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Fisheries

Introduction

India has vast potential for fisheries from both inland and marine resources. It has a large marine product and processing potential with varied fish resources along the 8041-km long coastline, 28000 km of rivers and millions of hectares of reservoirs & brackish water. Units mostly exist in the small-scale sector as proprietary/partnership firms or fishermen cooperatives. Over the last decade, the organized corporate sector has become increasingly involved in preservation, processing and export of coastal fish. The wide variety of fish resources found in Indian inland waters, coastal areas and deep seas comprising India's Exclusive Economic Zone has a large potential of growth.

Major products : Frozen & canned products mainly in fresh form.

Fisheries play an important role in the national economy, providing full-time or part-time employment to 5.96 million people. The contribution of fisheries to GDP at the current price level is 1.3%. There are 10 363 registered fisheries societies in India, with a membership of 1122 000 people. It is also a major contributor to foreign exchange earning. During 1997-98, the estimated foreign exchange earning was about Rs 4486 Cr which is increasing at an average annual rate of 17.3 %. The country exports annually around 390738 ton of processed sea foods with an export value of Rs 5124.6 Cr. The size of the market is Rs 26000 Cr (as of 1999- 2000).

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There is growing export of canned and processed fish from India. The marine fish includes prawns, shrimps, tuna, cuttlefish, squids, octopus, red snappers, ribbon fish, mackerel, lobsters, cat fish etc. In the last six years there was substantial investment in fisheries to the tune of Rs. 30, 000 million of which foreign investments were of the order of Rs. 7000 million. The potential could be gauged by the fact that against fish production potential in the Exclusive Economic Zone of 3.9 million tonnes, actual catch is to the tune of 2.87 million tonnes. Harvesting from island sources is around 2.7 million tonnes.

World Scenario

Total world fish production in 2000 was estimated at a record 129.42 million tonnes (as compared to 124.4 m tonne in 1999) . The decline in 1998 was due to the "El Nino" phenomenon which affected catches of small pelagies fishes in South America (Peru & adjoining coastal lines) . China is now by far the top producer of fish with 30 million tonnes in 1999. Annexure 18 gives the comparative production figures of major fish producing country in the world.

The world import of fish product expanded in 1999 in value terms to reach US \$ 57,600 million. Out of this, developed countries accounted for more than 80% of the total. Japan is the biggest importer accounting for over 25% of the global total. The EC is depending on over 35% of the share for its fish imports.

Thailand and Norway are the world's major exporters of fish products in value terms accounting for 16% each of total world trade. US, besides being the world's fourth major exporting country is the second biggest importer of fish

products. The net earnings of foreign exchange by developing countries – (deducting their imports for the total value of their exports) is impressive. The net earnings rose from US \$ 5200 millions in 1985 to US \$ 15600 million in '99. For most of the developing countries, fish trade is a significant contribution in foreign currency earnings.

Current status

The world market was characterised by an overall growth in demand while supplies tightened, (India needs to take advantage of this situation), EU, US showed an increase in demand while Japan showed a decline in demand. This would invariably shoot up the prices of fisheries products.

Review by commodity

World's most important fish accounting for over 20% of international trade (in value terms)

- 1 Tuna (Asia)
- 2 Groundfish
- 3 Cephalopod (Japan, Korea are leaders)

Indian Scenario

Marine fisheries

India's estimated marine resources potential is 3.9 million tonne. During 1998, the marine fish catch was 2.95 million tonne, with over 70% coming from the west coast. There were 220 903 traditional craft, 39444 traditional motorized craft and 51 744 mechanized boats operating in Indian waters.

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There are nearly 6 million fishermen in the country, of which 2.4 million are full-time, 1.45 million part time and the rest occasional. They use a wide range of fishing gear, including seines, stake nets, lines, bag nets, encircling nets and lift nets.

During 1987-97, there was a gradual increase in fish production, growing 44.1% in the ten-year period, of which pelagic species contributed 51.6%, the rest being demersal species.

Among the species caught, Indian oil sardine (*Sardinella longiceps*), Indian mackerel (*Rastrelliger kanagurta*) and Sciaenidae are dominant. Bombay duck, anchovies, cephalopods, perches and Carangidae are also abundantly seen. Marine shrimp, although contributing only 10% of the total catch, is still commercially a most important one. Indian Fisheries often fluctuate, and depend largely on the vagaries of the monsoons. Conservation measures have been adopted in both the east and west coasts by enforcing closed seasons during the breeding seasons of important species.

There have been significant inputs to marine fisheries development in recent years. Plans have been approved for 6 major and 45 minor fishery harbours and 158 modern Fish Landing Centres (FLCs), of which the 6 major harbours have been completed, together with 30 minor fishing harbours and 130 FLCs. In order to improve the marketing of fresh fish internally, a number of cold storage, ice plants and cold chains have also been established. Export trade is completely in the hands of the private sector.

Inland fisheries

During the period 1987-1997, there was a steady increase in inland fisheries production, registering 45.4% during the ten-year period. Inland production, including farming, is now catching up with production from the marine sector and is likely to overtake marine capture fisheries in the next millennium. Inland production includes catches from rivers, upland lakes, peninsular tanks, reservoirs and oxbow lakes. The major states contributing are West Bengal (33%), Andhra Pradesh (9.09%), Bihar (8.71%), Assam (6.92%) Uttar Pradesh (6.49%), Orissa (6.01%), Tamil Nadu (4.82%), Madhya Pradesh (4.07%), Karnataka (3.89%) and Maharashtra (3.4%).

Freshwater aquaculture

Inland aquaculture has emerged as a major fish producing system in India, with production currently (1998) around 1.7 million t/yr. Carp accounts for over 80% of farmed fish. Major species cultured are roho (*Labeo rohita*), catla (*Catla catla*), mrigal carp (*Cirrhinus mrigala*), grass carp (*Ctenopharyngodon idellus*), common carp (*Cyprinus carpio*), silver carp (*Hypophthalmichthys molitrix*), catfish (*Clarius batrachus*), singi (*Heteropneustes fossilis*), rainbow trout (*Onchorhynchus mykiss*), and giant river prawn (*Macrobrachium rosenbergii*).

Brackish-water aquaculture

The estimated area of brackish water available for aquaculture is 1.19 million ha. Traditional shrimp farming practices are popular in Kerala, West Bengal and Goa. The

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yields from this system vary from 300 to 1 000 kg/ha/year. Intensive shrimp farming has become very common in recent years. Because of its high commercial value, giant tiger prawn (*Penaeus monodon*) is the dominant species in commercial production, although Indian white prawn (*Penaeus indicus*; around 5% of total production) is also farmed in several places. Shrimp production by farming reached a record value in 1994-95. Subsequently production suffered a set back due to a ban imposed by the Supreme Court of India in response to petition filed by environmentalists pleading that shrimp farming had created several environmental damages. Subsequently, in the last three years many shrimp farms in coastal areas have been closed. Intensive shrimp farming is banned, and only modified, improved traditional and extensive farming are permitted, with a productivity of around 2 to 2.5 t/ha/yr. Aquaculture, particularly shrimp farming, is now regulated and controlled by the Aquaculture Authority of India. Annexure 9 gives the shrimp production by farming in the Indian states.

Utilisation of Catches

Nearly 70% of the fish catch is marketed fresh. The fish drying and curing industry in India is on the decline, with only about 14% fish being used for curing. Frozen fish production accounts for 6.5%, 8.4% goes for reduction to fish meal, 0.8% for offal reduction and 1.6% for miscellaneous purposes. The fish canning industry has also declined recently, in part due to the high cost of metal cans. Only 0.3% of the total catch is used for canning purposes.

Research

Fisheries research in India is coordinated by the Indian Council of Agricultural Research (ICAR), an autonomous organization under the Ministry of Agriculture, the Agricultural Universities, and institutes under the Ministry of Agriculture.

Future needs

India's future fisheries development plans are aimed at increasing fish production, improving the welfare of fishers, promoting exports and providing food security. The per capita availability and consumption of fish is to be increased to a level of 11 kg per annum for the fish eating population and production has to be increased proportionately.

Aquaculture is recognized as an important way to meet future demands. A number of schemes have been instituted by state and central sectors to increase brackish-water aquaculture and fish production from tanks and ponds, lakes, reservoirs and rivers. The private sector has emerged as a major player in brackish-water aquaculture, particularly in shrimp farming.

Economic role of the fishing industry

Seafood export is now recognized as a major avenue for export earnings. In order to meet EU regulations, massive centrally sponsored schemes have been initiated to provide infrastructure at fishing harbors and landing centres to improve fresh fish handling and provide sanitation and other assistance for quality processing of fisheries produce.

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India exports today marine products worth Rs 5124.6 Cr, covering 60 commodities. The share of marine products in total export earnings is around 3.4%. The share of Frozen shrimp in the export earnings is very high and contributes about 65 – 70 % of the total export earnings.

Establishments connected with marine products export (as registered with MPEDA, 1996), include 625 exporters (380 manufacturer-exporters and 240 merchant-exporters), 376 freezing plants, 13 canning plants, 4 in the agar-agar industry, 149 ice plants, 15 fish meal plants, 903 shrimp peeling plants, 451 cold storage units, and 3 chitosan/chitin plants, with 95% of the seafood processing units concentrated in 20 major clusters in 9 states.

The total installed freezing capacity is 7 500 tons per day, and the commercial production is mostly export oriented.

Development Prospects

India's marine fisheries production has reached a plateau and, at best, only marginal increase is predicted in the near future. Most major stocks are fully exploited and further increase has to come from exploitation of deep-sea resources. However, inland production has shown rapid growth, recording an annual growth rate of 6%. Aquaculture is the principal factor in this development. All future additional demand for fish will have to be met from aquaculture.

Objectives for future fisheries development include enhancing fish production, generating employment, improving socio-economic conditions of fishers, increasing

marine products for export, and increasing *per capita* availability of fish to about 11 kg / yr. These objectives will be achieved through an integrated approach to marine and inland fisheries and aquaculture, taking into account the need for responsible and sustainable fisheries. Conservation of aquatic resources and genetic bio-diversity is another thrust area for the next millennium.

Seafood Export

The marine product exports from the country have crossed US \$ 1 billion for the fourth consecutive time. The export touched 3,90,738 tonnes valued Rs.5124.6 crores during 1999-2000 registering an increase of 21.84% in terms of volume and 1.5% by value. During the previous year, it was 3,11,257 tonnes valued at Rs.4368.6 crores.

The export mainly consisted of low valued fin fish varieties (35.83%) followed by frozen Shrimp (33.83%), frozen Cephalopods (22.88%) and dried seafood items (2.07%), Japan continues to be the top most importer of Indian seafood shared close to 22.21% of our export in terms of volume and 49.61% by value. The major change noticed in the export trend, during the year is the emergence of South East Asia who continued to be the top most importer of marine products in terms of volume. The other individual markets, which increased their shares during 1999-2000, are Canada, Mauritius, Australia, Switzerland, Maldives, New Zealand, Reunion, Panama, Venezuela, Taiwan, Bangladesh, Philippines, Turkey and Malta. Annexure 19

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give the export figures of seafoods from India to major destinations in the world.

Policies In Fisheries

Foreign equity is permitted in fish processing sector. Fish processing projects with a minimum of 20% value addition can be set up as 100% Export Oriented Units.

All items can be exported freely except for silver pomfrets of weight less than 300 gms.