dried up. From the sixties till now, at least 100 rivers have dried up.

URL: <https://en.prothomalo.com/environment/158-rivers-dry-up-in-57-years>

Bangladesh: Coronavirus destroys crab exports

Crab farmers and traders in Bangladesh's coastal areas are on the brink of destitution as exports are indefinitely postponed after the Covid-19 outbreak. The losses started well before the pandemic reached Bangladesh, because China – the main market for the crabs – imposed an import ban on January 25. Swapan Mandal, general secretary of the Rampal-Bagerhat Crab Dealers Association, said that large quantities of crabs were usually sold during the Chinese New Year festival. But due to this year's ban, many crabs have died already. Crabs produced in the country's three coastal districts around the Sundarbans the world's largest mangrove forest that straddles the Bay of Bengal coastline of Bangladesh and India are also exported to Japan, Taiwan, Belgium, Britain, the Netherlands, Germany and Australia. China accounts for around 85 per cent of the exports. Kazi Mahabubul Alam Azad, Secretary of the Bangladesh Live Crab and Eel fish exporters Association, said the export of crabs to China had been totally suspended from January 25 to mid-February. "Later we started exports to some provinces of China at a very limited scale. But from March 23, the exports were stopped again as the Bangladesh government has shut all airports in this country. If the situation improves the exports may resume on April 5. "But the main problem is that we have not got any payment for what has been exported already this year. Our buyers have not paid us yet. The loss in this sector has reached BDT 4 billion (USD 46.90 million) already, Azad estimated. "The marginal farmers are facing most of the losses. The industry employs nearly 500,000 farmers, most of them with very small landholdings and living below the poverty line. "After January 25, we were exporting only a few consignments to the European market, on a very limited scale. Azad said. With the suspension of flights, that market has also closed down. "It will be a disaster for us if the situation does not

improve and we are not able to export again soon. Price crash As demand crashed, the price of crabs in the domestic market has fallen by two-thirds. “We used to sell quality crab at BDT 2,500 (USD 30) per kg, which is now around BDT 800-900 (USD 9.40-10.50), Azad said. And even at the price, there is a lot of unsold stock, as local consumption of crab and eel is low. Bangladesh’s crab farmers are almost entirely dependent on exports. The once buzzing crab and eel markets in the coastal districts Khulna, Bagerhat and Satkhira are now deserted. Tapash Mandal, a crab farmer in Saral village of Paikgachha sub-district in Khulna district, borrowed BDT 450,000 (USD 5,300) and started fattening crabs in a one-acre plot that is periodically inundated by brackish water. Buying one kilogram of female crab at BDT 500 (USD 6), he used to sell them for BDT 1,500 to BDT 1,800 (USD 18-21) after fattening. “But this year I could sell crab worth Tk 30,000 (USD 354) only. I had nearly one ton of crabs in my farm which I could not export. All of them died. I sold only a little in the local market. I have lost almost BDT 700,000 (USD 8,200) this season. I’m not sure how I’m going to repay my debt. Climate change impact Many farmers in Khulna, Bagerhat and Satkhira had been forced from paddy to shrimp farming two to three decades ago, as sea level rise due to climate change made the water and the soil too saline for paddy. But shrimps are highly vulnerable to diseases, especially when packed as they are in the shallow brackish waters of the shrimp farms. So many shrimp farmers moved to crabs, initially lured by the promise of a lucrative market in Japan. Over the last five years or so, crab fattening and eel farming have become very popular in the coastal districts due to the high prices they attract in international markets. In the financial year from April 2007 to March 2008, Bangladesh’s earnings from crab exports totalled USD 7 million. There has been a big increase since then. The situation is affecting everyone from large traders to labourers. Mrinal Kanti Dey, vice-president of Sundarban Crab and Fisheries Cooperative Society, told The Daily Star, “I usually trade around 800-900 kg every day; but now it has come down to 200-250 kg as export to foreign markets, especially China, has stopped since January 25. Shibpada Biswas from Khalsibunia village in Batiaghata sub-district of Khulna has been catching crabs from the creeks in the Sundarbans for the last 25 years. But this January he has had to change his profession. He is now working as a labourer. “I never saw a situation like this in my life. Now there is no demand for crab. Large crabs used sell for to be BDT 1,500 (USD 18) a kilogram. Now nobody is buying them at BDT 500 (USD 6), in the domestic market.

URL: <https://www.eco-business.com/news/coronavirus-destroys-bangladeshs-crab-exports/>

Bangladesh: Fish farmers in need of support

Bangladesh has had the distinction of ranking amongst the top inland fish producing nations in the world. But the Covid-19 crisis, which has forced shutdown of economic activities, has put fish farmers in a difficult position. According to a report by this daily, fish farmers in Kishoreganj, Mymensingh and Netrokona are unable to harvest fish and sell them to different parts of the country including Chattogram, Dhaka and Sylhet where they sell year-round due to the dearth of buyers and an almost complete suspension of inter-district transportation. As a result, they are incurring heavy losses. On top of that, the farmers have to continue feeding the fish, instead of starting a new fish-rearing cycle. Farmers are also facing trouble finding labourers willing to harvest the fish as they are reluctant to come out and work due to the fear of the virus. According to a district fisheries officer, if the current situation prevails, fish farms in

Mymensingh along with approximately 112,000 farmers may suffer a loss of Tk 400 crore. Many farmers are facing the additional challenge of having to repay the money they had borrowed to invest in fish farming. There are around 300 hatcheries and 900 nurseries in Bhaluka, Gouripur, Muktagachha, Phulpur, Tarakanda and Trishal upazilas; 250 nurseries and 12 hatcheries in Netrokona; and approximately 26,000 fish farmers in Netrokona and 27,000 in Kishoreganj. If the present situation continues, it will have a big impact on the overall food security of Bangladesh. The prime minister has already warned about the possibility of a global food scarcity as a result of the ongoing pandemic. Even though a list of the fish farmers is being prepared by fisheries officials to be sent to the Ministry of Fisheries and Livestock for the financial assistance offered under stimulus packages declared by the PM to address the Covid-19 fallout, the outcome of it may be delayed. Needless to say, farmers of all sorts play an integral role in ensuring food security. Therefore, they must be given all necessary assistance promptly. We suggest that loan repayments for the fish farmers should also be deferred as of now. Removing the barriers for the farmers is extremely important and the authorities need to intervene in order to guarantee the continuity of fish production and survival of the fish farming communities.

URL: <https://www.thedailystar.net/editorial/news/fish-farmers-need-support-1896403>

Bangladesh: Jaladash community of fisherfolk dwindles under onslaught of climate change, State apathy

They are called Jaladash (servants of water). Hereditary fisherfolk living along the mouths of the Meghna river and the coasts of Chittagong and Cox's Bazar, this Dalit community now regularly faces one of the most fearsome effects of climate change – the Bay of Bengal swamps their homes at almost every high tide. The oldest traditional fishing community in Bangladesh, around 600,000 Jaladash also battle extreme poverty, serious shortages of drinking water, healthcare, education, formal banking facilities and now loss of livelihood. They are routinely affected by the Bangladesh government's fishing bans to let fish stocks improve; at other times, they are hit by the drying up of various rivers and creeks in the Ganga-Brahmaputra-Meghna delta due to dams and barrages upstream. Over the last two decades or more, they have also had to deal with increasing salinity that affected their freshwater sources, pollution and sea level rise. There are hardly any government or non-government organisations offering technical or credit support to the Jaladash to improve fishing efficiency or management. Liton Jaladash, president of the North Chattala Coastal Fisherman Jaladash Cooperative Welfare Federation, said, "Life is not good. We fish but we do not get food every day. We have to survive, but it is hard. Almost no member of the Jaladash community owns any land, so farming or aquaculture are not options open to them. They use the same fishing nets that their ancestors did. The large-mesh nets allow fingerlings to escape and are therefore more sustainable, but these fishers lose out to the modern trawlers that use nets with miniscule meshes and catch juveniles that they either discard or sell to fishmeal factories. Increasingly, Jaladash youth are being forced away from their traditional livelihood and end up as rickshaw pullers or unskilled labourers in urban areas, including Chittagong and even as far as the Bangladeshi capital city of Dhaka, around 250 kilometres inland. High tides, storms, floods, erosion – everything endangers Jaladash settlements that have only a bamboo palisade for protection, as seen in Char Khandakar, on the southern side of

Sonagazi in Feni district along the Bay of Bengal coast of Bangladesh. Resident Manik Jaladash said, “Water enters my house every time and we can’t stop it. Villagers have to repair their homes after every monsoon, storm and even high tide. Owning a fishing boat is the dream of every Jaladash child. They grow up playing among the anchored boats and drying nets of their neighbours. These residents of Char Gazi in Ramgati sub-district of coastal Lakshmipur district are happy to be given National Identity cards that recognise them as citizens of Bangladesh, but it has not yet brought them the services available to others below the poverty line – livelihood and alternate income generation support, food during the fishing ban season, schools, healthcare and so on. In the Jaladash community, fatality rate through drowning at sea is high, and the death of a fisher leaves his widow with no source of income, as has happened to 60-year-old Chiddati Bala Jaladash of Char Khandakar. She has also lost her son and son-in-law. The family has not received any compensation from the government. Chiddati Bala said, “The boat that took my husband to the sea brought my husband’s dead body. One shockwave turned my life into hell. Now my daughter and I have to pay all the debts of my husband and my late son. Women of the Jaladash community repair the fishing boat of the family, mend nets, sort the catch and do all the work at home. Having just done some repairs to a boat, 62-year-old Sadhana Rani of Char Khandakar said, “I am getting old, but life is not giving me any rest. There is no rest for the girls. This girl from Sarikait in Sandwip Island goes to primary school, then spends the afternoon sorting the family’s shrimp catch. A severe shortage of freshwater forces the women of the Jaladash community to use polluted ponds. There is no cooking fuel either, forcing the Jaladash women to trudge long distances and carry heavy loads every day, as seen in Char Gazi. The villages where the Jaladash live are tiny and cramped, as seen in South Salimpur of Sitakund sub-district in Chittagong district. The Feni river is now highly silted, as seen in this photo taken in Char Chandia of Sonagazi sub-district in Feni district. The 140-odd Jaladash families living on the banks of this river are in extreme crisis because they can hardly catch any fish in this river any more. The traditional sea-going fishing boats of the Jaladash anchored at the Ramgati embankment in Feni district.

URL: <https://www.firstpost.com/long-reads/bangladeshs-jaladash-community-of-fisherfolk-dwindles-under-onslaught-of-climate-change-state-apathy-8298531.html>

Bangladesh: Fishermen demand easing curbs on fishing in Bay

Sea fishermen have urged the government to relax the restriction on trawling in the deep waters of the Bay of Bengal to help them recoup losses in sales inflicted by the ongoing shutdown caused by the global coronavirus pandemic. They demanded the government reduce the fishing ban period: it can begin from May 1 and go on until June 15 instead of May 20 to July 23, according to a letter sent by the Bangladesh Marine Fisheries Association (BMFA) to the fisheries and livestock ministry last week. The request comes as many of 231 trawlers are sitting idle in the face of poor sales of marine fishes in the domestic market and problems of exports as the deadly coronavirus has led to a stunning collapse of the global economy. “White fishes breed throughout the year and there would be no effect on fish resources if the government slaps the ban early for the current year,” the BMFA said. The government first imposed the 62-day ban on fishing in the waters of the bay in 2015 to ensure proper breeding. “This is a major time for breeding,” said Md Latifur Rahman, director for marine of the fisheries department. The

government decided on the ban based on opinions of different stakeholders and experts in the sector, he said, adding that views of all stakeholders are needed to reduce the ban period or bring it forward. Deep sea fishing operators are not the only group that catch fishes there. More than 60,000 fishing boats involving about 4 lakh fishermen are engaged in fishing in the coastal regions and they account for 85 per cent of the total marine catch. Their views also need to be considered, Rahman said. “We also have the month of Ramadan and a ban on fishing may affect protein supply in the domestic market,” he said, adding that his office shared his views with the higher authorities in this regard. Fish caught from marine water accounted for 15 per cent of the total fish of 42.76 lakh tonnes produced in fiscal year 2017-18, according to the DoF. Marine catches rose 2.66 per cent year-on-year to 6.55 lakh tonnes in fiscal 2017-18.

URL: <https://www.thedailystar.net/business/news/fishermen-demand-easing-curbs-fishing-bay-1896823>

Bangladesh: Fish farmers in trouble too

Fish farmers in Mymensingh region are incurring losses because of transport disruption caused by Covid-19 shutdown. Farmers in Mymensingh, Netrakona and Kishoreganj are unable to harvest fish and sell those to different parts of the country due to lack of buyers and smooth inter-district transportation, said fisheries officials and fish farm owners. If the current situation prevails, fish farms in Mymensingh district may suffer a loss of Tk 400 crore, said Dilip Kumar Saha, the district fisheries officer. There are around 1,12,000 fish farmers, mostly in Trishal, Gouripur, Phulpur, Tarakanda, Bhaluka and Muktagachha upazilas, as well as 300 hatcheries and 900 nurseries in the district. The fish from the district are sent to different parts of the country including Dhaka, Sylhet and Chottagram year-round. But now, many farmers cannot send their fish outside the district and have to keep feeding the adult fish, instead of starting a new fish rearing cycle, said the officer. Mahbulul Islam, owner of a fish farm on 15 acres of land in Solimpur village under Trishal upazila, invested Tk 50 lakh, including Tk 20 lakh loan. Five employees work at his farm. Mahbulul said he couldn't get any transport to send his fish to the market. “I am worried about loan repayment now,” he said. Fish farmer Abu Raihan of Dhanikhola village in Trishal claimed he already incurred a loss of over Tk two lakh since the shutdown. “Throughout last week I sold only around 50 maund [1.2 tonnes] of fish in the local market, but early March in just two days, I sold five tonnes of climbing perch,” said Raihan, whose fish farm is on 10 acres of land. He said the demand for fish in cities, where most supplies go, has decrease because many people went back to their villages in fear of coronavirus. “Because of the dearth of buyers, I cannot harvest fish. Instead, I have to continue to feed them,” said Raihan, who invested around Tk 35 lakh, mostly from bank loans, in his farm. He is worried about not getting a fair price for his produce in future to help recover his loss. About 3,200 fish farmers and 50 hatchery owners are facing similar plights in Trishal, informed Tofail Ahmed, senior fisheries officer of the upazila. According to farmers, Mymensingh's fish sector employs some seven lakh people, many of whom may lose their jobs because of the financial crisis faced by the farm owners. About 26,000 fish farmers, 250 nursery and 12 hatchery owners in Netrokona are in the same state, said Md Fazlul Kabir, the district fisheries officer. The supply of fish feed is still normal and the price is as usual. But the price may increase, if the present situation continues, he feared. District Fisheries Officer Ripon Kumar Paul of Kishoreganj also

said around 27,000 fish farmers in the district might count huge losses. But an exact figure is yet to be assessed. Farmers are also having difficulty finding labourers for fish harvesting because many workers are reluctant to come out and catch fish during the pandemic, Ripon added. The fisheries officials informed that they are preparing lists of the fish farmers to send to the Ministry of Fisheries and Livestock for the financial assistance offered under the stimulus package of Tk 5000-crore declared by the prime minister recently to address the Covid-19 fallout.

URL: <https://www.thedailystar.net/backpage/news/fish-farmers-trouble-too-1895845>

Bangladesh: Dried fish traders, workers seek urgent help amid virus crisis

Owners and workers of dried fish processing units here have demanded emergency funds and other supports from both public and private sectors for their survival, as their livelihood has been hit hard due to coronavirus pandemic. As the production season of dried fish is from September to May, they said this is the peak time for the sector but due to the outbreak of COVID-19, the production has remained suspended for more than a month. However, deputy commissioner (DC) of Cox's Bazar district Md Kamal Hossain said the district administration has already distributed daily necessities among the 40,000 wage-earners in Cox's Bazar as the coronavirus outbreak rendered them jobless because of the 'stay at home' rule. We are collecting more data to identify the day labourers. Step by step, we want to bring all wage-earners under the government's relief programme. Not only day labourers, we are also providing supports to the people who do not feel comfortable to stand in the line for relief "We are collecting more data to identify the day labourers. Step by step, we want to bring all wage-earners under the government's relief programme. Not only day labourers, we are also providing supports to the people who do not feel comfortable to stand in the line for relief, he added. Atikullah Sawdagor, president of the Najirartek Dried Fish Traders Cooperative Society, said "Usually, we produce the lion's share of dried fish during the last few months of the season. This year, the production has dropped to zero level in last one month for want of fish as the fishermen cannot catch fish for the prevailing locked-down situation. Fishermen are now afraid of going to sea. Moreover, we are now facing transportation crisis to bring fish from Chattogram, He mentioned that many of their orders were cancelled due to transportation problem, as they would not be able to deliver dried fish as per the schedule. "The owners and workers are now passing idle time. The loss of the Najirartek dried fish village is uncountable. It may be over Tk 1 billion, he added. He sought loan supports from the government at low interest rate to overcome the losses the sector would incur. He informed that around 30,000 workers, with two-thirds women, are engaged in work in 1,040 dried fish processing units in the village and they are earning their livelihood. Most of the workers are working on daily wage basis. Just after one-and-a-half month time, they will become jobless as the rainy season is approaching fast. They are already jobless for over a month, said Atikullah, also owner of Atikullah Enterprise and Maa Enterprise, expressing concern. He urged the government to provide relief supports for the workers as they are now passing a miserable life. Owner of Fatema Fish Sales Centre Md Imranul Hoq said the production at his unit has come down to nil due to coronavirus. "Around 15 to 20 workers work in my unit. Among them, I have appointed six workers for the whole season. So, I have to pay wages to them, he added. Jaynaz Khatun, a day labourer, said they are a five-member family with two daughters and one son. "My husband is also a day labourer. Through working at the dried fish processing unit, I

earn Tk 350 to 400 daily and my husband earns Tk 400 to 500 daily. But due to coronavirus, we now are staying home for more than a month. Our savings has already been spent to run the family. Now we have no money to buy food for our children, she added. Another day labourer Alam said he is the only earning person for his five-member family. Due to the ongoing crisis, he is already facing financial crisis and sought immediate support from any sector. Civic Engagement and Capacity Development Specialist of the CLIMB project Md Tanvir Sharif said the story is not only of Alamand Jaynaz Khatun, but also of every day labourer of the dried fish sector in the Cox's Bazar. He said some of the workers took loans from the owners last year and for that they also used their children as workers to repay the loans. This year, such kind of borrowers will face unbearable problem, as they cannot repay the loans, he added.

URL: <https://en.prothomalo.com/business/local/dried-fish-traders-workers-seek-urgent-help-amid-virus-crisis>

Bangladesh: ACI swims against the tide, enters shrimp export market

ACI Agrolink, a subsidiary of Advanced Chemical Industries (ACI), has set foot in shrimp processing to make a breakthrough in the global seafood market and take the sector out of troubled waters. Bangladesh's shrimp exports have been on the wane since fiscal 2013-14 in the face of increased competition from countries such as India, Vietnam and Thailand, where low-priced vannamei shrimp are grown. The factory, which was set up at a cost of Tk 25 crore, sits in the shrimp farming village Amian in Kaliganj upazila of Satkhira, one of the main shrimp growing districts. This is in contrast to other processors, who opt to have plants on the banks of Rupsha river in the southwest division of Khulna, meaning the shrimps spend hours on the road before they are processed. As a result, the quality of shrimp deteriorates. "This is one of the differences in our shrimps," said FH Ansarey, managing director and chief executive of ACI's agribusiness division. ACI Agrolink purchases black tiger shrimps directly from farmers, so there is next to no risk of bacterial contamination en route to the processing plant, which has the capacity to process 30 tonnes of shrimp daily. Besides, the locational advantage means the quality of shrimps sold will be better than the other processors'. "So, ACI will be able to win the confidence of the quality conscious customers abroad," Ansarey added. ACI is entering the export-oriented sector at a time when half of the shrimp and fish processing factories have gone out of business due to shortage of a few essential raw materials. Currently, about 15 processing plants are engaged in exports. They are registering falling receipts thanks to change in consumer preference: buyers now opt for cheaper alternatives to the expensive black tiger and freshwater prawn varieties of shrimp, which are mainly farmed on 2.72 lakh hectares of land in the southwest coastal region. More than eight lakh farmers cultivate shrimps for their livelihoods and the US market has been the mainstay of their earnings over the past couple of decades. As demand from abroad has fallen in recent years in the face of ample supply of vannamei shrimp from other countries, the local market acted as a safety net for farmers thanks to the rising purchasing power of people. ACI Agrolink, which began production at their factory in October last year, is well aware of this fact. Therefore, the company intends to target premium customers through marketing and branding of local amian shrimp, according to Ansarey. "Consistent quality is a must for branding." And ACI is confident of delivering what it promises on the label. "This is the future of Bangladesh shrimp," he added. A few industry insiders remain sceptic over

whether ACI can succeed in the absence of increased production of shrimp and higher value addition. Exports are declining as the black tiger variety is failing to withstand the competition from the high-yielding vannamei, said Kazi Belayet Hossain, president of the Bangladesh Frozen Foods Exporters Association. “As a result, factories are becoming sick day by day.” Feasibility study shows the prospects of new entrants are not too bright. “They may do well but the chances appear to be low,” Hossain added. There are currently four or five companies that are sincerely trying to boost the country’s exports. But they are yet to derive any benefit since they are not too well-known like ACI, Ansarey said. “We have a corporate brand image, and buyers have confidence in us,” he added. ACI Agrolink have identified the reasons why Bangladesh is not faring well in the export market, said its chief executive officer M Saifullah. “Corporate governance, quality and compliance will be key. Besides, the other are not be able to do the kind of communication that we would be able to,” he added. At present, ACI’s market capitalisation stands at Tk 1,071 crore. ACI have nearly 220 tonnes of shrimp worth more than \$2 million in total, said M Ahsan Habib head of operations and marketing of ACI Agrolink.

URL: <https://www.thedailystar.net/business/news/aci-swims-against-the-tide-enters-shrimp-export-market-1875118>

Myanmar continues dried fish exports to Bangladesh

Myanmar is continued to export many kinds of dried fish to Bangladesh through Maungdaw border trade center. It exported 210 tons of dried fish worth over US\$131,000 during January and it is the third largest export via Maungdaw border trade center. Myanmar exported 268 tons of dried fish worth about US\$192,000 in December, according to Office of the Director of Maungdaw border trade center. Myanmar earned over US\$1.4 million from export products including dried fish export during December and earned over US\$1.538 million in January. It exported onion, carp fish, dried fish, betel nuts, chick peas, ginger and plum jam and its main export is onions. Myanmar traded US\$6.707 million worth of products via Maungdaw border trade center from October 1 to February 14 and it is US\$3 million more in compared with the same period in last fiscal year.

URL: <https://elevenmyanmar.com/news/myanmar-continues-dried-fish-exports-to-bangladesh>

Blue economy: Huge untapped potential lies unused in Bangladesh

Bangladesh has a huge economic potential in the Bay of Bengal but failed to make the most of resources from the sea for lack of initiative and investment. The observation came at a seminar titled “Blue economy: Future prospects of harnessing the opportunity for Bangladesh at a hotel in the capital on Monday. The Centre for Strategic and Development Studies (CSDS) organized it. Discussants at the program pointed out that fishing vessels could now go maximum 60 kilometers into the sea and because of this fishing near the shore line was harming and disturbing the balance of sea fisheries. On the other hand, they mentioned, valuable Tona fish in the deep sea remained out of reach while neighboring countries were fishing illegally in the sea areas of Bangladesh. Kawser Ahmed, professor of the department of oceanography of the University of

Dhaka said: “Tona fish live in 250-350 metres deep in the water and we have to go to 100-150 kilometres away from the shore to catch Tona.” Rear Admiral Md Khurshed Alam, secretary (maritime affairs unit) of the ministry of foreign affairs said: “We have 70,000 wooden fishing boats which can go up to 20-25 kilometres from the shore. We also have 240-250 steel body fishing trawlers which can go up to 40 kilometres and some can go to 60 kilometers maximum.” “Not a single fishing ship we have which can go into deep sea. We cannot catch Tona fish for lack of fishing facilities, he said. He urged private sector to invest in fishing ship. Khurshed Alam presented the keynote in the seminar and said: “We can produce 15 lakh tons of salt but cannot export for being bellow standard. We do not even have technology to track a foreign ship into our sea areas. We took no initiative to collect minerals from the sand.” Asset harnessing Major General (retd) Amsa Amin, chairman of CSDS, who moderated the seminar, said: “Estimated gross value added to our economy was 6.2 billion dollars in 2014-2015. Of it, tourism added 25%, transport 22%, marine capture fisheries and aquaculture 22%, oil and gas 19%, ship building and breaking 9% and mineral 3%.” Sea is producing 3.3 million tons of fish for Bangladesh which provides 56% of animal protein intakes. Sea fisheries and aquaculture is contributing 4.6% of national GDP and supporting the livelihood of 13 million people. It also contributes 5.1% of the country’s foreign exchange earnings.

URL: <https://www.dhakatribune.com/business/2020/02/24/blue-economy-huge-untapped-potential-lies-unused-in-bay>

Bangladesh: Sundarban: The curse of being a Tiger Widow

We know the history of Sundarbans tigers brutality. A women abandoned by her sons, shunned by her neighbours and branded a witch. Bengal tiger killed Mosammat Rashida’s husband and this was her crime. Women like her are ostracised in many rural villages in Bangladesh, where they are viewed as the cause of their partner’s misfortune.

URL: <https://www.wionews.com/videos/sundarban-the-curse-of-being-a-tiger-widow-281587>

Pinpoint crab breeding season to protect industry in Bangladesh

A group of Khulna University scientists yesterday said the government should properly identify the peak breeding season of mud crabs based on scientific evidence, to protect mother crabs and halt the industry’s decline. At present, harvesting crabs from the Sundarbans, a prime natural source for catching the crustaceans, is banned in January and February, they said at a roundtable discussion at The Daily Star Centre. However, March-April is the peak breeding season of mud crabs at the location, they said, referring to their study report. Abundance of fully mature mother crabs can be seen from late February to late April. Alongside March and April, February should also be included in peak breeding season to protect mother crabs, they added. CARE Bangladesh and The Daily Star, with support of Swiss Agency for Development and Cooperation, arranged the roundtable on “Prospect and Challenges of Crab Cultivation: Policy Perspective”. In 2017-18 fiscal, Bangladesh exported about 11,000 metric tonnes of crabs and earned around Tk 217 crore in foreign currency. Some three to four lakh people are directly and indirectly involved in the

crab industry, from harvest to export, according to the report. Prof Yousuf Ali of Khulna University's fisheries and marine resource technology discipline said in 2013, 32,000 metric tonnes of crabs were caught from natural sources. That number dropped to 25,000 metric tonnes in 2016. Placing a ban on catching crabs during peak breeding season is an effective way to ensure appropriate spawning and migration of mud crabs, he added. Prof Abdur Rouf, head of the discipline, said understanding crab's life cycle is important for the industry to flourish. "If we harvest mother crabs, it will be a big loss," he said. Jahidul Kabir, conservator of forests of the Department of Forests, said the findings can be an authentic document based on which the department can undertake initiatives to change existing policies on crab export. Demand of crab in foreign countries — especially in China — remains high during the year's beginning, said Gazi Abul Kashem, chairperson of Bangladesh Live and Chilled Food Exporters Association. The price also stays high at that time, he said. Belayet Hossen — divisional forest officer of Sundarbans East Division, Bagerhat — said some 242 crab farms have been registered in the area since 2001. However, only 64 of those are operational now. Sundarbans West Division Forest Officer Bashirul-Al-Mamun said crab harvesting from natural sources have increased since 2017. The coronavirus outbreak has reduced crab export from the Sundarbans significantly, said SM Mahbub Alam, coordinator of NGO-based initiative Nowabenki Gonomukhi Foundation.

URL: <https://www.thedailystar.net/city/news/pinpoint-crab-breeding-season-protect-industry-1870579>

Dry fish brings smiles for Narail fishermen, traders in Bangladesh

Dry fish or shutki production is booming in Narail's beel (a type of waterbody) area over the last couple of years, bringing smiles on the faces of the local people involved in the profession. Currently around 160 tons of dried fish, worth around Tk4 crore are being produced every year in the region, insiders said. After meeting the local demand, the shutki is being exported to neighbouring country India as well as other parts of the country. However, detailed statistics on dried fish production in the district is not available yet in the local office of the Department of Agricultural Extension (DAE). Narail Fisheries Officer Muhammad Farukul Islam said dry fish production is gaining popularity in the region. The district having 57 beel had huge potential in dry fish production, he said and added that the shutki production would further increase if workers there got proper training. Fishermen dump the unsold fishes at dry-fish hubs and sell them at lower prices. The traders at the hubs produce the shutki processing the fishes. Usually making the dry fishes remain momentous between October to February. The demand for the shutki is very high because of its taste. Visiting several dry fish hubs in the area, this correspondent found that workers at the hubs were passing very busy days in making the shutki. The hub traders initially buy different varieties of fish, including Puti of beel, a type of water body, from fishermen, wholesale and retail fish markets. Workers then cut and clean the fish, add salt and dry them on a bamboo platform in the sun for four to five days. After collecting the dried fish, they start packaging for sale in the markets. The number of such hubs reached to 25 over the last 8 years in the region. About three thousand people are directly involved in the sector, said the insiders. A dry fish hub owner Hazi Chan Miah said that he collected fish directly from fishermen and processed them to Shutki. "I make good profit and it is increasing day by day," he

said. Fishermen said they were getting good prices for their fish which is unsold in the regular market. They sell the fishes at Tk8-12 thousands per maund based on their quality and sizes. Apart from making shutki, the fishes collected by the hub are being used for producing poultry feed. Narayan Bishwas, a fisherman, said he net puti fishes from beel but could not sell all of them. “Among the unsold, We took the big-size puti and the rest was used as duck’s feed,” he said. “But now I can sell the fishes to dry fish hubs,” he added and expressed satisfaction that he could make more money selling the fishes. He said that the booming dry fish trade there helped them sell their all fishes netted from bil. Besides, it brought a relief for them, he said.

URL: <https://www.dhakatribune.com/business/2020/02/19/dry-fish-brings-smiles-for-narail-fishermen-traders>

Myanmar’s Carp export to Bangladesh increases

Freshwater carps export to Bangladesh through Maungdaw border trade center is increased during January and it is became the second largest export product at Maungdaw border trade center, according to figures from Office of the Director of Maungdaw border trade. Myanmar is continued to export carps via Maungdaw border trade center. It exported 180 tons of carps in December 2019 and 224 tons of carps in January 2020. The export amounts of carps to Bangladesh are 319 tons in October 2019 and 224 tons in November 2019, according to figures from border trade export list. The largest export product is onion followed by carps export. At the present, onion, dried fish, betel nuts, chick peas and ginger along with carps are exported. The carp fish is carried from Yangon to Rakhine State with cold storage trucks to export from Sittwe and Maungdaw border trade centers. Myanmar exported US\$1.537 million worth of products to Bangladesh via Maungdaw border trade center during January.

URL: <https://elevenmyanmar.com/news/carp-export-to-bangladesh-increases>

President, PM urge coast guard to help protect marine resources in Bangladesh

President M Abdul Hamid and prime minister Sheikh Hasina on Thursday hoped that the members of the coast guard would work with patriotism, sincerity, honesty, courage and cordiality to ensure full proof security of the country’s maritime and coastal regions. In separate messages on the eve of the 25th anniversary of Bangladesh Coast Guard and Coast Guard Day 2020, they also lauded the role of the members of the coast guard in protecting maritime recourses of the country. President Abdul Hamid said, ‘Since its inception, Bangladesh Coast Guard has been playing an active role in protecting the law and order in maritime boundaries, coastal areas, fisheries and forest resources. The force is also working relentlessly in preventing infiltration, human trafficking, smuggling and piracy in the coastal areas of the country. They also have made significant contributions through rescue operations in coastal areas during natural disasters’. He said that the incumbent government had taken steps to modernise the coast guard by 2030. ‘The mechanisms and technical capabilities of the force are being increased to build the coast guard as a modern two-dimensional force,’ he said. ‘It is our expectation on the eve of the Mujib Barsha that the Bangladesh Coast Guard would carry forward blue-economy related activities to build a golden Bangla as dreamt by Father of the Nation Bangabandu Sheikh

Mujibur Rahman,' the president added. In her speech, prime minister Sheikh Hasina said that the government had been implementing various projects to build the coast guard as a capable force so that they could contribute to the country's socio-economic development. Bangladesh had established legal and economic rights over a large maritime boundary in the Bay of Bengal under the ruling Awami League government, she said, adding that the members of the coast guard would play an important role in taking ahead of the blue economic activities along with their responsibility of protecting the country's marine resources. The prime minister hoped that the coast guard would perform their duties with patriotism, sincerity and courage and contribute to implement Vision 2041 and Bangladesh Delta Plan 2100 of the government. The president and the prime minister also wished Coast Guard Day a success and greeted its members on the occasion.

URL: <https://www.newagebd.net/article/99533/president-pm-urge-coast-guard-to-help-protect-marine-resources>

Crab business pays the toll in Bangladesh

The coronavirus outbreak in China has started taking its toll on crab farmers and exporters in Khulna region as its export to the world's second economic giant remained suspended since January 25 last. Several thousand crab farmers, traders and other people involved in the business are now passing their days in great worries following the suspension of the crab export to China which is fighting the deadly coronavirus that originated from its Hubei province, infecting over 44,138 people globally and claiming the lives of 1,107 as of yesterday. According to Khulna office of the Export Promotion Bureau, Bangladesh exports crab and kuchia worth Tk 700 crore every year. China alone accounts for 90 percent of the export. Bagerhat correspondent of the news agency reports: Crabs in farms in Sharankhola upazila have started dying as farmers could not sell those timely following the suspension of the export. Farmers said there are about 30,000 tonnes of crabs in over 300 small and big farms in the upazila. If they cannot export these crabs within the next two weeks, they will have to count a loss to the tune of Tk 5 crore, they said. Talking to the news agency, Md Polash Mahmud, a crab farmer of Sonatala area, said over 250 kgs crabs have already died in his farm. Crabs become saleable in three months, but those die if not sold in time, Mahmud said, adding that no-one is buying crabs from them under the present circumstances. Md Al Amin, a local crab exporter, said they export 95 per cent of crab to China. "I haven't yet got Tk 40 lakh against exporting 7 tonnes of crabs to China. Binoy Kumar Roy, upazila senior fisheries officer, said a small amount of crabs have died in different farms as the export remained halted since the last week of January. Traders and farmers should find new markets for exporting crabs, he added. Dr Md Khaled Kanak, district fisheries officer of Bagerhat, said some crabs died as those were cultivated in less water. He suggested that farmers shift crabs to other places for lessening the losses. In Khulna, hundreds of crab farmers in Koyra, Paikgachha, Dacope and Botiaghata upazilas are also counting huge losses as crab prices have already fallen in local markets. Md Alauddin Hossain, Koyra upazila fisheries officer, said the number of crab farmers have increased in the region as they earned huge profit in the past years but all of them have now become frustrated after the sudden export halt. Md Abu Sayeed, Khulna district fisheries officer, said farmers cultivated crabs on 28,546 hectares of land this year in the district. According to the Khulna office of Export Promotion Bureau, crabs worth US\$

26.81 lakh were exported from July to October in 2019. The country earned US\$2.691 lakh from crab export in June while US\$3.97 lakh in July, US\$5.63 lakh in August, US\$9.25 lakh in September and US\$5.94 lakh in October last year, the sources said. Satkhira Correspondent of the news agency said thousands of crab and kuchia farmers are passing days amid anxiety following the suspension of the export. Alauddin, a crab farmer of Shyamnagar upazila, said livelihood of thousands of families in this area is under threat as they depend on crab farming. Md Badiuzzaman, Satkhira district fisheries officer, said exporters should find out alternative markets for crab export.

URL: <http://www.theindependentbd.com/post/236649>

Bangladesh: Protecting our rivers and waterbodies for a sustainable future

Bangladesh is truly a riverine as well as a maritime country, which is situated at the largest delta containing the finest mangrove and longest continuous sea beach in the world. Most of the rivers in Bangladesh are either tributaries or distributaries of the Ganges, or the Brahmaputra, or the Meghna River. Both the density of population and density of rivers/rivulets per square km are among the highest in the world if we consider all listed rivers and streams. Our ancestors were immensely dependent on the resources of the rivers and water bodies of the country. We still depend on the rivers for our living and communication. The sweet water fish in our rivers and water bodies are among the best in the world, which have kept our lives moving as the bulk of the protein comes from these marine creatures. To feed our huge population and minimise the cost of living we need to nurture the rivers and water bodies. As a citizen of a littoral state, we feel proud to have the advantage of getting invaluable benefits from hundreds of rivers and innumerable water bodies. Rivers are also an integral part of the major communication links, which is not fully exploited though, from seaports to upstream inside the mainland. To use the rivers and water bodies sustainably we need to protect these invaluable natural gifts from all sorts of wrongdoings. People damage rivers knowingly or unknowingly to obtain short term benefits, which should not happen. Existing laws are at times not very effective because the intentions of stakeholders and their cohorts are often misguided by corrupt practices. With the advancement of modern science and technology, there are different means available for the surveillance of natural resources. With the digital revolution in Bangladesh, we need to develop and make the best use of newly available technologies to monitor rivers, quality of river water flowing from outside and within the country, and water bodies, continuously so that none can harm these valuable assets and we keep them safe for future generations' sustainable use. We still do not have a comprehensive river protection law in Bangladesh, and the country is not a signatory of international River Law Conventions either. The United Nations drafted the document on the Law of Non-Navigational Uses of International Watercourses, commonly referred to as the UN Watercourses Convention in 1997, to help conserve and manage water resources for present and future generations. From the time of its drafting, the Convention took 17 years to enter into force on August 17, 2014. The treaty has been ratified by just 36 states or so. The majority of countries, especially the key ones, remain outside its scope. The convention, however, is regarded as an important step in establishing international law governing water. Article 7 of the document titled, "Obligation not to cause significant harm," requires that member states "in utilising an international watercourse in their territories take all appropriate

measures to prevent the causing of significant harm to other watercourse states” and compensate sharing states for any such harm. This part of the law is particularly important for a geographically disadvantaged country like Bangladesh to get a share of international river waters. In Bangladesh, we already have a national water policy, but we need proper law to streamline the use of water resources and ensure their protection from pollution. The law needs to cater to provisions to safeguard rivers from pollution, illegal occupation, preventing industrial wastes and maintenance management and coordination process among the different stakeholders of rivers. Law may also include provisions for maintaining water quality. A question may arise who would check the quality of water coming across the border? This matter needs to be addressed by the concerned ministry. We have 54 transboundary rivers with India and three with Myanmar. Among these, only the Ganges water-sharing treaty has been signed with India. Teesta water sharing is still pending, and the rest are under process. The whole country is waiting to see what comes next. History says Joint River Commission officials have not been successful in most of the cases over several decades. Many experts and civil society members opine to resolve these through international laws as has been done in case of delimitation of maritime boundaries between Bangladesh and neighbouring countries. The source of surface water in Bangladesh is the rainfall the country records and the stream flow coming in from outside the country. The surface water resource of this country is very much essential for its people and animals, aquatic flora and fauna, navigation, agriculture, etc. It is also necessary for keeping alive the distributaries in the delta, and maintaining the brackish water ecosystem along the sea, on an annual cycle. Unfortunately, the knowledge of preserving surface water for use is missing in our society, which is very common in developed countries. In Malaysia, approval of a plan for building construction is not given in towns unless they have reservoir tanks underground for rainwater collection. In Bangladesh, we still are waiting to see similar instructions from the concerned authority. If we had such orders, probably city centres would have been saved from water logging with little rainfall. Surface water storage is important not only in cities but also in rural areas. The rivers and wetlands in Bangladesh are the major reservoirs for the storage of surface water. The wetlands, called the “beels” and “haors” are depressions caused by shifting of river courses, tectonic activities, etc. over ages. Many rivers have flood plains over the countryside and those go underwater during the monsoon and the floods. Among the closed water bodies, the “baors” lay mostly in south-western Bangladesh. These are horseshoe lakes formed by the dead courses of rivers. However, the traditional surface water storage mechanisms all over the country are the ponds. Local Government and Rural Engineering Department (LGED) has schemes to create and maintain such water bodies. All these water areas must be standardised, modelled and monitored area wise through digital mapping and monitoring systems as is done in the Netherland or some other countries who have achieved excellence in water management. There are different stakeholders for the management of rivers and water bodies. The organisations which are major stakeholders are the Water Development Board (WDB), Bangladesh Inland Water Transport Authority (BIWTA), Department of Environment, Water Resources Planning Organization, LGED, Divisional and District Commissioners, Upazila Nirbahi Officer, and respective ministries. Every organisation needs to work out their respective capacities and capabilities, but central coordination is vital for implementing the ultimate national policies. In the case of river and water body management, duplication of initiatives or efforts would cause unnecessary waste of funding. The Ganges Barrage project is another idea being floated as has been discussed on several occasions in seminars and workshops. The barrage would store excess water for use during the dry season. This would require detailed

planning, time and huge funding. Navigation through the Sundarbans is another issue discussed at different forums. Any kind of oil spill, as had happened in the past, is dangerous. We need to have our safety mechanism in place. Ecology is important not only for Bangladesh but also for others. There is a special arrangement to look after the activities of the routes and meet navigational requirements like dredging, signals, pilot station and other formal arrangements. Ghasiakhali was the main channel of communication between Bangladesh and India. The Sundarbans channel was used due to the temporary disruption of that channel. Capital dredging of Ghasiakhali Channel by Bangladesh Inland Water Transport Authority is in operation and the Sundarbans channel is almost closed, which has been a good example of effective channel dredging. The National River Conservation Commission (NRCC) by Act No, XXIX of 2013; S.R.O. No. 28-Law/2017, was established on July 22, 2013. The objectives of the Commission were prevention of illegal occupation of rivers, pollution of water and environment, pollution of rivers caused by industrial factories, illegal constructions and various irregularities and ensuring multidimensional use of rivers for socio-economic development. Their activities also include the restoration of the normal flow of rivers, proper maintenance thereof and making them navigable. Ideally, such guidelines would have been good enough to maintain the rivers if the concerned teams were given enough authority and instruments. A short visit at any river port in Bangladesh and one can see how non-compliance of laws has visible symptoms of deleterious effects in the environment. Rivers have become a dumping ground for all kinds of polythene, industrial wastes containing poisonous chemicals and related items which are harmful to fish and humans. Although in 2002, Bangladesh became the first country in the world to ban thinner plastic bags, after 17 years, it appears that the ban is not truly in force. This culture is dangerous for the future as microplastics are continuously being absorbed by different marine species, which are ultimately consumed by humans and this can cause fatal diseases. Moreover, industrial wastes are regularly discharged into water bodies which are killing our rivers. Rampant use of riverbanks has distorted the quality of rivers. Occasionally BIWTA undertakes drives (vide Port Act 1908), but the leaders at local areas do not always cooperate. As a result, the repetition of violations continues once the monitoring agencies leave. There is purported to be some sort of misunderstanding about the sharing of responsibilities between BIWTA and the NRCC, which must be resolved at the earliest making national interest the top priority. Currently, river ports are not maintained with any standard which may attract tourists coming from outside the country. There are 32 river ports in Bangladesh, and the major ports are always congested and most of these have no standard sanitary facilities, no waiting rooms, no ticketing for vessels in advance at the jetty for travellers. There are no proper landing areas and pontoons which are user-friendly as the vessels come to the pontoon heading bows (nose). We need to maintain river ports efficiently to make the rivers more attractive. Physically challenged personnel find it difficult to board the vessels. If the ports are maintained well with all modern amenities and cleanliness and digital informatics as part of the government's drive to make things digital, rivers would be able to attract more tourists and this would contribute to the overall development of the river-based socio-economy of the country. A Korean case on river/water sharing is brought here, which may give new lessons to the world. The Imjin River (site of two major battles) or (Rimjin River in North Korea) is the seventh largest river in Korea. It flows from north to south, crossing the Demilitarised Zone and joining the Han River downstream of Seoul, near the Yellow Sea. Recently the two Koreans, despite having prolonged strained relations with the flexing of muscle, have agreed to carry out joint surveys with high-level civil-military experts and scientists/surveyors for equitable sharing of resources. Once the survey is complete, the two

sides plan to provide navigational information (charts) to ensure free travel by civilian vessels. Joint usage of properties would produce a number of different effects, as they feel the common areas are suitable for the pursuit of multiple projects including aggregate extraction, tourism/recreation, and ecological preservation. These are good lessons for people of our areas who have been at the back foot to have the best use of natural resources. A recent historic ruling from the High Court to give legal rights to all the rivers in Bangladesh has been remarkable. The High Court has accorded the Turag river the status of “legal person” to save it from encroachment and said that the status would be applicable for all the rivers across the country. Interventions of the High Court on law enforcing matters for river conservation definitely will have a positive impact. We feel a stronger law and their implementation are urgent to safeguard our valuable natural resources. Development of human resources in general and experts and skilled human resources in particular arguably are the most important areas where we lack the most. We need a master plan to develop the right kind of professionals on water management. We need to educate students on the potential of our natural resources, and we need to nurture experts on rivers, dredgers, water and river management. Concerned universities and institutions are producing graduates; but are the graduates ready to work on our fields and are the stakeholders ready to accept them? We need to make an assessment of these areas and fundamental research with appropriate funding should be conducted. Without real research with dedicated nationals it is difficult to draw effective policies and rules. Rivers are a part and parcel of our lives and we need to look after rivers’ health and hygiene. To do that we have to follow the existing instructions and set new applicable laws and abide by those sincerely. International conventions adopted by successful leading nations should be considered for adoption. Quality of water in water bodies, rivers and rivulets at sensitive spots should be monitored through modern gadgets and digital technology so that harmful objects do not pollute our water. Appropriate legal measures should be taken against the violators of rules. We need to educate our people at all levels to safeguard our national water bodies and endeavours be made to develop our own experts including scientists who would be responsible for managing and protecting our rivers and water bodies for a sustainable future.

URL: <https://www.thedailystar.net/supplements/29th-anniversary-supplements/governance-development-and-sustainable-bangladesh/news/protecting-our-rivers-and-waterbodies-sustainable>

Bangladesh: Modern method of ‘Pabda’ (Butter Fish) farming in Abhaynagar

Alhaj Enamul Haque Babul’s modern method of ‘Pabda’ (Butter Fish) farming in Abhaynagar upazila has not only grabbed the attention of locals for its uniqueness but helped many to become self-reliant. He has set an inspiring example of fish farming in a small plot of land at a low cost. President of Abhaynagar upazila unit of Awami League and former municipality mayor, Enamul Haque began farming fish at Aamdanga village of Sundoli union in 2002. Although he could not make profit initially by farming fish every year, he was successful in the modern method of Butter Fish farming in 2019. Locals said his record production of 52.48 metric tons of Butter and Carp type fish drew attention of the Fisheries Department. Enamul has become an inspiration to many by producing 11.25 metric tons of Butter Fish and 5.10 metric tons of Carp type fish per hectare. Locals meet him every day to learn and take advice from him. The farmers who were

inspired by him also became successful following his method of farming. Enamul was awarded by the Department of Livestock and Fisheries for his success in farming various types of fish and became the best fish farmer at the upazila and district levels. Sources at the Fisheries department said Enamul began cultivating 'Pabda' and Carp types of fish on 3.21 hectares of land last year. Now he has around 50 permanent workers and 600 temporary ones in his farm. Talking to UNB, fish farmers Kamrul Hasan, Shafi Kamal, Babul Akhtar, Golam Mustafa and Hiram Roy said once fish farming was not profitable for them. "Now we've become really successful in fish farming by following Enamul Bhai's advice, Hasan said. "The unemployment problem in the country can be resolved through fish farming by using modern information technology. It'll benefit the country economically as foreign exchange can be earned by exporting fish after meeting the local demand, Enamul said. Talking to UNB, Md Faruk Hossain, an official at the Fisheries department of the upazila, said crop cultivation is quite low in the area due to waterlogging. "So, one can be successful in crop cultivation alongside fish farming by cultivating fish on a small scale as Enamul does, he said. The Fisheries department is always working so that farmers can apply advanced and modern techniques in fish farming, he added. According to Md Anisur Rahman, another official of Fisheries department official in Jashore, Enamul made his mark in politics as well as fish farming. He has created a record in producing Pabda' fish using the mechanical method at a low cost in a small water body. The fisheries official said Enamul is not only meeting the demand for protein but also creating jobs for many. "The job crisis in Bangladesh can be minimised if Enamul Haque's great initiative can be spread across the country, he said.

URL: <https://www.unb.com.bd/category/World/pabda-farming-turning-tide-at-abhaynagar/43701>

Bangladesh: Blue economy and marine spatial planning

The ocean has been a source of wealth for millennia, linking economies around the world. Many large cities and centres of commerce have been developed based on access to the sea. Oceans and seas contribute to poverty eradication by creating sustainable livelihoods, provide food and minerals and regulate global climate and weather patterns. International shipping and ports provide crucial linkages in global supply chains and are essential to gain access to global markets serving as highways for seaborne international trade. The oceans are in fact both an engine for global economic growth and a key source of food security. Born in riverine Bangladesh, the Father of the Nation Bangabandhu Sheikh Mujibur Rahman had an unfathomable interest for the betterment of the lives of the riverine and coastal population. Bangabandhu was aware of the history and maritime heritage of Bangladesh, especially the shipbuilding traditions and reputation of the master shipbuilders of Bengal that had flourished worldwide... The MSP process collects and translates information on the ocean ecosystems and economy spatially, providing a more integrated basis for management decision-making. The process of ocean governance should be integrated horizontally because it requires the participation of governmental institutions, private sectors, NGOs, academicians, scientists, etc., as well as vertically across all the levels of governance within an integrated system with reciprocal coordination. In Bangladesh itself, around 18.2 percent of the population is dependent on the country's ocean economy (World Bank Group, 2018). If developments and investments to boost this economy occur without set standards and policies, they may lead to short-term gains at the

cost of long-term sustainability. As such, it is the need of the hour to implement MSP for sustainable ocean governance. The approach for an ocean policy has to be inter-disciplinary with historians, lawyers, economists and political scientists working with engineers, biologists, chemists and physicists on common ocean interests. In the case of Bangladesh, the overall vision of the ocean policy should be to ensure a healthy sustainable ocean; nurtured, understood and harnessed wisely for the benefit of all in future. The main elements of ocean policy may be as follows: i) Conservation of marine biological diversity. ii) Regional marine planning. iii) Maintenance of ecosystem integrity. iv) Multiple ocean use and marine spatial planning. v) Marine tourism, archaeology and marine protected areas. vi) Exploration and exploitation of living and non-living marine resources. vii) Offshore engineering and renewable energy. viii) Maritime safety and security. The vast maritime-littoral space of the Indian Ocean is of immense geo-political, geo-economic and geo-strategic significance that has always influenced the global economic and security scenario. Historically, the Bay of Bengal region has played a pivotal role as a maritime highway to the greater Indian Ocean where trade, commerce and cultures were intertwined for centuries. Today, due to geo-strategic and geo-economic factors, the Bay emerges as one of the most significant regions in the Indo-Pacific. Its close access to the important chokepoints like the Malacca Strait leading into the South China Sea and the proximity to the main axis of the East-West sea route across the Indian Ocean makes the Bay of Bengal the umbilical cord of the economy of the BIMSTEC region. With huge amounts of unexplored and untapped marine resources lying beneath the ocean, the littorals of the Bay of Bengal should now unite hands for strong partnership and cooperation in the maritime sector in order to reap the benefits of the blue economy. Bangladesh being strategically located at the apex of the Bay of Bengal having the BIMSTEC Headquarters at Dhaka is ideally placed to take the lead for various maritime initiatives. In the past, certain maritime activities were not coordinated and thereby suffered from duplication of efforts, whereas various maritime industries were neither controlled nor their performance supervised. However, under the leadership of Prime Minister Sheikh Hasina, Bangladesh has peacefully resolved the long-standing maritime boundary disputes with its neighbours India and Myanmar, opening a new vista for maritime development in our country. Today we are witnessing an unprecedented wave of economic growth and remarkable development in social and economic indicators with substantial investment in regional connectivity, deep seaports, special economic zones, coastal industries, energy clusters and offshore oil and gas exploration. As a major Blue Economy initiative, Bangladesh Delta Plan 2100 for the next century has been prepared by the government which would focus on sustainable delta management, integrated water resources management and adaptation to climate change. Meanwhile Vision 2041, a long-term perspective plan for a developed Bangladesh, has identified blue economy as one of the essential drivers for development. Moreover, the goals of SDG 2030, especially SDG 14, i.e., Life Below Water, is being implemented with various maritime development agenda in Bangladesh. An independent Blue Economy Cell has been formed to ensure proper coordination of blue economy activities among all government and private sector maritime stakeholders. Moreover, Bangladesh Ocean Research Institute (BORI) has been established, whereas Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) was set up in 2013 for maritime higher education and research. In fact, Bangladesh was one of the first countries in South Asia to focus on the aspects of blue economy leading up to the first international workshop on blue economy in September 2014 in Dhaka. However, the time has come to examine which ministries and organisations are better placed to monitor and coordinate among all private and public maritime stakeholders more efficiently. There is the

need for having a National Ministerial Board for facilitating policy making while an Ocean Advisory Committee comprising maritime experts, scientists, academicians, entrepreneurs and industry leaders should be formed. A Regional Marine Plan Steering Committee with members from the foreign Office and other relevant public and private sector also merits consideration. We also believe that sustainable blue economy is not possible without ensuring maritime security, preventing piracy, human trafficking, smuggling and all kinds of terrorism in the maritime areas. Given the current global and regional security environment, a comprehensive maritime security structure needs to be formed, recognising the Bay of Bengal as a common security space. The way ahead for Bangladesh is to develop systems to measure and monitor the performance of the country's ocean economy industries. Maritime capacity building needs to be planned in regard to governance and institutional framework, academic and research institutions, managerial, technical, technological capabilities and qualified skills. We need to decide which marine sectors to prioritise, based on its domestic needs and demands of global market. We need to examine how Bangladesh should respond to the challenges of MSP and draft an ocean policy vision by charting a course towards a blue horizon in partnership with the regional countries. Bangabandhu gave us the maritime vision and a clear roadmap for excelling in the maritime frontier. It is high time we set our sails and shape course towards a happy, prosperous and developed "Maritime Bangladesh", as envisioned by Prime Minister Sheikh Hasina.

URL: <https://www.thedailystar.net/supplements/29th-anniversary-supplements/governance-development-and-sustainable-bangladesh/news/blue-economy-and-marine-spatial-planning-1866568>

Bangladesh: Experts for skilling coastal fishermen to tap potentials of marine fisheries

Experts at a programme here on Wednesday stressed the importance of developing the skills of the country's 6.5 lakh coastal fishermen to tap the extraordinary potentials of Bangladesh's blue economy. "We need to assess our marine resources and train the fishermen to tap the potentials to accelerate the economic development of the country alongside improving the livelihoods of fishermen, said Hasan Ahmed Chowdhury, Project Director of Sustainable Coastal and Marine Fisheries Project (SCMFP), a new project. Social Development Foundation (SDF) arranged the workshop titled 'Supporting Implementation of Community Empowerment & Livelihood Transformation (Component-3) of Sustainable Coastal and Marine Fisheries Project (SCMFP)' at the Cirdap auditorium in the city, marking the inception of the new project. SDF Managing Director AZM Sakhawat Hossain delivered the welcome address, while Shyamol Chandra Karmakar, Additional Secretary (Fisheries), Ministry of Fisheries and Livestock, spoke at the event as the chief guest. Presided over by former Secretary and Chairperson of the Board of Directors of SDF MI Chowdhury, the workshop was addressed, among others, by Milen Dyoulgerov, Senior Environment Specialist and Task Team Leader, SCMFP, World Bank, and Stephen Kestev, Fisheries Management expert of FAO. The experts said Bangladesh's coastal region is known as one of the highly productive areas of the world due to the geographical position and climatic condition. According to official information, mechanised boats and trawlers now can fish only up to 70 kilometres from Bangladesh's shoreline out of its total of 660-km area, while the rest of the area remains untapped. Milen Dyoulgerov said the Coastal and Marine Fisheries Project will be able to address the livelihood problems of Bangladesh

fishermen, who are the poorest of the poor. Though Bangladesh has the success in community empowerment, the livelihood of this section could not yet be ensured, he added. SDF, co-implementing agency under the Financial Institutions Division, Ministry of Finance and the Department of Fisheries (DoF) under the Ministry of Fisheries and Livestock are jointly implementing the project with funds from the World Bank. The USD 50.24-million new project is aimed at improving the livelihood of the poor fishers' community of the coastal area with the capacity to better manage local resources and expand their participation in more exclusive and sustainable development. The five-year project will be implemented in 450 coastline and coastal fisher villages of 45 selected upazilas under 13 coastal districts of the southern part of Bangladesh.

URL: <https://unb.com.bd/category/Bangladesh/experts-for-skill-development-of-coastal-fishermen-to-tap-potentials-of-marine-fisheries/43398>

Bangladesh: Government grants permission for vannamei pilot farms

The Bangladeshi government has decided to allow two pilot projects to farm vannamei in the country, following several requests from local companies for more than a decade, the New Age reported on 30 January. One project will be undertaken by the non-governmental organization Shushilan in Khulna, and the other by Agri Business Enterprise in Chattogram. The two will be under the supervision of the Department of Fisheries and the Bangladesh Fish Research Institute. Bangladesh's shrimp exporters have long been asking the government to allow the farming of vannamei in the country to help boost competitiveness. The government, however, was reluctant to make the decision, because green activists claimed that the culture of the species would be harmful for biosecurity. The Department of Fisheries Additional Director General Md Ramzan Ali told the daily the pilot projects will be implemented for one year. Commercial production would be allowed across the country if the pilot projects prove successful. "Hopefully, the piloting will be successful as we will give our full efforts to the projects so that the country can gain more production of shrimps, Ramzan said. Former president of the Bangladesh Frozen Foods Exporters Association (BFFEA) Kazi Belayet Hossain said it would take three to four years to go for commercial production of the variety after the pilots. Another former president of BFFEA, Md Golam Mostafa, said farming of black tiger shrimp, which Bangladesh shrimp sector has focused on, has become less competitive due to high production cost. Meanwhile, the production of vannamei is 20 times higher than that of black tiger shrimp and vannamei now accounts for around 80 percent of shrimp exports in the world, higher than just 10 percent of black tiger shrimp. Bangladesh has lost its traditional markets in the United States and the European Union as its costly black tiger shrimp has failed to compete against much cheaper but high-yielding hybrid vannamei from Thailand and other countries, according to the Daily Industry. Bangladesh's shrimp exports have declined over the years. During July-December of this 2019-2020 fiscal year, Bangladesh exported shrimp worth USD 215 million (EUR 193.7 million), down 3.6 percent from USD 223 million (EUR 201 million) in the previous period. The country exported 29,500 metric tons (MT) of shrimp worth USD 361 million (EUR 325.3 million) in 2018-2019, much lower than the production of 41,200 MT and value of USD 545 million (EUR 491 million) in 2013-2014.

URL: <https://www.seafoodsource.com/news/aquaculture/bangladesh-government-grants-permission-for-vanamei-pilot-farms>

Bangladesh: Focus on harnessing blue economy's potential

The proposed marine fisheries act has focused on the blue economy with incorporating a number of issues including mariculture. Its new provision will also empower the government to check illegal, unregulated and unreported (IUU) fishing vessels, both local and foreign, in the country's territorial waters. The Marine Fisheries Bill-2020 was placed before parliament on January 29 this year. The new Marine Fisheries Act-2020 will replace "Marine Fisheries Ordinance-1983." With new IUU provision, the Ministry of Fisheries and Livestock will be empowered to monitor, control and oversee maximum sustainable yield, determine allowable catch and hoarding limit and carry out survey on fish resources. Towfiqul Arif, joint secretary (blue economy) of the Ministry of Fisheries and Livestock, said there was no legal provision in the existing ordinance to issue order or directives to check illegal, unreported and unregulated fishing. "Incorporation of IUU and mariculture would help the country to tap the potential of blue economy," he said. The issues relating to the blue economy don't exist in the current ordinance, he said. In the third ministerial conference of Indian Ocean Rim Association (IORA) on the blue economy held in the city in September last, the member countries expressed their concern over some emerging threats including IUU. Bangladesh began conducting research on oceans only after settlement of maritime disputes with India and Myanmar in 2012. The country has won a total of 118,113-km maritime boundary. Bangladesh has 668km sea, but the country's fishing trawlers can fish only up to 80 km for not having sufficient big trawlers to fish in deep sea. Under the act, construction or import of commercial trawlers would have to follow a government-prescribed specification. However, the proposed act has imposed restrictions on entrance of foreign fishing vessels without licence, except some cases including innocent passage as per definition of the United Nations Convention on the Law of the Sea-1982. All mechanised fishing boats known as 'artisanal fishing boats' will require registration under the proposed act, Mr Arif told the FE. The penalty for illegal fishing by foreign vessels in the Bangladesh territory has been increased to Tk 50 million from Tk 1.0 million earlier, he said. When the President will give his nod to Bill, the government will be able to declare 'mariculture area' in the maritime boundary of Bangladesh. Mariculture means cultivation of living marine resources in marine and brackish water in a closed coastal area or sea. As per the proposed bill, renewal of fishing licences would be required after every two years instead of one year. The proposed law will also empower mobile court to take punitive action instantly on spot, seize goods without warrants from fishing boats and premises of godown. In case of operating vessels without milking or damaging fishing vessels, the penalty would be imposed at Tk 1.0 million with two years' imprisonment. However, aggrieved persons will be able to lodge appeal within 30 days of imposing penalty, denial or rejecting issuance of licence by the authorities concerned. In case of use of restricted fishing nets or other equipment or dredging or fishing in the restricted area, there is a provision of imposition of penalty of highest Tk 2.5 million with two years' imprisonment. The draft law was approved by the cabinet last year.

URL: <https://thefinancialexpress.com.bd/economy/focus-on-harnessing-blue-economys-potential-1581051032>

Bangladesh: Wetlands in Bangladesh: Diversity, resources and people

A wetland is a place where the land is covered by water, either fresh, salt or somewhere in between. Marshes and ponds, the edge of a lake or ocean, the delta at the mouth of a river, low-lying areas, floodplains, all of these are wetlands (WWW 2019). The Ramsar Convention, formulated and signed in 1971 in Ramsar, Iran, is the only global treaty for wetlands. Today 170 nations are signatories to the Ramsar Convention and Bangladesh is one of them. A contracting party agrees to select at least one wetland in its territory to the List of Wetlands of International Importance based on enumerated criteria. Under this agreements, by August 6, 2018, over 2323 wetlands were inscribed on the Ramsar List, comprising over 248 million ha (Ramsar Convention Secretariat, 2018). To date, Bangladesh has two Ramsar sites, the world's largest mangrove forest, the Sundarbans, and Tanguar Haor and proposed Hakaluki Haor. The Sunderbans is situated at the Southwest corner of Bangladesh, with India, is the largest mangrove wetland of the world. Two other Ramsar sites, Hakaluki Haor and Tanguar Haor, situated at the north-eastern part of the country. Sunderbans is unique for the home of the critically endangered Royal Bengal Tiger and Freshwater dolphins as well as other wildlife. Tanguar haor is often called the nursery grounds of more than 137 species freshwater fishes. Hakaluki haor is famous for sheltering more than 558 species of animals and birds, of which majority are migratory. Besides these Ramsar sites, there are thousands of wetlands all over Bangladesh. The wetland is the home of diverse plants and animals. Out of 1218 vertebrate species recorded by the zoologists of the country, about 691 vertebrate species live in wetlands, while many utilize the habitat for breeding and nursery purposes. Exclusively there are more than 265 species of fishes, 49 amphibians, 160 reptiles, 208 aquatic birds and 9 mammals, those live in wetlands areas. In other words, most terrestrial animals are also depending on wetlands as part of their lifecycle. Historically the total population is dependent upon the wetland. For agriculture majority of the crops grows in the vicinity of wetland. The major crops like paddy, jute, sugarcane and fish need exclusive water to farm. Besides agriculture farmer, jeley (fishermen), majhii (boatman) and bedey (water gypsy) are exclusively water dweller (Brandt 2015). Recently wetland been used for duck rearing, floating vegetable farming, cage fish culture and local tourism purposes. Amphibians need protection from irrational use of agrochemicals in wetlands where almost all fishes and amphibians lay eggs and tadpoles would nursed. This group needs thorough surveys to determine species specific wetlands and their ecology, livelihoods dependency and biological importance as pest control. Reptiles include diverge groups of turtles and tortoises, lizards and snakes, crocodiles and gharials that outwardly look unrelated to each other. Also, there are excessive killings of turtles and tortoises to meet the local and illegal transboundary trade demands for their meat and shells. Snakes' sufferings from instant killing, anybody sees a snake would opt to kill it. This group is heavily exploited for snake-charming trait and meat, skin and venom trade. Places where gharials are sighted are to be protected by declaring each area and managing these as gharial sanctuaries. The lone population of the Estuarine Crocodile in the Sundarbans be managed scientifically and current level of supports to be enhanced. All trades in reptiles to be stopped. Aquatic birds being the most dominant wildlife of the country is suffering from the habitat destruction, habitat alterations, over use for meat and pet trade, general ignorance towards the needs of more than half of the species of birds being too small and not gaudy. Illegal hunting, trapping and poisoning of the migratory and local birds be stopped at all

costs and law breakers to be punished severely. Each wetlands where habitats are nearly or partly lost by siltation/ sedimentation needs to be re-excavate or dredge to restore water resources and make it ecologically friendly for all living organisms. There could be a study for development of a model to restructure the unique resources for restoring living organisms, increasing biological productivities, creating income generating opportunities by tourism, aquaculture, duck rearing, recreational facilities etc.

URL: <http://www.theindependentbd.com/post/235366>

Bangladesh: Coronavirus: \$597m frozen fish export orders cancelled

Frozen fish sector, the country's fourth largest export earning entity, have faced order cancellations of \$597.78 million from their buyers, mostly in western countries, in the last couple of weeks as coronavirus pandemic almost savaged their economies, according to Bangladesh Frozen Foods Exporters Association (BFFEA). BFFEA President Kazi Belayet Hossain in a statement, issued yesterday, said the cancellations took place through 290 import orders from global buyers. "We export perishable items that require shipment within tight deadline but now we are failing to do so because of the virus spread," he added and said that most of the processing factories incurred huge losses with their unsold fishes for shipments. On the other hand, new shrimp cultivation season, the major export item of the sector, was knocking at the door, said Belayet. He feared that fishermen, processing firms and exporters would be hit hard if the situation emerging from the coronavirus persisted. "To combat the fallout, we need a raft of fiscal policy supports including bank interest waiver for at least two years for the sector people," said the business leader. In addition, the government should provide interest-free loan for reviving the ailing sector, added Belayet. It also demanded 20% cash incentives instead of existing 10%. According to Bangladesh Export Promotion Bureau data, in July-January period of the current fiscal year, the country earned \$377 million from exporting frozen and live fish, down by 4.39% from a year-ago period. There are 105 frozen fish processing factories in the country while only 30 to 35 are involved in export business.

URL: <https://www.dhakatribune.com/business/2020/03/25/coronavirus-597m-frozen-fish-export-orders-cancelled>

Livelihood of fishermen under threat in Bangladesh

Hundreds of fishermen in Kurigram and Lalmonirhat are going through hard times as fish stocks in the Brahmaputra and Teesta rivers have drastically decreased over the years. With their traditional livelihood failing to provide for their families, many fishermen have taken loans at high interest from local moneylenders. "Usually, a group of four or five of us fishermen goes together to the river. After trying for hours, we get around five kilograms of fish," said 46-year-old Sadhan Chandra Das of Majhipara village in Kurigram's Chilmari upazila. "The situation worsens from December to June as the water level falls. We have no work during this period," said Sadhan, who fishes in the Brahmaputra. Bishnu Chandra Das, a 56-year-old fisherman from the same village, said, "We are unable to provide for our families with the money we earn from

fishing. So, we have to take loans from the Mohajon (moneylender) with high interest.” “We have to repair our fishing boats and nets at our own expense. So you can easily understand our misery,” he added. Hit hard by poverty, many have already left their ancestral profession and others are planning to leave. “Many fishermen in our village have already left and are now working as day labourers, some pull rickshaws, and others work in garment factories,” said 55-year-old Surendra Nath Das, a fisherman from Daspara village under Kurigram’s Rowmari upazila. “We are deprived of our rights even if the policy is “Jal Jar Khal Tar” [those who have the net have the canal]. It is only on paper. We are not allowed to catch fish in the government canals as politically influential people have occupied those,” said Surendra. “We are instead forced to work as labourers for them.” “Following in my grandfather and father’s footsteps, I used to catch fish in the Teesta. But it became difficult for me to maintain my family with the little income from fishing. So, I left the profession,” said 38-year-old Nikhil Chandra Das of Daspara village in Lalmonirhat Sadar upazila. He now pulls rickshaw. “Around 10,000 families depend on the Brahmaputra and Teesta rivers in Kurigram and Lalmonirhat. Many are frustrated with their ancestral profession,” said 70-year-old Narayan Chandra Das of Majhipara under Kurigram’s Ulipur upazila. “The fishermen spend most of their income on repairing and buying fishing nets. That is why they cannot repair their houses while many don’t even have their own house,” he added. Lalmonirhat Sadar Upazila Fisheries Officer Hasmat Ali told The Daily Star that the canals are not under the control of fishermen. These have gone into the possession of non-fishermen with political influence. “In this case, we can do nothing for the fishermen. But we are trying,” Hasmat added.

URL: <https://www.thedailystar.net/country/news/livelihood-fishermen-under-threat-1886074>

Bangladesh: Sewage, effluent pollute Dhaka rivers at 577 spots

Disposal of untreated industrial effluent and domestic sewage pollutes the four rivers flowing around the capital at 577 spots, reveals a study carried out by Riverine Bangladesh in January. Spot visits by the study team in Dhaka, and parts of Narayanganj and Gazipur between November and January, found that 360 sewage connections and 217 canals and channels carry over 1.5 million cubic meters of sewage and effluent daily into the Buriganga, the Turag, the Balu and the Shitalakkhya. Fifty-seven of these connections carry only untreated industrial effluent containing hazardous heavy metals and toxic chemicals into the Turag and the Balu from the industrial zone located between Ashulia in Dhaka and Tongi of Gazipur, according to the study titled ‘Sources of Water Pollution to the Rivers of Dhaka’, which has been officially accepted by the Bangladesh Inland Water Transport Authority. The other connections, canals and channels dispose mixture of both of untreated effluent and domestic swage into the rivers, Riverine Bangladesh director Mohammad Azaz told New Age on Sunday. In addition, solid wastes including huge volume of plastic are dumped into the rivers at 237 points and it also disrupt the connections of canals with the rivers, he said. Azaz said that most of the industries located at Ashulia, Tongi and Shyampur areas discharged untreated effluent through ‘hidden channels’ bypassing their effluent treatment plants to reduce the production cost. ‘Only 20 per cent of the total effluent and domestic sewage generated from Dhaka is treated at the Pagla Sewage Treatment Plant,’ he said. ‘Disposal of a huge volume of untreated industrial and domestic effluent containing heavy metals, toxic chemicals and faecal sludge into the rivers

every day polluted those to such a level where no aquatic life can survive,' he said. A detailed study is required for calculating total volume of effluent and sewage discharged into the rivers as the Riverine Bangladesh depended on some available data, Azaz said. A World Bank commissioned study conducted by the Institute of Water Modelling in 2007 also found that the Buriganga was being polluted every day for disposal of huge volume of domestic and industrial effluents. Apart from transferring the tannery industry from Hazaribagh to Savar, the responsible government agencies did nothing in the past 12 years for controlling river pollution, the greens said. Even then transfer of tannery to Savar did not earn the expected result as it continued to pollute the Dhaleswari for lack of capacity of the central effluent treatment plant installed at the tannery park, locals and greens said. For continuous pollution, no fish is found in the Buriganga, Turag, Balu and Shitalakkhya in the dry season, they said. Fishing communities also migrated from the areas and locals were exposed to various water-prone diseases as well as suffer from acute odour. Bangladesh University of Engineering and Technology and The Department of Environment data shows that the dissolved oxygen in the four Dhaka rivers dropped to zero in the dry period. WASA authorities said their production cost for supplying water increased for heavy pollution of the Dhaka rivers. 'The High Court directives passed in February 2019 for safeguarding the rivers from grabbing and pollution were grossly ignored,' said Syeda Rizwana Hassan, executive director of Bangladesh Environmental Lawyers Association. 'Our development model is faulty where preventive measures are taken after damage is done by the powerful quarters,' she said. She blamed Dhaka WASA, Dhaka's two city corporations, Department of Environment and district administrations of Dhaka, Narayanganj and Gazipur for their inaction. Dhaka South City Corporation mayor Sayeed Khokon said that pollution could not be controlled for inaction of Dhaka WASA. Dhaka WASA managing director Taqsem A Khan said that the agency was working for developing a sewerage system in the capital. 'Meanwhile, all the citizens need to use septic tanks in their households,' he said. The Department of Environment director general AKM Rafique Ahammed said that the agency was not equipped with sufficient workforce to enforce the laws. Bangladesh Knitwear Manufacturers and Exporters Association senior vice-president Mohammad Hatem admitted that many non-compliant factories did not use ETPs. 'We requested the shipping ministry on several times for installing CETPs at different industrial zones and charge the factories for taking services,' Hatem said. BIWTA member Nurul Alam said they installed two small treatment plants on their own cost at the port office in Sadarghat which would be inaugurated today. 'Each of the plants costs only Tk 12.5 lakh,' he said. 'On March 9, we placed a Tk 50 crore project at the shipping ministry for installing such treatment plants at 48 points from Kamrangirchar to Sadarghat, covering outlets of two canals,' he said. If the project earns good result, Nurul said, the agency would place another project for installing treatment plants at all the points.

URL: <https://www.newagebd.net/article/102537/sewage-effluent-pollute-dhaka-rivers-at-577-spots-study>

Bangladesh: Safety for sea-going fishermen

Bangladesh operates one of the largest single-species fisheries in the world, the hilsa shad (*Tenualosa ilisha*) fishery, which is a predominantly artisanal fishery that provides employment, income and livelihood to almost a half million full-time fishers. This fishery is predominant in

the southern Barishal, Bhola, Patuakhali and Barguna coastal districts adjacent to the Bay of Bengal. The fishermen in this region are regularly exposed to hazardous conditions at sea. In aims to safety intervention of sea going fishermen, the Department of Fisheries Technology in Patuakhali Science and Technology University in collaboration with the New Zealand based FISH Safety Foundation involved in implementing a safety intervention program, funded by Lloyds Register Foundation UK, called 'fishSAFE 2025 – Phase 1: Bangladesh'. The programme focuses on fishermen in target areas in Pauakhali and Barguna, Southern Bangladesh. The aim of the project is to improve safety for the fishermen involved and reduce harm and fatalities suffered in what is acknowledged to be one of the world's most dangerous professions. The Foundation is a Registered Charitable Trust based in New Zealand and is dedicated to improving health & safety outcomes across the international commercial fishing industry. The Foundation is actively involved in a number of fishing safety related projects around the world, including the Caribbean, the Philippines, the South Pacific region and Bangladesh. Another initiative in Bangladesh is the re-Fish project which, through donations, focuses on re-cycling, re-purposing and re-using safety, vessel and fishing equipment and giving it to those that need it most in Bangladesh. Through reFISH we have distributed 100 wound care kits and 200 sunglasses in the villages of Alipur and Mohipur over the last few days. Photos: re-fish donation items (safety sun-glasses and first aid kit pack) distributed to sea going fishermen at Mahipur and Alipur, Patuakhali. In the donation and motivation ceremony the government and research bodies involved were: Fisheries Faculty members and post-graduates fisheries students from Patuakhali Science and Technology University, representative of their respected organisations, Bangladesh Sustainable Coastal and Marine Fisheries Project (BSCMFP) Barishal region, Patuakhali District Fisheries Officer, Senior Upozila Fisheries Officer of Dumki, Patuakhali Sadar and Kalapara, Scientist of Bangladesh Fisheries Research Institute, Contingent Commander Bangladesh Coast Guard, Researcher of Worldfish (ECOFISH). In addition, were the local government administrators: Upozila Chairman, Upozila Nirbahi Officer, Union Parishad Chairman. The fish SAFE team interviewed 32 fishermen wives over two days in the rural fishing villages of Mahipur, Alipur. Many of the wives and some of their children are working in fish and shrimp processing to complement the family income as the salary of their husbands is not sufficient for them to live on and to send their children to school. Many of the wives would like their husbands to find alternative jobs to fishing and safety was a major concern for them. All the wives had lost at least one family member at sea. The wives recommended that communication systems were made available on the trawlers, alongside mobile phones, GPS and life-jackets. If these were available, they strongly believed that their people would use them. Coastal and deep water fishing is historically a very important industry, which provides jobs for around 10 million people in Bangladesh. Unfortunately, the health and safety issues of fisherman and their families have been neglected. There are almost no studies concerning health issues of the Bangladesh fisherman. Very often, due to poverty, these people have no access to medical services. Lack of basic safety and first aid training, the absence of the medical chest (kit) onboard the fishing vessels and possibilities for radio-telemedical consultations can lead to various health problems, accidents and loss of lives on shore and at sea. During the field work a total of 98 interviews and examinations of fishermen and some of their wives took place focusing on visible parts of the body (there was no possibility for a full body check). Almost all patients were complaining gastrointestinal problems, which were worsening after 3-4 days at sea. Back and joint aches were common too. Skin and lung diseases such as contact dermatitis, verruca's, allergy and asthma were apparent, especially among those working

in fish processing. Eye problems such as uveitis, loss of vision and infections were also common conditions. Additionally, hands and finger trauma are quite frequent at sea and due to the lack of immediate medical response when an accident like this occurs, it can lead to the loss of an organ. Basic first aid courses, a medical chest on board and regular medical examination of the fishermen, can be the first steps to improve their health conditions. The project has established that safety is a big concern for the fishermen and their families. Many lives have been lost as a result of lack of safety equipment and poor understanding of how to take care on board and on shore. Natural disasters, including storms and cyclones will continue to happen and it is vital that weather warnings are reacted to and that fishermen stay safe at home during these events. Some of the key messages to come from the project so far is the need to instill a safety culture for the fishermen. fishSAFE 2025 has already provided some safety equipment to the fishermen and will also be developing training materials to address safety issues concerning: Boat maintenance, communications, general and personal safety, vessel stability and handling, survival at sea, emergency procedures and first aid. Following this, a train the trainer programme will begin in June 2020 to help build local capacity for fishermen's safety training. The team would like to thank all the many, many people who were involved with the project in Bangladesh, particularly Dr Sazedul Hoque and Hassan M Joy who tirelessly organised the activities locally. Special thanks also to Sagorika Smriti who was our interpreter for the interviews. It is important to remember that every life matters and that safety should be everyone's concern.

URL: <http://m.thedailynewnation.com/news/249387/safety>

Bangladesh: Illegal fishing traps depleting fish population in Padma River

A section of fishermen have continued catching fish with illegally set large trap nets and enclosures in the Padma river in Shariatpur, posing a threat to different species of fish. The rampant use of illegal bamboo enclosures and fishing nets is threatening for the overall production of fish and thus prohibited through an ongoing fishing ban to preserve juvenile fishes, especially ilish in 20 kilometres of fish sanctuary. However, despite the ban, during a recent visit this correspondent found current nets were being used in different places in the Padma River from Zajira's Naodoba area to Bhedarganj's Tarabania area. A total of 30 such enclosures – ranging from 500 metres to 1000 metres in length– were seen set up at: Tarabania, Dularchar, Kachikata, Nariar Charmohan, Monirabad, Charatra, Nowpara areas in Bhedarganj upazila and Kunderchar, Baburchar, Palerchar and Pinepara areas in Zajira upazila. According to the district fisheries office, the Padma and Meghna rivers which flow through 69 kilometres area of Shariatpur district –engaging 16,000 people in fishing– produced 5,240 tonnes of fish last year, but locals fear the production will be much less this year. The large enclosures and banned nets disrupt the smooth flow of water and movement of boats through the river has also been hindered due to the overuse of the illegal dispositions. Motaleb Hossain, a fisherman of Zajira, said he has been using two enclosures to catch at least Tk90000 worth of fish per day, and did not know anything about the fishing ban or the prohibition. He said: “We have used engine-run boats earlier for fishing. But as it is now difficult to navigate through the river with boats as it has been narrowed by sediments, we have been fishing with bamboo enclosures. “Nobody told us it's illegal to fish like this nor did anyone prevent us from doing so,” he added. Giyas Uddin, another fisherman of Naria upazila, denied using any illegal nets and said he, along with other fishermen,

abides by every law and regulation imposed on them. When asked about the enclosures and current nets he was using, Giyas denied that those are in fact current nets and said: “Why would it be illegal to fish with fences? Nobody told us not to use these.” Talking about the difficulty they face every day to navigate through the river, trawler driver Delowar Hossain, of Naria-Charatra route in the Padma, said diagonally set enclosures on the river have been hindering their navigation, and increasing cost and time needed much more than normal. Abdur Rouf, an officer at the Shariatpur District Fisheries Office, said he is unaware of fishing by current nets or bamboo enclosures in the district. He said: “Legal actions will be taken after upazila fisheries offices are contacted for more information regarding the matter.”

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/03/11/illegal-fishing-traps-depleting-fish-population-in-padma-river>

Bangladesh: On the frontline of the climate emergency, Bangladesh adapts

In the scorching farmlands of south-west Bangladesh, a single coconut tree stands as a barometer of climate change. Dulal Mondal, 70, a farmer, points halfway up the tree about two feet off the ground to indicate where the waters came the last time the area flooded. “Next time if heavy rain comes I don’t think water will recede as there is no natural draining or anywhere for it to go, he says. Mondal lives in the Jessore district of Bangladesh where increased levels of salt in the water, uneven rainfall and flooding are creating great uncertainty for a whole farming community. Bangladesh is one of dozens of countries on the frontline of the climate emergency. Here global heating is no theoretical calamity of the future, but a very real, present danger. By 2050, it is predicted that one in seven people in the country will be displaced by climate breakdown. The sea level is projected to rise by 50cm over this time period and Bangladesh may lose approximately 11% of its land. Deadly storms are usually a question of when, not if. Here, the climate crisis is so palpable that the debate is not about restricting carbon emissions or preventing global warming but about how to adapt to the change and survive in times of unpredictable weather. For example, Mondal says that where once his peers would farm mainly rice, now they have taken to fishing. They use floating cages, allowing fish to breed in a secure area. Also, if water levels rise, the cages will too, so flooding is less of an issue. “About 20 to 30 years ago there would be a minimum of two crops per farming family but now because of waterlogging we have no more than one, he says. Each cage is owned by one home and yields about 15,000 taka (£135) in additional income for the families a year. It’s also a consistent source of food, which could be vital if natural disaster hits. “In the last two years there was not too much rain but two years ago we were flooded, Mondal says. “We worry about the future. If there is heavy rainfall the water could remain logged for a long period of time and we would have to take shelter on main road. We would stay there with our remaining belongings. This farming evolution is just one element of a whole range of climate change adaptive practices taking root across southern Bangladesh, an area long prone to cyclones, rising sea levels and drought. “What’s important is investment in long-term development, to help people adapt to the effects that climate change is having now and help them to not only survive but thrive in their new climate reality, said Adib Hossain, the head of programmes implementation at Practical Action, one of the charities helping to make changes. In this part of Bangladesh they have helped introduce effective fertilisers to increase crop growth as well as growing fish in cages and

vegetation in sacks or beside rivers – a novel farming technique known as a “dyke garden. The cages are made using cheap materials. Bamboo poles form an outer frame that can float and is covered in netting. They have a top cover to prevent fish jumping and escaping, or being caught by birds. With a capacity of one cubic metre, they hold up to 300 fish at a time. These cages are used for two growing seasons each year. The fish can be fed on scraps and waste – duckweed, oil cake, kitchen waste, rice bran and snails – and in just a few months they grow to full size. A woman standing beside Mondal goes down in a small wooden boat and pulls up the mesh cage, within which fish jump up and splutter around. She drops the net and they swim around once more. For the worried farmers in this area, the introduction of these cages has been reassuring, a constant amid a lot of inconsistency. In the nearby district of South Atulia another innovative technique has been employed. Land here is being used for fishing, with pools of water separated by a cracked mud path and spiky vegetation. Omal Biswas, 48, has three daughters and an adopted son. He used to farm rice once a year and during the monsoon he would fish in freshwater. Now he is able to make more money with dyke gardening techniques, growing vegetables around pools of water used for fishing. Omal has just harvested a crop, he says. They grow bottle gourd, chillis, indian spinach, red amaranth, sponge gourd, ridge gourd and tomatoes. “Before this technology was used I would yield around 20-25,000 taka a year but last year I harvested 120,000 taka through using different varieties of vegetables and growing more in the year. “Now I can grow vegetables while fishing but I used to rotate the land. I eat the vegetables too, he adds. He adds that the additional income helps give them a better quality of life and now he has been able to buy six cows. “The cost of living is rising and the cost of production is increasing so it is a good portion of revenue, he says. Practical Action isn’t the only charity supporting farmers. The National Agriculture Technology Program (NATP 2) by the World Bank has also helped people adopt resilient farming methods. Farmers have deployed ancient agricultural methods such as floating beds, which involve sowing crops onto floating islands made of the fast-growing water hyacinth. Crops such as cucumbers, gourds and eggplants flourish. Beds are raised so as to lie above the reach of tidal surges. In between, trenches serve as pools to farm fish and ducks. Others have turned to shrimp farming after land was flooded but Practical Action has helped people do this in a more effective way. Rubina Khatun is one woman who has benefited from this. “The cyclone affected my family. I swam across flood waters with my two sons and took refuge on the road and sheltered in a shop we own for two months. Then we returned to our home, she says. Shrimp farming is now a major source of income for her family. The technique used to farm the shrimp more effectively includes using deeper water so the temperature does not change as quickly, and adding a fertiliser made from oil cake, date juice and sugar cane among other things. I am not sure what I would do without it now, Khatun says. “But this type of farming is weather dependent. We need rain. If there is less rainfall salinity increases. Despite efforts to improve the situation, Bangladesh remains at the mercy of sharp changes in weather patterns. Deep uncertainty persists for millions, even if these newfound techniques are helped to mitigate environmental impact. “I am worried, Khatun says. “Too much or too little rain, both are problematic. For her, however, the concept of climate change is a world away. “I can feel it in terms of rain but I am not aware of this. I have heard non-government-organisations talking about it but just as a concept. All I know is shrimp farming is a major source of income out of all the ones remaining, so it’s a reassurance.

URL: <https://www.theguardian.com/world/2020/jan/08/on-the-frontline-of-the-climate-emergency-bangladesh-adapts>

Bangladesh: Shitalakshya River dying slowly

The Shitalakshya River, known as the lifeline of Narayanganj, the Dundee of East is ailing due to severe pollution, land encroachment, and sand extraction. The city stands on the bank of the river. Until the road connections were fully developed almost 15 years ago, trade and communication heavily depended on waterways. Now, the country's one of the most important rivers has almost lost her navigability, especially in winter, with the fall of water levels. Sources said more than 2,000 industries on the banks of the river stretching from Kanchpur to Narayanganj are dumping various types of toxic chemicals into the river, causing widespread pollution. Of them, only 301 industries are using Effluent Treatment Plant (ETP) to purify the waste water, according to the Department of Environment (DoE). During a visit to Kanchpur point recently, this correspondent found a huge amount of waste and contaminated water is mixing freely with the river. Millions of gallons of untreated wastewater, mainly from industries, are being dumped into the rivers around the city through the industries. Haresa Begum, a local resident, said a number of mills and factories have been set up alongside the riverbanks. Waste and toxic chemicals mixing with water are finding their way into the river through different underground pipelines, she added. Besides, a portion of the river's eastern side is being used as the dumping ground of garbage generated at nearby boat terminal nearby the city. Fish are also disappearing from the river due to the continuous water pollution. Akbar Miah, aged around 65, resident of Kanchpur area of Narayanganj, has been fishing in the Shitalakshya River since he was 10, but now he is facing hard time due to rescinding number of fish. Fishing is his only profession to bear his family's expenses as it is with many other fishermen in the area. But, he is now thinking of quitting the occupation since he cannot catch enough fish to sustain his family. People living alongside the riverbanks used to drink its fresh water not too long ago. But, at present water contamination has skyrocketed, giving it a reddish hue and emitting an unpleasant odour. Riverbank dwellers and those crossing the river now feel suffocated by the unpleasant stench. As part of creating public awareness, several voluntary organizations often hold various colourful boat rallies, human chains, distribute leaflets, paste posters, and organize signature campaign to recuperate the dying river. However, all the efforts have proved futile. Bangladesh Poribesh Andolon (Bapa) Joint Secretary AB Siddiqui said: "The [Shitalakshya] river is one of the important resources in the district as well as in the country. The water of the river was once used for domestic purposes. DoE's Narayanganj office Inspector Md Moinul Haque said the river is being polluted from a number of pointed and non-pointed sources, including untreated sewerage inputs from the town, waste water, and other numerous contamination sources, such as small-manufacturing facilities and significant non-point agricultural activities. More ETPs must be set up to save the river from pollution, he added.

URL: <https://www.dhakatribune.com/bangladesh/nation/2020/01/30/shitalakshya-river-dying-slowly>

Bangladesh: COP25 and climate-anxiety: What can be done?

The recently held Madrid Climate Meeting marked 25 years of the Conference of the Parties (COP), a UN Framework Convention for Climate Change signed in 1992 by 165 signatory nations. Despite agreement that the planet Earth is facing a “climate emergency,” the COP25, which was billed as the Action COP, delayed any real climate action. Indeed, after the first few COPs that were constructive and hopeful, the fossil fuel producers such as the United States, Australia, Saudi Arabia, Kuwait, Brazil and Russia and the carbon-emitting countries captured the COP process. The apparent actions from the processes are more delays. The long-term goal of the Paris Agreement (COP2015) is to keep the increase in global average temperature well below 2 degree celsius above the pre-industrial level and to limit the increase to 1.5 degree celsius. This urgent action to combat climate change is intrinsically linked to the 2030 Agenda for Sustainable Development. The spirit of the Paris Agreement is now slowly eroding from one COP to another. With no tangible action, the planned extractions of coal, oil and gas are enough to blow past the 1.5 degree celsius target or even 2.0 celsius by 2030. The harsh truth is that the world is getting increasingly warmer, and extreme weather events such as glacier meltdown, forest fires, flood, cyclones etc., are on the rise globally. The climate impacts and anxiety are felt by all, particularly the world’s most vulnerable and innocent people being at the receiving end as victims. Island countries like the Maldives, Tuvalu and Kiribati are sinking due to rising sea level. The Intergovernmental Panel on Climate Change has identified Kiribati as one of the six Pacific Island countries most threatened by rising sea level, and thus would likely become uninhabitable as early as 2050. Rising sea level, drought and crop failure are expected to force tens of millions of people to migrate within their countries as “internal climate migrants” by 2050. A 2018 World Bank study found that 143 million people across South Asia, sub-Saharan Africa and Latin America are at risk of the effects of “slow-onset” of climate change. “Every day, climate change becomes a more urgent economic, social, and existential threat to countries and their people,” observes World Bank CEO Kristalina Georgieva in her introduction to the 2018 Study. With the climate crisis worsening and the declaration of climate emergency by the climate scientists, the climate-anxiety – for instance, the fear of sea level rise, the horrific forest fires in Australia, displacement due to disasters, loss of homes and livelihoods, stress, helplessness, a sense of loss of control and the potential for a catastrophic future – has become prevalent beyond the physical world into mental health and well-being, according to a recent report issued by the American Psychological Association (APA). The report urges to address the core causes of and solutions for the changing climate, and building and supporting psychological resilience. In Bangladesh, climate-anxiety is very evident in physical, economic, social and existential terms. Prime Minister Sheikh Hasina, in a recent statement in Parliament, said that some 40 million people from 70 upazilas and 19 districts of the country are at the risk of displacement due to climate change (recent revised estimates, however, put the figure between 15 and 20 million). The PM reiterated her commitments to fighting against climate disasters, giving vivid descriptions of the various impacts such as higher average temperature by one degree celsius in May and 0.5 degree celsius in November, increase in average rainfall and other weather events, outbreak of different insect-borne diseases, and increased salinity of river water up to 100 km from the coastline during summer threatening life and well-being of the people. The PM was also assertive in talking about various measures taken by the government, including the Bangladesh Climate Change Strategy and Action Plan, to increase the national capacity to combat the adverse impacts of climate change. She further demonstrated her fight against climate change at the Global Commission for Adaptation (GCA) held in Dhaka in July 2019 and called on world leaders for further efforts to raise awareness about climate change. The meeting was

attended, among others, by GCA Chairman Ban Ki-moon and World Bank CEO Kristalina Georgieva. Bangladesh has earned reputation for its adaptive climate strategies. However, the government's current approach to coal-fired power generation hurts the environment as it is carbon intensive and thus undermines the Prime Minister's commendable leadership in the global fight against climate change. It is important to realise that the stakes are high for Bangladesh. The national development goals and objectives must be embedded and linked to climate forces for achieving a resilient society. Further, the government should consider investing on climate-related research — on displacement, livelihoods, and internal climate migration to develop a long-term strategy for resettlement and rehabilitation of the climate migrants in the country. In addition, in view of increasing climate-anxiety, we all can make small, earth-friendly decisions every day. As recommended by the APA report, small steps such as cut down on use of disposable plastic, use of alternative shopping bags, flying less, visiting local farm markets for foods, choosing more vegetable-based diet, choosing more eco-friendly cleaning products, and simply buying and consuming less by the rich and privileged in the society. If these habits are adopted by everyone in the world, it would make a huge difference creating a large macro change. Climate activist Greta Thunberg, who spoke at COP25 in Madrid said it right: "There is hope. I have seen it. But it does not come from governments or corporations. It comes from the people."

URL: <https://thefinancialexpress.com.bd/views/reviews/cop25-and-climate-anxiety-what-can-be-done-1580223534>

Bangladesh: Hopes and fears as crab hatcheries proliferate in Bangladesh

Artificial hatcheries have started producing crabs for the first time in Bangladesh. This is seen as a successful step for making local fisher communities financially solvent, by having crab farms, and avoiding the risk inherent in fishing at sea or rivers. This takes on additional significance because the government has taken tough measures to ban fishing for certain periods to preserve stock. Most crab farmers live in coastal regions where the ban has a serious impact on their means of livelihood. Another serious issue is the intrusion of sea water. A large number of water bodies in Bangladesh's coastal areas have turned extremely saline causing the extinction of multiple fish species. Prawn cultivation, too, has been affected, by a virus possibly exacerbated by extreme salinity. So far, only crabs have been able to successfully adapt to these changes. Following this logic, some experts are recommending a government-supported effort to push the farming of crabs as an adaptation measure to climate change, as well as a livelihood supplement mechanism. This could also help balance out the ecosystem of south western coastal Bangladesh, from where the booming soft-shelled crab industry is exporting crabs to Japan, China and Indonesia. This is threatening the survival of natural born crabs in many parts of Sundarbans areas like Datnakhali and Gabura in Sathkhira district under Shamnagor thana. The farming of crabs could offset this decline. Talking to thethirdpole.net, Paval Partha, a researcher of ecology-biodiversity and conservation of Bangladesh, said, "The soft-shelled crab industry will destroy the crab species in Sundarbans. Hard shelled crabs have the ability to lay eggs but soft cell crabs are only for eating. If [the transformation of soft-shelled crabs into hard-shell ones is interrupted] the breeding process will be stopped and our marine eco-system will be seriously imbalanced. COAST Trust, a national non-government organisation, has established the crab hatchery in

Cox's Bazar with the technical and financial support of the Palli Karma Sahayak Foundation (PKSF). Md. Moshararaf, the assistant general manager of PKSF said that the crab hatchery programme has been undertaken at the entrepreneurial level to create opportunities on a large scale to create income and employment opportunities targeting to the local people. Mizan Rahman, senior coordinator of crab project, told thethirdpole.net that at first they had collected about 30 mother crabs from Maheshkhali River Island eight months ago. They nurtured these crabs for 42 days in the mother unit of hatchery until they had laid their eggs in their abdominal sacs. The eggs hatched after 32 days. Approximately 1,000 juvenile crabs survived. The lack of sufficient electricity, inadequate salt content in the water, and the unavailability of medicine and food for eggs are main reasons for not being able to hatch more crabs. The ideal salinity level for crab hatching is 28-30 parts per thousand (PPT) but the water from Maheshkhali Island River has a salinity level of around 24 ppt, causing significant mortality of eggs, he added. In the time from January to June the salinity level rises, so crab hatcheries may work better then. In the coastal areas there has been a rapid decline in naturally available crabs due to overexploitation. "The local fishing communities have caught fish and crabs without any rest since last ten years, and the number drastically fallen, said Sudhamoy Manjhi, an elderly fisherman, from Sathhira district. At the same time new disease strains, and unethical practices have damaged Bangladesh's prawn exports. At this point of time only crab production due to the huge demand in the international market, can help, said Jakia Rahman, a scientific officer at the Bangladesh Fisheries Research Institute based in Cox's Bazar. At present the sale price of a crab BDT 600-700 (USD 7.07-8.25) per kilogramme, but this can climb as high as BDT 1,500- 2,000 (USD 17.67-23.56) in April due to demand from China, where a major festival takes place then. Words of caution Not everybody is convinced that crab hatcheries are the way to go. Ishtiaq Uddin Ahmed, a leading forest and nature expert, said that the country has not conducted any research assessment yet if crab hatcheries would cause any long-term negative environmental impact. "We need some time to understand the impact of crab's farming, he said. But he also noted that the crab hatcheries are being put up on agricultural land of coastal area which is ultimately increasing saline salt concentration in future. "This agricultural land currently being used for crab farming will gradually turn into barren land like many others land. There will be no future expectation of growing agricultural products such as rice or vegetables, said Ahmed, former country representative of International Union for Conservation of Nature (IUCN) Asked what steps should be taken, he said there should be a specific land zoning system in the coastal area for commercial crab farms, shrimp farms and agricultural production. Sheikh Rokon, Secretary General, Riverine People (A Dhaka based civil society organization dedicated to river, wetlands and water issues) said that, crab farming has two adverse impacts on coastal riverine environment. Firstly, crab farmers catch a huge amount of juvenile crabs and other small aquatic creatures from the natural mangrove eco system as food the hatching crabs. This destroys the food cycles of other species. "This collection puts intense pressure on the natural sources of crab population and affects the entire eco system, he said. Secondly, the water in the farm where crabs are being raised is often brackish untreated and polluted water. This is being dumped into natural water bodies either by digging holes through the embankment or through pipes, posing a serious threat to the environment and to the health of the coastal communities.

URL: <https://www.thethirdpole.net/en/2020/01/27/hopes-and-fears-as-crab-hatcheries-proliferate-in-bangladesh/>

Bangladesh: Making index-based flood insurance socially inclusive in Bangladesh: Challenges and options

Floods and other weather-related disasters plague farmers in Bangladesh, and climate change threatens to exacerbate these risks. At stake are the livelihoods of millions of small and marginal farmer households that are at risk of becoming further entrenched in poverty. Lack of compensation or other buffering mechanisms means crop losses give rise to deepening cycles of debt, especially when cultivation is financed through loans. While neighboring India has developed strong policy and strategic direction for using risk transfer mechanisms, such as Weather Index Insurance (WII), as a disaster risk reduction tool, policy support in Bangladesh is lukewarm. To date, most WII schemes have been pilots implemented mainly by nongovernmental organizations (NGOs) and donors. The Index-based Flood Insurance (IBFI) project of the International Water Management Institute (IWMI) hopes to adapt the pilot scheme it is trialling in Bihar, India, to Bangladesh. To understand how such a scheme can be made accessible, especially to marginal groups, fieldwork was undertaken in Sirajganj district. Here, a WII pilot project, funded by the Asian Development Bank (ADB), which offers insurance for crops during both the Aman and Boro seasons is ongoing. This brief is informed by findings from this fieldwork. – Weather-related crop damage significantly threatens agrarian livelihoods in Bangladesh, potentially undermining progress towards reaching some of the United Nations Sustainable Development Goals (SDGs), especially those related to poverty reduction, food security, nutrition and health. – Farmers lack safety nets and compensation mechanisms to buffer them against these climate-related risks. The food security of women is particularly affected by crop losses, given gendered norms that privilege males with access to household resources in times of scarcity. – Risk transfer mechanisms, such as WII, may be one solution, but remain nascent in Bangladesh. – Despite several pilot WII schemes in recent years, growth of WII is held back by an unclear business case for private insurers, as well as a distrust of the private sector among farmers and, most importantly, weak policy support. – Lack of access to finance, illiteracy, gender norms and eligibility criteria can undermine the accessibility of WII for vulnerable groups. The complex structure of WII (e.g., how payout is triggered) requires careful explanation to minimize unrealistic farmer expectations. – Partners with extensive knowledge of rural social structures, and institutional capacity and credibility at the village level are needed to overcome challenges through a systematic, multifaceted and time-intensive rollout process.

URL: <https://reliefweb.int/report/bangladesh/making-index-based-flood-insurance-socially-inclusive-bangladesh-challenges-and>

Bangladesh: ‘The river is our home’: Bangladeshi boatmen mourn their receding waters

Holding his downturned palm level with his waist, Musana Robi Das indicates how tall he was when he started working on Bangladesh’s rivers. As a child he helped his father ferry villagers across local waterways. Now a tall and spindly 50-year-old, he has had to abandon that life as a boatman. The waters now sit so low that his services are unnecessary. So the past decade has instead been spent repairing shoes inside a dimly lit wooden booth in the village market. Bangladesh has 700 rivers integral to the country’s culture, but many of them are dying. Driven

by changing weather patterns and the country's relentless push towards development, the crisis has become so critical that in July 2019 the supreme court declared all the country's rivers to be "living entities, with anyone damaging them subject to punishment. But for many of the communities whose lives depend on the waterways, the change of law has come too late. "I used to love just rowing the boat, being on the river. Nowadays I have very little work, says Robi Das. "The river was so much higher before. Now you see there are fields by the bank, but they used to all be part of the river. Only a month since the end of Bangladesh's rainy season, the river sits at less than half the level it did when it was a healthy tributary of the Surma, part of an extensive river system that stretches from India, breaking off and joining other rivers on the path southwards to the Bay of Bengal. Robi Das is part of a small Hindu community in Bangladesh's northern Sylhet district, in the town of Biswanath near the border with India, which has always been connected to the river. "The river is our home. We are always going down to it, we do everything there, said his neighbour, fisherman Lilon Chandra Das, 47. "Our lives were more comfortable before, we could live from the river. Today I have a net with me in my boat but I don't have much confidence that I will catch anything. In the past it was guaranteed. Both people and goods were traditionally transported along Bangladesh's extensive river network. Floating markets still exist in parts of the country, and communities like the Choonati (named after the paste chewed with betel nut, made from grinding the shells of snails found on the river bed) found specialised work on the water. "They are the biggest losers. First of all, fishermen. Hundreds of fishing communities have been destroyed. Then the boatmen, said Sheikh Rokon, founder of the Riverine People network of environmental activists. He said the death of Bangladesh's rivers has been caused by encroachment, erosion, pollution and sand mining. All of these problems stem, he claimed, from decreased water flows that, while due in part to internal land barriers, are largely a result of restrictions on the flow by Bangladesh's neighbours, especially India. The two countries share several major rivers, but Bangladeshi communities complain that they suffer from India's dams depriving them of water during dry spells and inundating them in the rainy season. In October 2019, Bangladesh's state news agency reported that 78,000 people were affected by flooding in the country's north-west soon after India opened the floodgates of its Farakka barrage, 20km from the border. Reviving the rivers Since independence from Pakistan in 1971, Bangladesh has forged a path towards development that has focused on rapidly building its economy. The changes have been visible. Instead of rivers, transportation is concentrated on roads that even in rural areas are now congested. Dhaka, once a small capital, is now one of the most populous cities in the world, growing by an estimated half a million people every year. Dhaka's water bodies have shrunk by two-thirds over the past 20 years, according to a recent study by the Bangladesh Institute of Planners, and hundreds of factories and tanneries pollute the city's Buriganga river, according to activists. Bangladesh's progress has seen the country neglect its rivers in pursuit of resources, according to Rokon. "We have 38 rivers which are severely polluted and encroached. We have more than 80 rivers that are [suffering] under the sand-mining situation, he said. "The modern monster is sand-mining. It is cruelly killing our rivers. Sylhet has suffered because the sand and stone collected from its river beds, washed down from the hills in India, are used in roads and construction. The often illegal and excessive collection has diverted the flow of rivers, according to the government's forestry department. As one of the activists who campaigned for Bangladesh to recognise the legal rights of rivers, Rokon welcomed the supreme court's July ruling, but he is also sceptical that action will be taken. Aside from the challenge of taking on businesses that profit from mining the rivers or building around them, Rokon says there needs to be a cultural change in Bangladesh, where

the traditional link to rivers has been forgotten. “People became detached culturally from the rivers. We have to revive the utility of the rivers, he said. In Biswanath, the local administration has been exploring ways to reroute their dying river with the hope of increasing its flow for fishermen like Chandra Das, and to revive a tradition of transporting people and goods along the waterways, which could prove quicker and cheaper than Bangladesh’s clogged roads. Robi Das is less optimistic about the changes, however. The death of local rivers has already forced him to search for a new livelihood and he expects his children will do the same. “I have moved on now, even if they revive the rivers there won’t be much chance of us returning to it. My children study and they will try to use that for their lives, he said.

URL: <https://www.theguardian.com/global-development/2020/jan/20/the-river-is-our-home-bangladeshi-boatmen-mourn-their-receding-waters>

Bangladesh: A promise to blue economy

Over the past 48 years since independence, Bangladesh has made significant progress across the socio-economic spectra. The GDP has grown many times and the economy has transformed from an agrarian base to a modern manufacturing and service economy. The exceptional growth in economy and the population and its livelihood has not only successfully leveraged the hugely abundant labour forces, fertile land and plenty of water and monsoon rains, but also has generated an increasing demand forecast for these resources. With a population of 160 million crammed into an area of 147,570 sq. km, Bangladesh at 1,253 people per sq. km (Bureau of Statistics, 2018) is the most densely populated country in the world and demanding a growing amount of resources, particularly freshwater and new lands in the coastal areas, to keep the pace of its socio-economic growth. It is expected that by 2025, 23% of world’s population will be living in countries or regions with outright water scarcity, and two-thirds of the world population will be under water-stress conditions (UNESCO, 2012).

As about 66% of the world population would be confronted with water-shortage, water scarcity is already a focus of attention in all over the world. Demand for water and new lands keeps on increasing along with the socio-economic and population growth. Increase in population and lifestyle makes water scarce, but the inefficient management of the freshwater causes its scarcity. Freshwater Harvesting The present study attempts to formulate a plan to manage freshwater resources in the coastal areas of Bangladesh and make it available throughout the year especially during the dry season when the salinity intrusion is at its peak.

The goal aims to ensure reliable and adequate provision of freshwater to support equitable and sustainable socio-economic development, environmental sustainability and livelihood security in the coastal zones. The preferred strategy for coastal freshwater aims at improving living conditions, sustaining agricultural and fisheries production, as well as maintaining environmental sustainability. Year-round availability of freshwater for different uses is currently a significant challenge in the coastal area. Considering freshwater flow from Tetulia and the Lower Meghna River, the southern tip of Bhola Island, where the Char Kukri Mukri is located, offers a favorable condition as a location to develop a freshwater reservoir.

Freshwater reservoir in coastal zone can be an alternate source of water, a potential which hasn't been explored until this study. This one-of-a-kind study to harvest freshwater offers a roadmap to build a reservoir at Char Kukri Mukri to supply only a small percentage of total drinking water required in the coastal region. We hope that this effort will lead to further studies to explore other potential areas for additional freshwater harvesting and promote economic growth in the region. The freshwater reservoir is a unique structure in an estuary to store a portion of freshwater that flows into the ocean during monsoon periods.

The reservoir plays a crucial role on the livelihood of the rural and urban coastal population. It has many advantages, such as, there is no need for land acquisition, and no land and forest submergence is likely to happen as in the case of inland reservoirs. They are already put to work with great success in countries like the India, Netherlands, Singapore, China, South Korea and Hong Kong, and are proven to be beneficial to local population and their livelihood. The concept of the freshwater reservoir enables both normal and major hydrological extremes to be fruitfully utilized for the benefit of local population by storing freshwater in abundance for future use. The freshwater reservoir has the potential to create a new freshwater ecosystem.

The reservoir offers an opportunity to promote water sports and promotion of tourism attracting tourists from around the world. There will be an increase in industrial, recreational and freshwater fisheries activity in the reservoir. Roadways around the reservoir, a Golf resort, a domestic airport, freshwater fishing, navigation, renewable energy production and tourism will make the reservoir site a smart township. Land Reclamation and Development In addition to exploring the viability of a freshwater reservoir at Char Kukri Mukri, this study is centered-around reclamation of land and its development to allow a continuous southward extension of Bhola. This land, to be reclaimed on the north-eastern part of the Char Kukri Mukri and eastern part of Char Fasson (Figure 1), will provide infrastructural support to tourism industry and will promote economic activities. The reclaimed land will have an area of 9 km². The land will be reclaimed by constructing a cross dam at the eastern boundary of the freshwater reservoir and a Super Dyke at the eastern and southern boundaries. Land filling up to +6.0 RL (in Bhola side) to +7.0 RL (in the sea side) will mainly be accomplished by dredged material from the western part of the char (inside the reservoir) near Gate 2.

The dredging part of this char, which normally inundates during high water, will increase the reservoir capacity. Additional filling material can be had from the lower part of the newly accreted chars, about 3.5 km offshore from the proposed reservoir in the West Shahbazpur Channel. The new land will be protected from inundation against tide, wave and storm surge with a Super Dyke of +7.0m RL (Figure 2) to be built around the study area. The Super Dyke is also proposed to construct around the Char Kukri Mukri. The height of the Super Dyke embankment is high enough to protect the area from storm surges that frequently hit the coastal zones. Mangrove and mesophytic species (suitable to the coastal zone) will be planted on the seaside of the Dyke to prevent seawater from intrusion.

In coastal zone, foreshore afforestation is a proven cost-effective method to dissipate wave energy and reduce wave attacks on dykes during storm surges. The freshwater reservoir will support the population in the region for drinking water, domestic, agricultural and other uses and the tourism industry. The reclaimed land can be used to build a domestic airport and a Golf resort

to promote the tourism industry in the area. The airport will serve as a connecting hub between the Char Kukri Mukri and the rest of the country. A potentially high value property, a Golf Resort, may be developed in the char overlooking the reservoir and the West Shahbazpur Channel (Figure 2). People and families, local and foreign, from all across the country can fly to the area and spend their quality family vacations in the resort. This high value property will add significant economic values to the region and thereby to the national GDP. The Airport and other infrastructures in the area will support the operations and economic activities of the nearby Payra Port. The prospects of leveraging the open access to sea into a major source of growth and development are also being viewed as developing the emerging blue economy of Bangladesh.

The efforts outlined in this study are aligned with the Vision 2041 and consistent with the sustainable development goals (SDG 6, 7, 13 and 14) adopted by the UN General Assembly in 2015. The focuses of the sustainable goals are integrated water management, climate resilience, ocean and coastal ecosystem restoration and conservation and sustainable use of resources. The exploitation of the blue economy in Bangladesh is just emerging, and the potential is enormous and the project will provide economic dividends to local businesses and add values to the national GDP. The present study area is expected to provide a safe and enabling environment for other high value developments and improved livelihood of the populations in the area.

Renewable Energy Production A sustainable development pathway, resilient to disaster and climate change, entails sustainable use of natural resources including solar energy. This study is taking full advantages of all the resources available in the area. Especially the stretches of lands in both northern and southern parts of the reservoir and the area along the Super Dyke circling Char Kukri Mukri, which would be suitable for setting solar panels to generate green energy and provide power to local households and the industries in the area. The tourism industry can be hugely benefited from this low cost renewable solar energy. **Model Simulations and Analysis** An existing operational model called the Bangladesh Coastal Model (BCM) developed by Institute of Water and Flood Management (IWF), BUET has been applied to assess the impact of cross-dam for building the freshwater reservoir at Char Kukri Mukri. The BCM constitutes three models of Delft3D modeling suite, a) hydrodynamic model, b) morphology model and c) salinity model. All these models incorporate physics-based processes. Model simulation was conducted for a typical year representing the Ganges, the Brahmaputra and the Meghna river systems' hydrological regime, with a combined peak flow of about 100,000 m³/sec occurred in July and a low flow of about 5,000 m³/sec occurred in February, a conservative estimate for simulating the freshwater availability for the reservoir.

The simulation also represents an estimated morphological regime that peaks at 1,600 g/l during high flow period of July and 170 g/l in low flow period of February. Both hydrodynamics and the morphology of the system are simulated and analyzed with or without the gates, cross dam and Super Dyke in the study area. The modeling analyses include the hydrodynamics and morphology of both the monsoon and dry seasons. A careful examination of model simulation results suggests that there is no visible change in the flow field due to proposed intervention in the entire estuarine system. In addition, the model simulations indicate that the change in yearly cumulative erosion-sedimentation due to the intervention is also negligible. Juvenile Hilsha (Jhatka) Route A subtle change in velocity and sediment concentration is found in the channel between the Char Montaz and Char Kukri Mukri, which happened to be designated as the

preferred migratory route for Juvenile Hilsha (Jhatka) fish. Therefore, a detailed analysis of the hydro-morphology is warranted to make sure the Jhatka migration is not compromised due to the development of the reservoir and land reclamation. The velocity and sediment concentration will be slightly altered due to the closure of the channel between Char Fasson and Char Kukri Mukri for the construction of the freshwater reservoir and land reclamation. However, the Hilsha fish can tolerate a change of velocity and turbidity up to $\pm 30\%$ and $\pm 15\%$, respectively. In the present study, sediment concentration has been considered as a proxy parameter for turbidity. To assess whether the 'slightly altered' flow and sediment fields will remain within these thresholds, changes of velocity and sediment concentration before and after the intervention are computed at the entry and exit points of Jhatka route.

Exceedance probabilities of these two variables during an entire hydrological year are also computed at the same locations to assess whether the existing route will continue to be used by Hilsha fish during migratory season after the intervention is made. The result shows that change of velocity will mostly remain within the threshold limit throughout the year. There are few instances when the changed velocity crosses the threshold. To quantify this crossing limit, exceedance probability of change of velocity beyond the thresholds of $\pm 30\%$ is computed. It is seen that exceedance probability for velocity is less than 20%, which is statistically insignificant. The sediment concentration is used as a proxy parameter for turbidity. To assess the changed sediment concentration field due to reclaimed land, analyses similar to velocity field are made for sediment concentration field.

Results for the sediment concentration field show that the changes of sediment concentration along the Juvenile Hilsha (Jhatka) route due to intervention will mostly remain within the threshold value and the exceedance probabilities are also found to be statistically insignificant. Therefore, no significant change in Juvenile Hilsha (Jhatka) migratory pattern is expected to change due to the intervention. Availability of Freshwater for Reservoir Model simulations of salinity distribution in the Meghna Estuary covering the study area, shows that freshwater with almost zero salinity are available near the reservoir during June through October (5 months). Other seasons are not quite suitable for storage due to elevated salinity concentration in the water.

Therefore, the size of the reservoir should be big enough to support the freshwater needs in the area. Assessment should be made for forecasted water demands in the area for the entire year so that reservoir operation is designed accordingly. It is estimated that a total of 1,200 billion m³ of freshwater flows into Bangladesh territory every year through international rivers (BDP 2100); the quantity of water being discharged in the Bay of Bengal, however, is not well documented. Considering a big percentage of this volume flows through the estuarine systems of Bangladesh, an insignificant amount of freshwater is probably being used in the coastal area before it's being discharged into the Bay of Bengal. Freshwater reservoir can be an effective means to trap and store this unused freshwater.

On the other hand, year-round availability of freshwater for different uses is currently a significant challenge, particularly in the coastal zone. Considering freshwater flow from Tetulia, southern tip of Bhola Island, where the Char Kukri Mukri is located, is a location where development of freshwater reservoir is technically and economically more attractive. Volume of

freshwater reservoir by taking water level at MSL in the proposed location is estimated to be about 23 million m³. This will cover only a fraction of total domestic freshwater demand in the coastal area. The surface area of the reservoir is about 12 sq. km. Conclusions The present study has formulated a unique concept to build a freshwater reservoir, a domestic airport on the reclaimed lands, a Golf resort, solar power generation and other infrastructure to develop a smart township at Char Kukri Mukri, the southern tip of Bhola. The freshwater reservoir will support the population in the region for drinking water, domestic use, agricultural and other uses including tourism. Volume of freshwater reservoir is estimated to be about 23 million m³ and the surface area is about 12 km². The reservoir has the potential to create a new freshwater ecosystem. The reservoir will provide an opportunity to promote water sports, Golf and promotion of tourism; attracting tourists from around the world.

There will be an increase in industrial, recreational and fisheries activities around the reservoir. Roadways, solar green energy production, freshwater fishing, navigation, Golf resort and tourism is expected to make the reservoir site a smart township. The airport will help develop connectivity between Char Kukri Mukri and the rest of the country. The prospects of leveraging the open access to sea into a major source of growth and development are also being viewed as developing the emerging blue economy of Bangladesh. The efforts are aligned with the Vision 2041 and consistent with the sustainable development goals (SDGs 6, 7, 13 and 14) adopted by the UN General Assembly in 2015. The exploitation of the blue economy in Bangladesh is just emerging, and the potential is enormous and the project will add economic value to the national GDP. The present study area is expected to provide a safe and enabling environments for other developments including the nearby Payra Port and improved livelihood of the populations in the area.

The preferred strategy for coastal freshwater aims at improving living conditions, sustaining agricultural and fisheries production, as well as maintaining environmental sustainability. This study is centered-around reclamation of land and its development to promote economic activities and provide safe and enabling environments for other developments and improved livelihood. The area of the reclaimed land is estimated to be 9 km². A domestic airport and a Golf resort will be built on this reclaimed land. This airport will serve as a hub of connectivity across Bangladesh. The Super Dyke to be built around the study area along with the mangrove and mesophytic species (suitable to the coastal zone) on the seaside to prevent seawater from intrusion. This study is taking full advantages of all the resources available in the area, especially the stretches of land in both northern and southern parts of the reservoir and around the Char Kukri Mukri, which would be suitable for setting solar panels to generate green energy.

The proposed reservoir, reclaimed land and Super Dyke will not affect the preferred migratory route for Juvenile Hilsha (Jhatka) fish. Modeling analysis suggests that the velocity and sediment concentration changes will remain within the tolerable limit and migration of Jhatka fish will not be affected. Recommendations The present study is aligned with the Vision 2041 and consistent with the sustainable development goals, SDGs 6, 7, 13 and 14. If the project is implemented, Char Kukri Mukri and the surrounding area can turn the water challenges to opportunities and reap significant economic dividends. Therefore it is strongly recommend that the BWDB initiate a feasibility study immediately and implement the project as soon as possible.

The sediment management of the reservoir and its inlet and outlet could be a challenging operational issue and it is highly recommended that a comprehensive plan to manage sediments including periodic bathymetric survey and dredging program be formulated in the feasibility study. Since the reservoir will hold the nutrient-rich river water for a significant period of time, aquatic plants such as algae and water hyacinths may pose a significant threat to water quality. Therefore a periodic monitoring of water quality parameters such as N, P, Si, C, BOD and COD should be conducted.

Moreover, water levels and salinity on both sides of the gates should be measured every 30 minutes, especially during the gate operations. If the water quality doesn't meet the criteria of human consumptions or other uses, the contaminated water can be flushed out through the gates. Detailed operational procedures should be outlined in the feasibility study. To guide future plans for building additional freshwater reservoirs in other parts of the coastal areas, it is imperative to operationalize the knowledge gained from this study. It is recommended that BWDB scale-up the knowledge gained and develop more refined and resilient solutions towards the development and operation of freshwater reservoirs elsewhere in the country, either in coastal or fluvial flood plain areas.

URL: <https://thefinancialexpress.com.bd/views/a-promise-to-blue-economy-1578066055>

Bangladesh: Canal blocked for fish cultivation

To cultivate fish in Vuter Khal (canal), a group of local influential people have set up illegal bamboo enclosures halting natural flow of the canal in Barishal's Mehendiganj upazila. Originated from the Maskata river, the three-km-long canal connects the Tetulia river in nearby Alimabad and Chargopalpur unions of the upazila, said locals.

Thousands of fishermen and farmers depend on the canal for their livelihood. Blocking of the canal for fish farming will hamper irrigation for Boro cultivation, said growers. Gopalpur union parishad (UP) chairman and some local influential persons have been involved in the illegal act, alleged villagers.

Refuting the allegation, Gopalpur UP chairman Shamsul Alam Bari said some villagers put bamboo fences and tree branches across the canal to save thousands of people from river erosion during the rainy season. He further added such arrangement will not halt the natural water flow of the canal. Shuvankar Chakrabarty, secretary of Bangladesh Paribesh Andolon (Bapa), Barishal unit, said it is totally illegal to hamper natural water flow of the canal. He also urged the authorities concerned to free the canal immediately. Upazila Nirbahi Officer Pijush Chandra Dey said he has not heard about the incident but trying to get information on the matter.

URL: <https://www.thedailystar.net/country/news/canal-blocked-fish-cultivation-1850995>

Bangladesh: Chittagong Shutki Pallis abuzz with fish drying activities

Dried fish is a much-loved traditional food in the country, particularly in Chittagong. With the arrival of winter, Shutki Palli dedicated to fish drying process along Karnaphuli River in the port city are now abuzz with fish drying activities. During a recent visit to the Bakalia Bastuhara Shutki Palli, hundreds of people were seen busy with the work of dried fish processing. Some were washing the fishes while others sprinkling salt on them or were busy slitting the fishes and pulling out their entrails.

Some of them were seen busy placing the processed fishes on bamboo frames and hanging them on poles under the sun to dry. Apart from Bakalia Shutki Palli, another nine other fish processing clusters (Shutki Pallis) have been developed in Ichhanagar, Juldha and Dangarchar areas along the bank of Karnaphuli River. The fish processors in these Shutki Pallis have said the dried fishes are transported to Asadganj, a wholesale market for dried fish in Chittagong city to supply them to rest of the country.

Wholesalers in Asadganj say that besides supplying dried fish to the rest of the country, they also send consignments of dried fish to Middle Eastern countries such as the UAE, Saudi Arabia, Kuwait and Qatar as well as to the US and the UK – the countries that are home to a large numbers of Bangladeshi diasporas. A decade ago, Md Yunus (a resident of Banshkhali upazila of Chittagong) was a salt trader. He switched to fish drying.

As he spoke to this correspondent, Yunus said that the fish drying process continued round the year with the exception of the rainy season. “Although fish drying process continues throughout the year, peak season for the activity spanned from November to February.

Fifteen to twenty different varieties of fishes are being processed in the Shutki Pallis, said the dried fish processor. However, mostly Chhuri (Ribbon fish), Loitta (Bombay duck) and Faisha (Phasa) are processed as dried fish, he added. “I procure fish from Fisheryghat for drying them up here, in the Shutki Palli. Subsequently, I sell processed fish to the wholesale traders in Asadganj dried fish market, said Yunus. Yunus said, of the various types of dried fishes he sells Fatra at Tk600, Loitta at Tk450, Chhuri at Tk600-1000, Faisha at 250-350 and Pata at Tk120 per kg.

According to the dried fish processors, Chittagong meets 30% of the domestic demand for dried fish; and the fish processed in the port city are exported to Middle Eastern countries, China, Thailand and Hon Kong as well. While talking to the Dhaka Tribune, Asgar Hossain, president at the Chittagong Small Dried Fish Production Marketing Cooperative Society Ltd, says out of 150 dried fish processing units in the port city, 120 units are now in operation.

According to the dried fish processors, there are some 5,000 workers in Bakalia Shutki Palli. Of them, 60-700 workers are permanent while the others work on daily basis. The temporary workers get Tk250-300 per day, while the permanent workers get Tk8, 000-12,000 per month. Asgar Hossain says they have been facing unfair competition from the imported sub-standard dried fishes from India, Pakistan and Myanmar.

URL: <https://www.dhakatribune.com/business/2020/01/06/ctg-shutki-pallis-abuzz-with-fish-drying-activities>

Bangladesh: Imports take over as local dried fish production falls

The local production and supply of dried fish, widely known as shutki, which is a delicacy on the menu of many people, has been on the decline over the past few years despite its growing demand. The local supply has fallen due to various adversities including difference in local and import prices and lack of profit, according to industry insiders. To meet the demand, dried fishes are being imported from different countries and the import volume is increasing every year.

According to the data of National Board of Revenue (NBR), dried fish worth Tk234.204 crore was imported from different countries during FY 2018-2019 while the import amount was worth Tk177.742 crore in FY2017-2018. On the other hand, the Export Promotion Bureau (EPB) data shows that dried fish worth Tk26.628 crore was exported in FY 2018-2019 and Tk38.429 crore in FY 2017-2018. Visiting Karwanbazaar, Dhaka Tribune found different types of dried fish available in both retail and wholesale shops in the market.

Nurzahan Begum from Dhaka's Mohammadpur area, who wanted to buy some dried fish, said members of her family liked to eat dried Loitta fish more than meat and so she bought it almost every week.

Dried fish is really delicious. I usually prefer it to other fishes," she said. "It is cheap and five members of my family can be fed with a small quantity of dried fish. However, prices of dried fish are increasing these days," she added. Retailer Saddam Hussen said: "People buy all types of dried fishes but Loitta and Bashpata shutkis are the most sought after by consumers. The prices are increasing as the supplies are falling." "Shutki has a huge demand especially among lower income people. We saw a decline in sale recently as it takes more onion to cook dried fish. So people bought less shutki in the last few months since onion prices went up too much for most people," he added. Local dried fish business shrinking People are losing interest in producing local dried fish because for most of them the business failed to fetch enough profits.

According to traders and importers, Bangladesh imports 70% of its demand for dried fish. They fear that local production may stop altogether in a few years if necessary initiatives are not taken right now. Worker Mohammad Iqbal from Makuliya in Chittagong says the peak season for dried fish production is from October to February and he works on a temporary basis.

Earlier I didn't have time to rest, but now I don't get much work to do since production has fallen significantly. We used to receive Tk250-300 per day but since I don't get much contract these days, I earn much less and have to do another work, he adds. Dried fish producer and Chittagong Khudro Shutki Utpadon O Biponon Somobay Somiti LTD President Akbar Hussen blames government policy for the dismal situation of the industry.

It is a traditional food item in Bangladesh. But there is no loan facility from banks or SME funds for the sector. Besides there is no facility from the government. So day by day the industry is shrinking, he says. There are 150 chang (area having bamboo structures for drying fish) at Makuliya and of them 120 are active. Currently 5,000 people are working there. According to

importers, dried fish which they can buy for Tk200-220 a kg from India cannot be bought for less than Tk500 a kg in Bangladesh.

To produce one kg dried fish, it requires five kg fish and in Bangladesh the average fish price is Tk100-150 a kg. Because of high production cost, the price of local dried fish is high. Importers are not interested to buy those at high prices. Importer Mohammad Dulal says around 90% of the demand for dried fish used to be met with local production 10 years ago but the situation has changed quite a lot now and it seems that the local production of dried fish will just come to an end within 5-10 years.

On the other hand, the price of per kg fish is around Tk12-15 in India. Because of their huge production of fish, they can produce dried fish at significantly lower price, he says. “If the government takes effective initiatives to increase fish production, as well as to secure rivers, canals, haors and maritime zones for fish production, dried fish production can be increased, he suggests. In the same vein, Md Sahjahan, a wholesaler in Karwanbazaar, says fish production must be increased to produce dried fish as per the demand. Politon Barua, a dried fish trader in Asadgonj, Chittagong, says: “People engaged in dried fish production have been facing chronic losses and wrapping up businesses.

Most workers are quitting the profession because of this and we are depending more on imports. Exporter Farid Ahmed, secretary of Asadgonj Dried Fish Merchant Association, says: “Imports of dried fish are nearly doubling each year. Around 70% of our demand for dried fish is met with imports from different countries including India, Myanmar, Pakistan.” “The rest 30% is met with local production, mainly at Sonadia of Cox bazaar, Teknaf and Sundarbans. Of the 30%, we only export 5%, Farid said.

Bangladeshis living abroad including Dubai, Saudi Arabia and European countries, like to eat dried fish. So we export for them. Around 2.5 lakh kilograms of dried fish have been exported this year, he added.

URL: <https://www.dhakatribune.com/business/2020/01/04/imports-take-over-as-local-dried-fish-production-falls>

Bangladesh: Self-reliant in rice, fish production

Bangladesh has achieved self-sufficiency in fish, meat, rice and vegetable production in the last 10 years. Commercial production of fish, meat, milk and eggs witnessed a robust growth in this decade in line with growing demand. Substantial investments have also helped some of these sectors grow into big industries that are preparing to export their products after meeting local demand. Data from the Department of Livestock Services and Bangladesh Poultry Industry Central Council show that the size of the poultry industry was Tk 10,000 crore in 2010. This has leapt to nearly Tk 30,000-35,000 crore at present.

The Bangladesh Poultry Industry Central Council says as many as 1.65 lakh people are involved in meat and egg production, while the Department of Livestock Services claims there are 81,614

poultry farms in the country. According to the Bangladesh Agricultural Research Council, each person has a demand for 120 grams of meat every day. This demand was met in 2017. Bangladesh produced 75 lakh tonnes of white and red meat in the 2018-19 fiscal year. The Ministry of Fisheries and Livestock notes that the country produced 12.60 lakh tonnes of meat in the 2009-10 fiscal year.

This means meat production increased nearly six times in 10 years. However, the increase in production could not cap beef prices, which doubled in 10 years to reach Tk550 per kilogram. Dr ABM Khaleduzzaman, assistant director of the Department of Livestock Services, said, Regular training of farmers, loan facilities and tax holidays have helped the sector balloon fast. Producers are now preparing to go for export after meeting local demand. Meat producers say the poultry sector started receiving private investments in the 1990s. The industry attracted small and medium investments with the government waiving poultry sector taxes in 1996. Big investors with modern technologies made an entry into the booming poultry business after 2000.

Avian influenza a disease caused by infection with avian (bird) influenza (flu) Type A viruses – hit the sector in 2007, causing many farmers to suffer losses. They could not recover the damage until 2009. The poultry sector acquired permission to import avian influenza vaccine in 2013. Meanwhile, the government in 2008 issued the National Poultry Development Policy, keeping import of poultry accessories out of the purview of taxation. Though production of milk and eggs has also increased significantly in the last decade, it is still below demand. Each person has an annual requirement for 104 eggs, while supply stands at 103 currently.

Egg production was 1,711 crore pieces in the 2018-19 fiscal year, up from 574 in 2009-10. According to the Food and Agriculture Organisation, each person has a demand for 250 grams of milk every day. This estimate suggests the need for an annual production of 152 lakh tonnes of milk while the total production in the last fiscal year was 99 lakh tonnes. Milk production was 23 lakh tonnes in the 2009-10 fiscal year. Apart from state-owned Milk Vita, private investments are pushing the dairy sector forward. However, the country is yet to shake off its dependence on milk imports. In the last 10 years, milk production increased three times. Milk Vita has been in production for a long time; private companies like Aarong, Pran, Akij and Aftab stepped in between 2005 and 2015.

The government introduced the National Livestock Development Policy in 2007, while a draft of the National Dairy Development Policy was finalised in 2016. Currently, there are more than 68,000 registered dairy farms across the country. Apart from supplying to Milk Vita, commercial brands are collecting milk from root-level farmers. A Tk 4,000 crore project of the World Bank titled Livestock and Dairy Development Project is also expected to boost meat and dairy production. Dr Abdul Jabbar Shikder, director general of the Department of Livestock Services, told that the dairy sector is growing rapidly although the country currently lags behind in egg and milk production. He hopes the World Bank project will play a vital role in meeting the demand for milk. Dr Nathu Ram Sarker, director general of the Bangladesh Livestock Research Institute, said the institute is prioritising self-sufficiency in nutrition as the country has achieved self-reliance in food production.

Production of milk and eggs is growing faster than that of meat. We are working to speed up the process further, he added. Time was when inland open water fisheries dominated the local fish market. Today, however, inland culture of fish occupies 56 percent of the domestic market. The Department of Fisheries says a total of 43 lakh tonnes of fish were produced in the 2018-19 fiscal year. The production was 29 lakh tonnes in 2009-10. According to a report of the Food and Agriculture Organisation, Bangladesh stands third in inland open fisheries and fifth in inland fish culture in the world. Each person has a demand for 60 grams of fish per day while the supply is 62.58 grams. Dr Mohammad Zillur Rahman, deputy director of the Department of Fisheries, said the fish Pabda once was priced at Tk 1,200-1,300 per kilogram. “However, the price has gone down to Tk400-500 now. This was possible due to large-scale fish farming. More than 1,000 private hatcheries are producing and supplying fish fries across the country.

Though carp fish once dominated the inland fish culture, more and more local species are gaining popularity. Government officials have been narrating a series of initiatives, claiming that they have hugely contributed to fish production. Hilsa has been playing a key role in overall fish production in the last two years. The country saw 4.98 lakh tonnes of hilsa production in the 2017-18 fiscal year, which rose to 5.17 lakh tonnes in the next financial year. Bangladesh achieved self-sufficiency in rice and vegetable production a couple of years ago. Rice had to be imported only during periods of natural calamities.

Despite this self-reliance, rice production increased only slightly during the last decade. The Department of Agricultural Extension says the country produced 3.86 crore tonnes of rice in the 2018-19 fiscal year, which was possible due to a bumper production of Aush and Aman. Rice production was 3.38 crore tonnes in the 2011-12 fiscal year. The annual demand for rice is 3.5 crore tonnes. In 2017, floods ruined the crop twice, rendering the rice market unstable. The government had to waive 28 percent rice import tax, paving the way for the import of 60 lakh tonnes of rice to calm the domestic market.

Many argued that the impact of the import affected Boro farmers even during the last season as they did not get fair prices. The government approved the export of 2 lakh tonnes of rice this year owing to the production surplus. Some private companies are currently exporting this Bangladeshi staple. Agriculture Minister Dr Abdur Razzak told that Bangladesh has achieved tremendous success in food production in the last 10 years.

We are now self-sufficient in producing food grains, including rice, and vegetables. Some items are even being exported, he said. The minister said being able to export food after meeting the local demand is a huge achievement for the country. There is still a shortage in onion production but we will achieve self-sufficiency in that too, he added. According to the Department of Agricultural Extension, Bangladesh had a production target of 4.15 crore tonnes of food grains in the 2018-19 fiscal year. Exceeding the target, the production was 4.32 crore tonnes.

URL: <http://www.dailyindustry.news/bangladesh-self-reliant-rice-fish-production/>

Bangladesh: Worker safety is still far from reality in Bangladesh

Workplace accidents along with labour unrest have been reported all the year round despite repeated assurances by the government to improve worker rights and safety. A Bangladesh Institute of Labour Studies report comes up with the figure of the death of 1,175 workers 131 construction workers, 116 farmers, 85 day labourers, 62 fishermen, 35 electricians, 24 plastic factory workers, 23 brick kiln workers, 14 ship-breaking workers and 6 apparel factory workers in 1,285 workplace accidents in 2019.

The figure is likely to be much higher as the report based its findings on media reports in the year. The report also shows that the industrial sector was volatile in 2019 with 423 incidents of labour unrest, a 26.6 per cent increase on the incidents in 2018. Most incidents including 131 in the apparel sector, 63 in jute mills, 61 in the transport sector and 26 in media took place over unpaid wages and allowances, labour rights, lay-offs and low wages. What the report speaks volume of is the rampant violation of labour rights in the industrial sector and little government effort to attend to the issues.

The first-ever National Occupational Safety and Health Profile that the Department of Inspection for Factories and Establishments launched in November and the 2019 Global Rights Index that the International Trade Union Confederation published in June also speak of a bleak reality of labour rights in Bangladesh. The profile, not inclusive though, records 2.96 lakh violations of labour laws at work in 2016–2018 while the Global Rights Index ranks Bangladesh among the 10 worst countries for workers.

The profile classifies labour rights violations under 13 major categories, including recruitment and job conditions, children and adolescent workers, maternity welfare benefits, occupational health and safety and payment of wages, while the index specifies violent repression of worker movement, mass dismissal, the arrest of union leaders and restricted right to unionisation as worrying. The government's promises are largely rhetorical as violations of and disregard for rights continued apace.

Two fires in a plastic factory at Keraniganj and a fan factory in Gazipur left 31 people dead in December while hundreds of jute mill workers have gone on a fast unto death demanding their payment in arrears and other benefits. What the government appears to be doing, that too slowly and ineffectively, is to improve labour rights situation in the apparel sector aimed at keeping to enjoy the generalised system of preferences in the European market while violations of rights and workplace accidents in all sectors continue to take a heavy toll on the lives of workers. It is high time that the government attended to the issue and took up a comprehensive plan to ensure labour rights and worker safety. Labour rights issues of migrant workers, about 3,500 of whom returned home dead in 2019, must be ensured through an effective intervention.

URL: <http://www.newagebd.net/article/95189/worker-safety-is-still-far-from-reality-in-bangladesh>