COUNTRY PAPER 4.

FISHERIES IN PAKISTAN, WITH A FOCUS ON SINDH

Paper presented by

Qamaruddin H. Baloch
Director of Fisheries, Sindh, Pakistan

From ancient times, fishing has been a major source of food for humanity and a provider of employment and economic benefits to those engaged in this trade throughout the world, and should therefore be conducted in a responsible manner, both for present and for future generations. The wealth of aquatic resources was assumed to be an unlimited gift of nature. However, with increased knowledge and the dynamic development of fisheries after the Second World War, this myth has faded in face of the realization that aquatic resources, although renewable, are not infinite, and need to be properly managed if their contribution to the nutritional, economic and social well-being of the growing world population is to be sustained.

In recent years, world fisheries have become a market driven, dynamically developing sector of the food industry, and coastal States have striven to take advantage of their new opportunities by investing in modern fishing fleets and processing factories in response to growing international demand for fish and fishery products. However, fisheries resources can no longer sustain such rapid – often uncontrolled – exploitation and development, and therefore new approaches to fisheries management are urgently needed that embrace conservation and environmental considerations.

Fishery in Pakistan plays an important role in the national economy. It provides employment to about 300 000 fishermen directly. In addition, some 400 000 people are employed in ancillary industries. It is also a major source of export earnings for the country. Pakistan's fish production, about 615 000 t in 1998, came mostly from marine capture resources, with about 74 000 t produced through inland catch and aquaculture.

Pakistan is endowed with rich fishery potential. It is located in the northern part of the Arabian Sea and has a coastline of about 1 120 km, and its EEZ extends up to 200 n.mi. from the coast. On the basis of topography and productivity, the coast is divided into two zones, namely the Northwestern Region or Makran Coast, and the Southeastern Region or Sindh Coast.

Northwestern Region or Makran Coast

This region extends from the Hub River to the border with Iran, a distance of about 770 km. The entire shelf area of this region comes to about 1 953 km^2. The bottom is generally rocky and the shelf is uneven. The continental slope (the 200 m depth contour) starts at between 10 and 30 miles (15 to 50 km) from the coastline. The region is characterized by a number of bays, such as Sonmiani, Ormara, Kalmat Pasni, Gwadar and Gwater bays. Trawling is not possible in some areas because the shelf is narrow with a rough bottom, rocky areas and dissected by numerous rugged canyons.

Southeastern Region or Sindh Coast

This region is 348 km long and extends from the border with India to the Hub River. The bottom is generally sandy-*cum*-muddy. The shelf area is about 35 740 km^2. This shelf area, especially in the Indus delta region, extends up to 80 miles (130 km) from the shore. The region, unlike Balochistan, is characterized by a network of creeks with mangroves, which serve as nursery grounds for finfish and shellfish resources.

AQUACULTURE

World fish production from aquaculture has been increasing, whereas production from capture has been in steady decline due to overexploitation and pollution problems. The production of fish and shellfish from farming was forecast to exceed 50 million t worldwide in the year 2000, ten times the level of 1985. In fact aquaculture currently provides over one-tenth of all aquafood consumed by humans.

Pakistan has vast resources for aquaculture development, ranging from the culture of trout in the extreme cold areas of Punjab and North West Frontier Province (NWFP), to the tremendous culture potentials in warm irrigated land, waterlogged areas and brackish waters in the provinces of NWFP, Punjab, Sindh and part of Balochistan. In addition, Sindh Province has extensive flood control compartments along the River Indus – suitable for freshwater carp culture – and estuarine inter-tidal land in the Indus delta, suitable for brackishwater fish and shrimp culture.

There has been a lot of awareness of fish farming in the private sector, and tremendous progress has been made since the implementation of Asian Development Bank-financed Aquaculture Development Projects in 1979. The private sector has started production of hatchery seed, and growing fish on a commercial scale. Nevertheless, aquaculture is still in its infancy and has still to adopt polyculture and intensive farming techniques.

Regrettably, marine waters, and particularly the coastal areas downstream of a rapidly expanding city like Karachi, are extremely vulnerable to pollution. Human manipulation, industrial waste disposal, oil spillage and dredging for widening of water channels for transportation are a few of the many stress agents. Coastal areas with sufficient mixing with offshore water show little or no effect of pollutants being drained into the area. In contrast, confined water bodies and localized areas in close vicinity to spill sites carry a heavy pollution load. These localized stresses, if they overload the system, are likely to have disastrous effects on the economy of the country, as well as being hazardous for human health.

There is little consistent monitoring of pollution in Pakistan, and only fragmentary data have been reported. There is therefore a clear need for systematic assessments of fishing areas with regard to prevailing pollution loads.

In order to improve fisheries management, the following recommendations are proposed, to which Monitoring Control and Surveillance (MCS) is a vital support:

(i) Those engaged in fisheries management should, through an appropriate policy, legal and institutional framework, adopt measures for the long-term conservation and sustainable use of fisheries resources.

(ii) Increase fishing effort for demersals, small and large pelagics, and mesopelagics.

(iii) Reduce fishing effort for shrimp.

(iv) Control fishing effort for inland stocks.

(v) Expand aquaculture and reservoir fisheries.

(vi) Support infrastructure construction in remote fishing communities (jetties, fuel stores, cold stores).

(vii) Establish a national fish coldstore chain.
(viii) Modernize fishing technology (more efficient gear, fishing electronics)
(ix) Improve wooden-hull boat construction methods.
(x) Introduce universal duty-free importation of fishing gear.
(xi) Support a major expansion of marketing infrastructure.
(xii) Promote the use of small pelagic and shrimp by-catch for human consumption and evaluate switching to mesopelagics for fishmeal.
(xiii) Eliminate illiteracy.
(xiv) Expand health services to all fishing communities.
(xv) Provide accident insurance schemes.
(xvi) Increase exports of finfish and cephalopods.
(xvii) Upgrade low-value products to high-value products.
(xviii) Promote local manufacture of fishing gear where possible.