UNIT 8: FISHING

Pakistan has over 1000 km of coastline, but fishing is only a minor sector of the Pakistani economy, constituting about 1 per cent of the GNP, and the smallest sector next to forestry; it has been the traditional means of livelihood for about 400,000 Pakistanis. Despite its small contribution to the country's economy, the export of fish and fish products is thriving, constituting 2 per cent of the total value of the country's exports.

531 species
233 Freshwater

The total nominal fish catch, comprising the commercial, industrial and subsistence catches, has increased from 40,000 tonnes in 1947 to 936,882 tonnes in 2010–11. Subsistence catch refers to the fish caught and consumed by fishermen on board their vessels or by their families, as well as those fish caught by anglers for sport, and is estimated to be about 10 per cent of the total catch. There are two main fishing sources in Pakistan—marine and inland. Marine fishing is managed by the federal government, while inland fishing is looked after by the provinces.

gure 8.1: Fishermen and their boats at Gwadar

Marine fisheries

The marine fisheries are more important than the inland fisheries; their share of the total catch is generally more than 70 per cent. Marine fishing is carried out along the coastal waters of Sindh and Balochistan; the Sindh coast, although only 33 per cent of the total coastal area, accounts for 70 per cent of the total marine catch. The Balochistan coast, on the other hand, constitutes 67 per cent of the country's coast but produces only 30 per cent of the marine catch. The Sindh coast has a wider continental shelf (about 130 km wide compared to Balochistan's 30 to 50 km) and the added advantage of being fed by the Indus which brings down a sufficient quantity of fish food. Mangroves along the Sindh coast, although now much reduced, act as breeding ground for fish and shrimps. Although the Balochistan coast is also fed by a number of streams, including the Hub, Porali, Hingol, and Dasht, they are relatively small and, hence not very rich in fish food.

Fishing in Pakistan takes place at least ten months of the year. The peak fishing period is between November and January for fish and between October and November for shrimp; of the total marine catch, 90 per cent is fish and 10 per cent shrimp. The leanest period is between June and July, which is the marine breeding season, and is officially closed for business to enable fish to reproduce in sufficient quantities for the main fishing season.

The major share of the marine catch is within 12 nautical miles of the coast although Pakistani fishermen can go up to 35 nautical miles. The main reasons for not venturing further are (i) the poorly equipped fishing vessels which also lack proper storage facilities and are thus

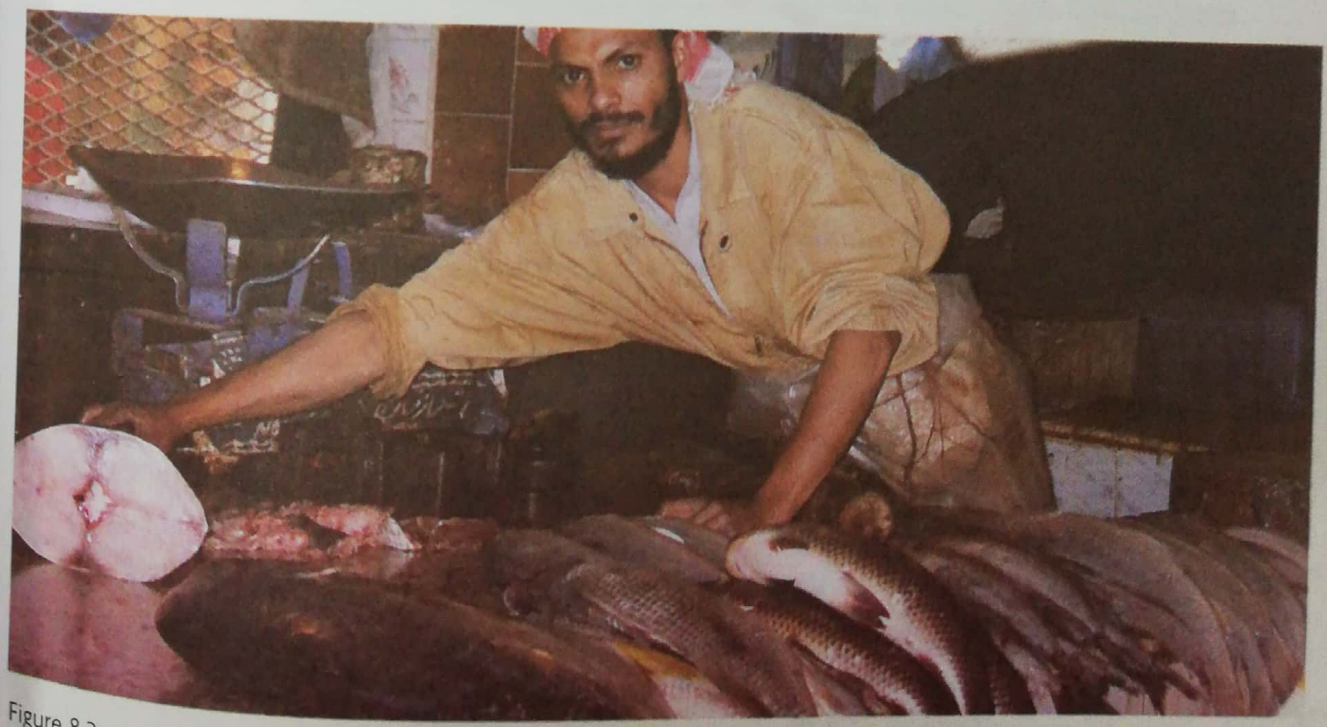


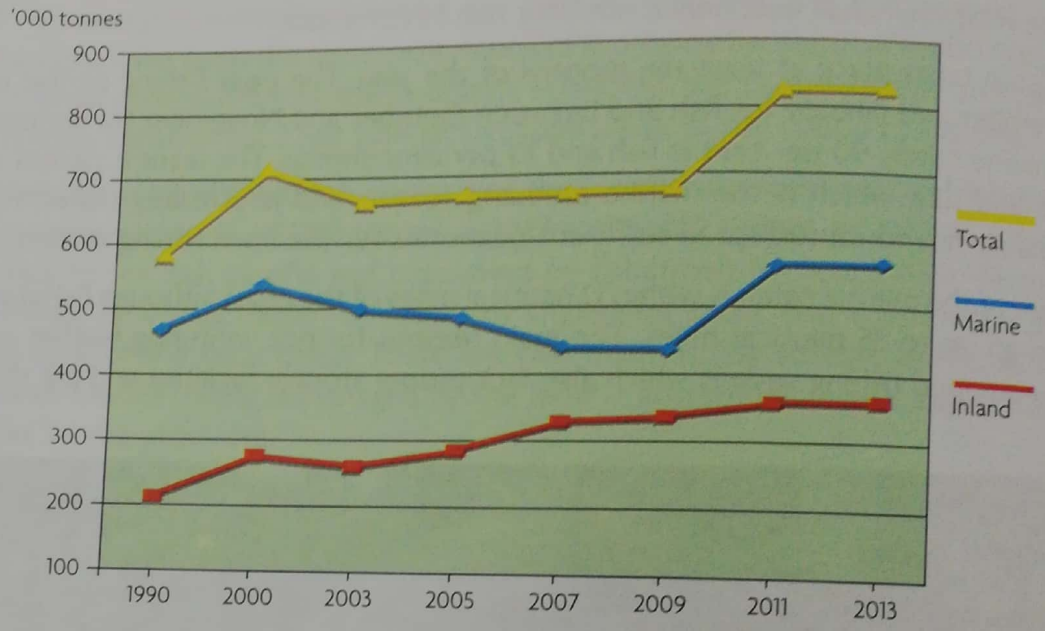
Figure 8.2: Marine fish on display in Karachi's Empress Market

deprived of a better catch, and (ii) risking arrest if they stray unknowingly into Indian waters. These factors also affect the price of fish in the local markets. Fishermen need logistical support and improved facilities to enhance marine production, its local consumption, and its contribution to Pakistan's economy.

Unlawful entry into Pakistan's waters and illegal overfishing by other countries around Pakistan's nautical range has also sharply affected the annual production figures.

Threats to fishing

Use of illegal nets, started by foreign trawlers in Pakistan's waters, has also been adopted by local fishermen. Trawl nets have been banned and Karachi Fisheries Harbour management has clearly specified the type of nets that are illegal and those that can be used. Fine-meshed nets haul in millions of small fish as well as spawn, which end up as fish meal, and destroy the marine stock. Secondly, release of polluted and toxic effluents into the sea and oil spillages also destroy the coastal and marine environment, killing plants and marine life. Urban and industrial waste from Karachi and surrounding areas, and the impact of ship-breaking, release of debris, oil, and lubricants into the sea at Gadani, in Lasbela District, are factors that damage marine life in these coastal areas.

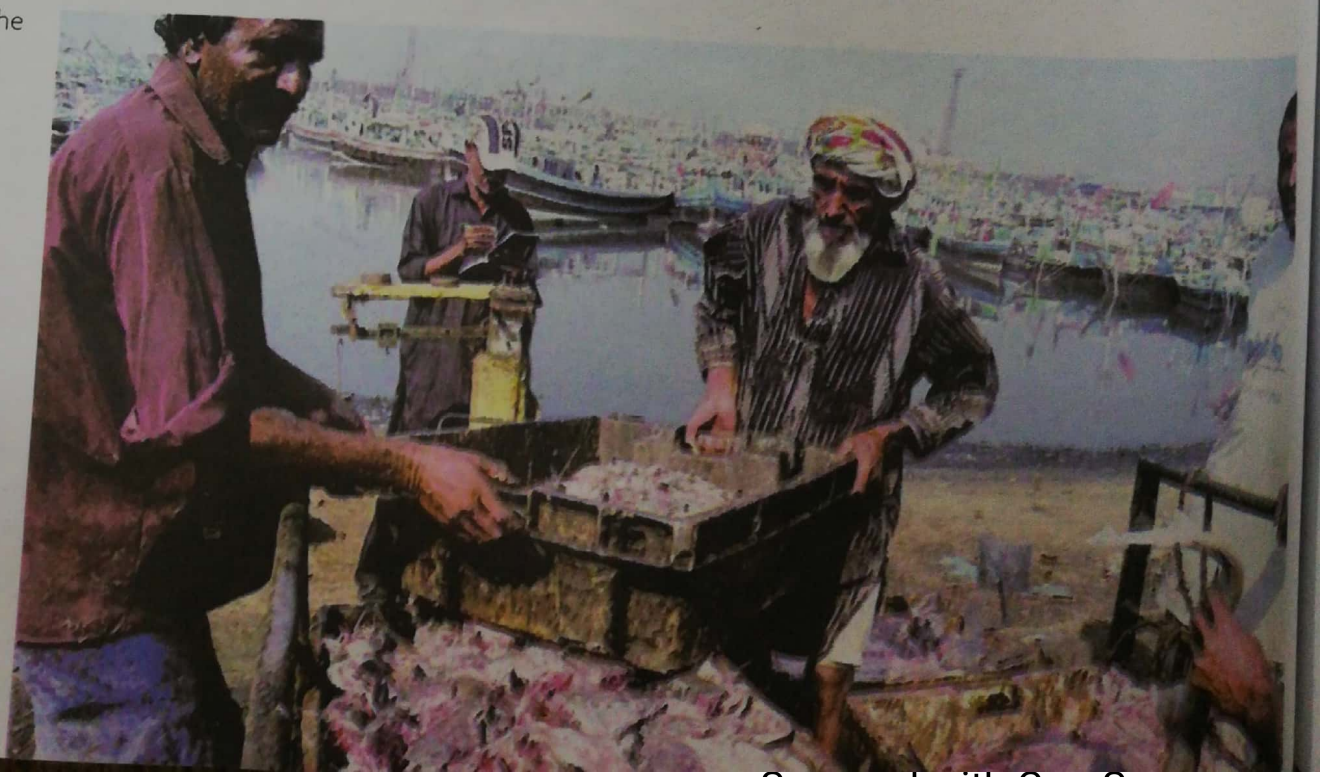


Adapted from: Pakistan Statistical Yearbook, 2012 and Pakistan Economic Survey, 2012-13

Figure 8.3: Fish catch, in '000 tonnes

Fish harbours

There are five fish harbours in Pakistan, three in Karachi and two in Balochistan at Gwadar and Pasni. Karachi Fish Harbour is the biggest and oldest of the fish harbours and caters to



gure 8.4: Unloading the catch at the Karachi Fish Harbour

over 75 per cent of the local fishing fleet with 4000 vessels based there; it handles 90 per cent of the catch and 95 per cent of the seafood exports from the country. Karachi Fisheries Harbour is managed by the provincial government of Sindh, and the Korangi Fish Harbour (also in Karachi) is operated by the Federal Ministry of Agriculture and Livestock (MINFAL). In Balochistan, the Pasni Fish Harbour is run by the provincial government of Balochistan and the Gwadar Fish Harbour in managed by the Federal Government.

Inland fisheries

Inland fisheries produce about 32.5 per cent of Pakistan's total fish catch. Sources of fish include rivers, dams, ponds, canals, and lakes. Sindh accounts for more than 60 per cent of the inland fish catch, followed by Punjab at 39 per cent and Khyber Pakhtunkhwa at 1 per cent. Balochistan has virtually no inland fishing because of its arid conditions.

In Sindh, the Indus River, the Manchhar, Kinjhar, and Haleji lakes and Chotiari Dam (Sanghar) are the main locations for inland fishing. The catch in Sindh is dominated by catfish and carp species. *Palla,* for which Sindh is renowned, is rapidly declining in production.

In Punjab, fishing is done in large streams and canals, Mangla Dam, Chashma Barrage, and the lakes in the region, other then those arround Kallar Kahar were the water is saline. Carp dominates the fish catch and species like *gulfam* have also been introduced.

Khyber Pakhtunkhwa and Gilgit–Baltistan excel in cold water fishing. In Khyber Pakhtunkhwa, trout and *mahaseer* constitute the main catch from the rivers, while in Gilgit–Baltistan there are brown trout and rainbow trout as well as 26 indigenous cold water fish species.

Hatcheries and aquaculture

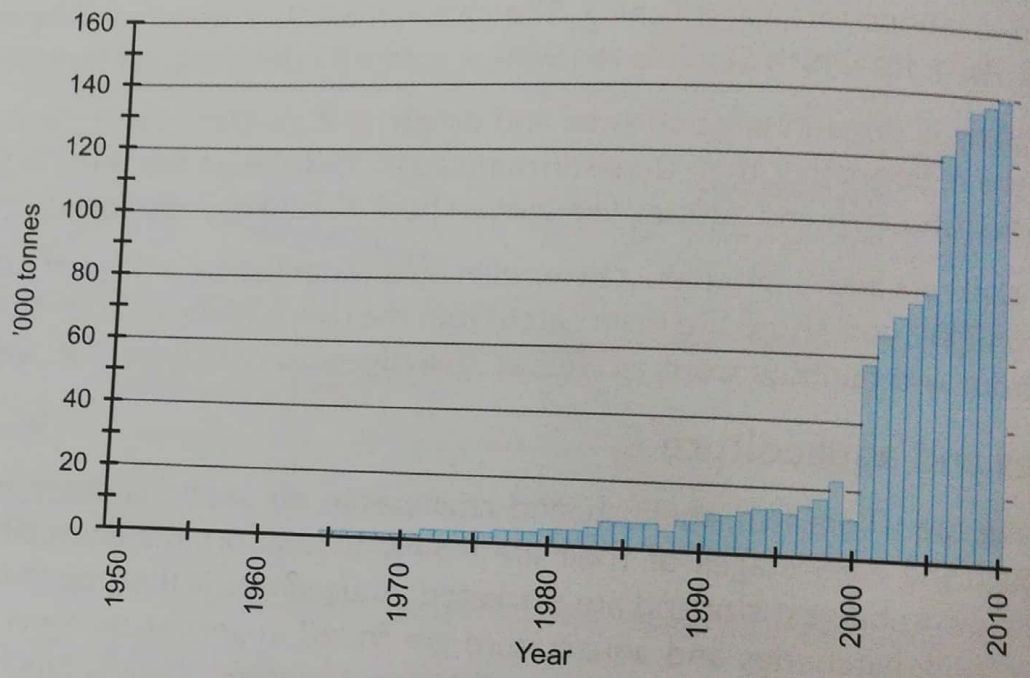
Fish hatcheries are where fish, shellfish, and crustaceans are artificially bred, hatched, and reared through the early stages of their life mainly to support the aquaculture industry where they grow to harvest size and are marketed. Aquaculture is the growth of marine life in water for food; hatcheries and aquaculture are found in greater numbers in East Asia, mainly China, but are in the early stages in Pakistan. However, there is much potential in this field. The Fisheries Development Commissioner's office is under MINFAL, and is responsible for planning, policy, and coordination with provincial fisheries departments as well as other national and international organizations. There are 74 hatcheries in Punjab, 38 in Khyber Pakhtunkhwa, and seven in Sindh, but very few in Balochistan due to the arid

Figure 8.5: Inland fishing—a catch on display

conditions. Apart from these officially established units, there are privately owned hatcheries too in the provinces, other than Balochistan. Altogether, its is estimated that there are about 13,000 fish farms across the country with about 50,000 people employed.

In Sindh, the fish farms are mainly in the Thatta, Badin, and Dadu districts which are in the course of the Indus River. In Punjab the irrigated areas with alluvial soil are preferred for fish farming. Trout and carp farms are located in Khyber Pakhtunkhwa. Aquaculture can fill the gap between demand and suply of fish for local and export markets, provide jobs, and increase export earning.

Marine aquaculture in the coastal areas of Pakistan has not yet been successful despite good potential. In almost all maritime countries, marine aquaculture has grown to become a major source of raw material for the export of seafood commodities; however, Pakistan has not been able to compete successfully in the seafood export market due to this issue.



Source: FAO Fishery Statistics, Aquaculture production in Pakistan

Figure 8.6: Reported aquaculture production in Pakistan, 1970–2010

Fishing vessels

The principal reason for the increase in the fish catch (see Figure 8.3) has been the gradual improvement in the number and efficiency of fishing vessels. In 1947, mainly wooden sailboats were used for fishing, followed by trawlers a few years later. From two in 1955–60, the number of trawlers went up to 2427 in 1997, which helped to increase the shrimp catch. The number of gill-netters increased from 52 in 1955 to 3126 in 1997. Sailboats were fitted with motors and, the number increased to 7806 in 1997. The number of docked fishery vessels recorded in 2000 was around 6000 with over 4000 registered mechanized dock boats i.e. trawlers and gill-netters. Trawlers are of an average length of 10 to 25 metres, while gill-netters are 15 to 35 metres long. They made of wood and fitted with diesel engines. The vessels are refrigerated and all their catch is exported.

However, the traditional sailboats used primarily for inland fishing are still highest in number. Sailboats increased from 1400 in 1955 to 11,886 in 1997 and mechanized sailboats were then

introduced in some inland fishing areas. These are made of wood and fitted with two outboard engines. There are also over 2000 custom-built fibreglass scrapped lifeboats, about 7 to 10 metres long that are in operation.

The trawlers, gill-netters, and mechanized sailboats have made it possible to fish as far as 50 km from the coast in deeper waters. The government has taken steps to improve the standard of marine fishing vessels to meet the EU and international requirements for storage and preservation of the catch for export. About 850 trawlers have been modified so far.

Fisher folk

Employment in the primary sector had peaked in 1997 at 416,405 fishermen, but in 2006, the total number of active fishermen on board fishing vessels, along with technicians and labourers working in on-shore installations, came down to 379,489. Of them, 31.6 per cent were engaged in marine fisheries which yield 70 per cent of the total catch, and 68.4 per cent in inland fisheries which account for 30 per cent of the catch. Only about 60 per cent of these fishermen were full-time, 23 per cent were part-time, and 17 per cent were informal workers. The percentage of people working in fishing and related industries is still quite low at 0.21 per cent of the employed population of the country; they are also among the low income sector of the population.

This decline is most visible in the inland sector which is more labour intensive and less productive compared to the more mechanized marine sector. Clearly, the high annual rate of increase in production is not due to an increase in size of the labour force but rather to more efficient fishing and greater market demand (to supply fishmeal factories in particular). Employment in the secondary sector (processing/marketing) is estimated at about 55,000, a high proportion of whom are women working in shrimp processing plants (sorting and peeling). It is clear that the greatest potential for creating new jobs will be in the secondary sector.

Local consumption and fish exports

Fish is considered a cheap source of protein worldwide, especially in island and coast countries. However, the total per capita consumption of fish in Pakistan at 2 kg is very lo compared to 20 kg in Europe and 64 kg in Japan. Province-wise in Pakistan, fish consumptio is 15 kg in Balochistan, 5 kg in Sindh, and the lowest in Punjab and Khyber Pakhtunkhwa–le than 0.5 kg.

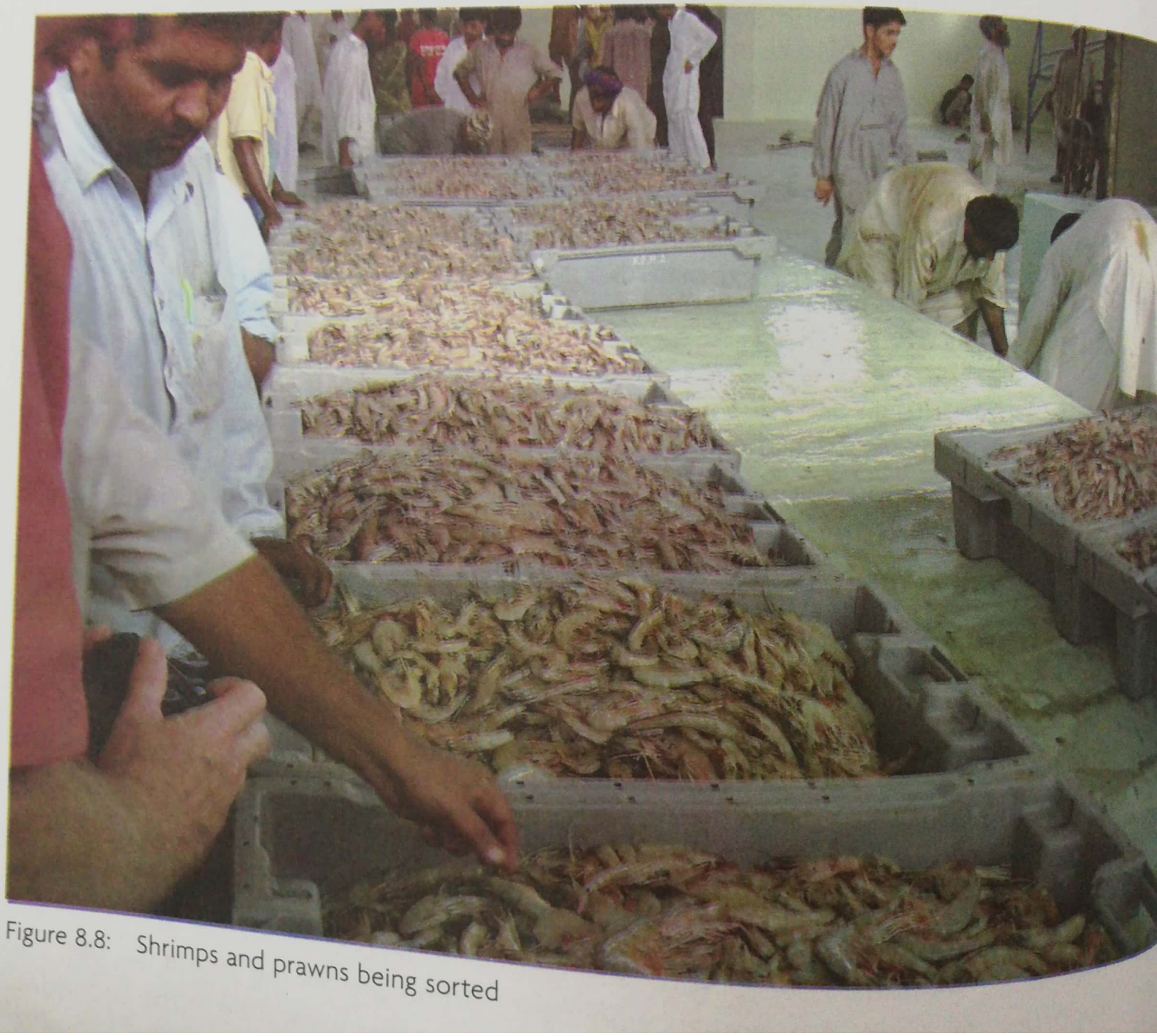


Figure 8.8: Shrimps and prawns being sorted

The bulk of the catch, including the entire inland fish catch, is consumed locally; in 2006, about 70 per cent of the marine catch was consumed locally. Marine fish is processed and marketed as fresh, frozen, canned, cured, reduced to fishmeal, and for other purposes. Fish and shrimp processing is usually divided into mechanical and non-mechanical processing. There are 27 processing plants for the production of frozen products in Pakistan, one for canning and eight for fishmeal processing. Almost 100 percent of the frozen and canned fishery products i.e. crustaceans, fish, and fish products, are exported to more than 40 countries, while the bulk of the processed fishmeal is used in the country in the manufacture of poultry feed or fish feed. Japan, with 50 per cent of the total share, is Pakistan's largest export market and primarily imports Pakistani shrimp. Other importers are the EU, USA, UK, Germany, France, China, South Korea, Malaysia, Indonesia, Singapore, and the UAE.

Although the fishing industry contributes only 1 per cent to the GNP, the figures have steadily increased as shown below.

Table 18: Fish and fish products' export data

Year	Quantity (metric tonnes)	Value of exports (million Pak Rupee)
2005–06	105,000	11,624
2006–07	87,907	11,419
2007–08	100,000	13,329
2008–09	134,000	18,465
2009–10	N/A	19,051
2010–11	86,680	25,319
2011–12	90,087	28,598

Source: Economic Survey of Pakistan, 2005 to 2012–13

The government is taking steps to improve this sector—such as introduction of new methodologies, development of value added products, enhancing local consumption, improving the fisher folk's standard of life, and modifying fishing vessels to meet the EU and international standards as a result of which the EU has lIfted the ban on import of seafood from Pakistan.