



Climate Change Impacts and Fishing Communities

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What is climate change? What is global warming?

- ▶ "Climate change": A change of climate attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods (1992 UNFCCC)
- ▶ Changes in ocean surface temperature has on average increased by 0.88 [0.68–1.01] °C from 1850–1900 to 2011–2020 (IPCC 6TH Assessment Report)



Impacts on fisheries and fishing communities

- ▶ **Extreme weather events** (heatwaves, severe flooding, droughts) and **slow onset events** (increasing temperatures, loss of biodiversity, ocean acidification, species redistribution, sea level rise and salinization) caused by global warming
- ▶ Bleaching of coral reefs; acidification of seawater impacting oysters, clams, lobsters, shrimp, coral reefs, etc.



Climate change impacts (Cont.)

- ▶ Increased frequency of natural disasters (India and Bangladesh)
- ▶ Increasing number of accidents at sea while fishing (Bangladesh, Indonesia)
- ▶ Rising sea level adding to risks associated with fishing (the Philippines, Indonesia)
- ▶ Unseasonal rains and flooding affecting fishers' housing (Vietnam)
- ▶ Extreme weather impacting production and the quality of life of fishers (the Mekong delta, Vietnam and Cambodia)
- ▶ Sea-level rise, intrusion of hyper-saline groundwater destroying mangroves, and reduced availability of drinking water sources; fish spoilage due to high ambient temperature; reduced seasonality of catch of target species such as bonga, sardinella, catfish, sole, etc., internal migration of fishers (The Gambia)



Climate change impacts (Cont.)

- ▶ Reduced number of fish species, reduction in the availability of Nile perch and small sardines; changes in species composition, redistribution of fishing grounds affecting women as they do not find the species they depend upon; marine fishery resources moving away from nearshore to offshore waters (Tanzania)
- ▶ Tropicalization of fisheries in the eastern Mediterranean through the Suez Canal (algae and invasion of alien species)
- ▶ Poleward shift of tunas like albacore, Atlantic bluefin, the southern bluefin and bigeye and increase in abundance of skipjack and yellowfin in the tropics (IPCC)
- ▶ Greater exposure to UV radiation?
- ▶ Small-scale fishing more at risk (esp. shore-based fishers targeting sedentary species? Or those employing passive or stationary fishing gear?) and increasing risks of conflict

ILO 2024 Ensuring Safety and Health at Work in a Changing Climate: Global Report

- ▶ Jobs at risk when ecosystems are disrupted due to climate change
- ▶ Fishing workers are at high risk from water-borne diarrhoeal disease that is sensitive to climate variability
- ▶ Depletion of fishery resources due to the impacts of climate change can have serious impacts on local fisheries
- ▶ Risk of adverse mental health outcomes due to climate change
- ▶ Regions rendered unproductive; work environment too hot for work; natural disasters destroying workplace infrastructure and take lives; an increase in climate-induced migration; an upsurge in informal work; rising unemployment; access to clean water and sanitation become limited; ultraviolet radiation



Adaptation Measures

- ▶ Community-based climate adaption plan
- ▶ Resilient housing
- ▶ Rethink sea safety and disaster management in the context of climate change
- ▶ Early extreme weather warning systems
- ▶ Reducing stresses on marine ecosystems reduces vulnerability to climate change and augments resilience (FAO) especially to address overfishing



Adaptation Measures (Cont.)

- ▶ Fisheries management to help rebuild fish stocks, reduce ecosystem impacts, and increase the adaptive capacity of fishing (FAO)
- ▶ Promote spatial management, cooperative governance, co-management, local management, utilization of local and indigenous knowledge
- ▶ Adaptive approach to fisheries management that takes into account the impact of climate change
- ▶ Adaptive social protection
- ▶ Climate finance, parametric insurance



“Better ocean governance is one of the top priorities
for safeguarding the future.”

--Elinor Ostrom (2009)

