

## Disturbed waters

This article highlights how Venezuela's potentially sustainable artisanal fisheries may become overexploited if not properly managed and regulated

Artisanal fisheries occupy a very special place in Venezuela. According to Presidential Decree 1524 of 2001, "Artisanal fishing can guarantee the sustainability of resources due to the low impact of the fishing gears used, and also due to its seasonal nature. Protecting artisanal fishing, as consecrated in Venezuela's Bolivarian Constitution, is fundamentally a means to protect fishery resources and a way to ensure that these are not exploited in an excessive manner."

Artisanal fishing directly employs around 40,000 people in Venezuela, and provides 400,000 indirect jobs in ancillary sectors. Artisanal fish landings represent 70-80 per cent of the total national annual catch of around 500,000 tonnes. Recognizing this importance, Articles 20 and 21 of Venezuela's 2001 Fisheries Law (Ley de Pesca) provide special protection for fishing communities and their settlements and fishing grounds, both inland and at sea. Some resources are assigned exclusively to the artisanal fishing sector, including the round sardine (*Sardinella aurita*), the turkey wing clam (*Arca zebra*), the Caribbean pearl oyster, various sedentary molluscs, and the shrimps and crabs found in bays, lagoons and coastal marshes. Article 21 also reserves all fishery resources located within the 6-mile coastal fringe exclusively for artisanal fishing.

If artisanal fishing dominates Venezuela's fishery, fishing in the State of Nueva Esparta takes pride of place in the country's fishery economy, although it may be better known for its tourism industry. Located in the southeastern Caribbean, the State consists of three main islands: Margarita, Coche and Cubagua. Of the population of 300,000, around 10,165 are fishermen, living in 59 rural and

urban fishing communities. The State's fishing sector employs around 114,086 people. The region has had strong ties with the sea since time immemorial. Prior to the Spanish conquest, the indigenous Guaiquerí and Caribe people specialized in the pearl oyster fishery, and caught fish for their own consumption. In many communities, fishing practices appear to have changed very little since pre-Colombian times. Stone and bone hooks have been replaced by metal, and natural fibres by artificial fibres.

Although the waters of the Caribbean are generally not very productive, they are some relatively rich fishing areas, such as those off the northeastern Venezuela coast. These account for roughly 60 per cent of Venezuela's marine fish catch. Of the two main seasons, the period from December to April is relatively dry, with strong winds, great upwellings and high productivity. The May-November period is a rainy season of light winds, with much weaker upwellings and productivity.

Fish catch statistics show a gradual upward trend until 2000. However, the 21st century has seen a change in the fortunes of the fishing sector. A case in point is the fishery for sardines, where very low abundance on the fishing grounds provoked something of a national crisis in the first part of 2006. The reasons for the disappearance of the sardine have been greatly debated, with fingers being pointed at unregulated industrial-scale fishing for fishmeal to meet the feed demands of local shrimp aquaculture; increasing demands from export markets; and climate change.

### Gear used

The sardine fishery provides 30-40 per cent of Venezuela's fish catch. The fishing gear used include encircling nets operated

from beach-based boats (*tren sardinero* and *chinchorro playero*), 1,500 m long and with a maximum opening of 40 m.

**S**ardine purse-seines (*tren de argolla sardinero*) are also used, with a maximum length of 400 m and a maximum depth of 40 m. The fish-catching subsector consists of small entrepreneurs who own the fishing units (nets, vessels and ancillary equipment). The share that the fishermen receive from the catch is not sufficient to meet their basic needs, which explains why this activity is less and less attractive for them.

Not only does the sardine fishery provide significant employment, but sardines are also a major part of the Venezuelan national diet. More than 90 per cent of the Venezuelan sardine catch is consumed locally, providing a much-needed and affordable source of dietary protein and other essential nutrients in the basic food basket. Consumed by around 13 mn Venezuelans, canned sardines are the lowest-cost source of animal protein: cans of 170 g sardines in oil, tomato sauce or chili sauce sell for US\$0.25 each, making them a popular item for people with low incomes.

Overall, the Venezuelan sardine sector provides around 20,000 direct jobs, and around 140,000 indirect jobs. There are six large-sized traditional canning factories. Additionally, there are several small-scale canning factories, some freezing plants, various filleting units, and lorry drivers who transport the sardines, which altogether provide a further 7,000 direct jobs. Considering the average family size of five, around 100,000 people thus derive benefits from the sardine sector. **3**

This article, by Leo Walter González (leonora@movistar.net.ve), Professor, Instituto de Investigaciones Científicas, Universidad de Oriente Núcleo de Nueva Esparta, Isla de Margarita, Venezuela, has been translated by Brian O’Riordan (briano@scarlet.be)