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THE REPUBLIC OF TRINIDAD AND TOBAGO

GENERAL ECONOMIC DATA

Area:	5 128 km^2
Trinidad:	4 828 km^2
Tobago:	300 km^2
Shelf area (to 200 m)	about 20 400 km^2
Length of coastline:	470 km
Population (1998):	1 214 000
Trinidad:	1 175 000
Tobago:	49 000
GDP at market prices (1998):	US$ 5 886 million
GNP at market prices (1998):	US$ 5 524 million
GNP *per caput* at market prices (1998):	US$ 430

GDP of agriculture, forestry and fisheries at market prices (1998):	US$ 120 million
Contribution of fisheries to the GDP of agriculture, forestry and fisheries (1998):	13%
Contribution of fisheries to total GDP (1998):	0.3%

FISHERIES DATA

Commodity balance (1998):

	Production	**Imports**	**Exports**	**Total supply**	***Per caput* supply**
	`000 t liveweight				**Kg/year**
For direct human consumption (marine):	13.4	5.1	9.9	8.7	7.0
Finfish	10.4	4.5	8.2		
Shrimp	3.0	0.6	1.7		
Fish for animal feed and other purposes	-	-	-	-	-

Estimated employment (1998):	
Primary sector:	6 786, of which about 2 500 are part-time fishers

Secondary sector:	an estimated 600 in fish handling and processing establishments.
Itinerant fish vendors:	An unspecified number of support personnel.
Total estimated Fisheries employment in the Agriculture, Forestry and Fisheries Sectors (1998):	10%
Gross value of fisheries output (at ex vessel prices; 1997):	US$ 13.4 million
Trade (1998):	
Value of imports:	US$ 7.2 million
Value of exports:	US$ 14 .2 million
(Sources: Central Statistical Office (1998), and the Fisheries Division, Ministry of Agriculture, Land and Marine Resources, Republic of Trinidad and Tobago.) (Based on the 1998 rate of exchange of US$ 1 = $TT 6.2)	

STRUCTURE AND CHARACTERISTICS OF THE FISHING INDUSTRY

Marine fisheries

It is estimated that 80 percent of the annual national production of marine species is effected by the artisanal inshore fleet.

According to the latest census (1998), there were a total of 1 471 fishing vessels (1 216 in Trinidad and 255 in Tobago). Of these, 1 326 were less than 9 m LOA, 84 between 9 and 12 m, 35 between 12 and 15 m, and 26 over 15 m LOA.

Vessels below 9 to 12 m were generally powered by outboard gasoline engines of 45 to 75 hp, with some using engines of up to 125 - 150 hp. Larger vessels all have inboard diesel engines of between 65 and 365 hp. The gears used are gillnets and line fishing.

Vessels operate from more than one hundred landing points throughout the islands of Trinidad and Tobago, some of which are provided with landing and storage facilities, ice and cold storage.

Inland fisheries

The production of food fish from inland sources is negligible, consisting primarily of *Tilapia* species and *cascadura* (*Haplosternum littorale*), and no information is available.

Aquaculture

An aquaculture policy is being developed, covering freshwater aquaculture, inland fisheries, mariculture and ornamentals. At the moment, the food fish aspect of the industry consists of subsistence freshwater culture and the harvesting of some wild stocks of tilapia and cascadura, and limited semi-commercial production of these species. Malaysian prawn culture was introduced on an experimental basis in 1991, but developments have been quite slow.

In addition, there is an ornamental fish trade which consists of the harvesting wild stocks for export, together with the importation and breeding of other species for re-export to markets in North America and Europe. The major local wild species involved in this trade are *Hypostomus robinii, Corydoras aneus* and *Lebistes reticulatus.*

In 1998/1999, the Government, in its community outreach programme involving community participation in rural development, targeted the establishment of three community aquaculture projects, through the training of community groups, construction of ponds and associated facilities, stocking with fingerlings and management of the entire system.

Some interest is being demonstrated in the establishment of commercial freshwater aquaculture projects, but the issues of appropriate land, adequate water supply and incentives remain elements to be resolved. The Fisheries Incentive Programme also makes provision for the establishment and development of commercial and semi-commercial aquaculture projects on an individual or community basis.

Interest in mariculture has been minimal and the legislation and regulations to promote this activity have been found complicated and problematic.

Utilization of the catch

There was a general stabilization of the import-export balance of fish and fish products by Trinidad and Tobago during the period 1994 to 1997. However, in 1998 there was a dramatic increase of imports over exports – an estimated 800 percent. It has been suggested that this may be attributed to the importation of larger quantities of lower-value salted, smoked and dried products to compensate for the availability of fresh products in short supply because of reduced production or increased exports.

The export market is predominantly shrimp and other high-value species such as tunas, snappers, kingfish, dolphin fish and flying fish, in both fresh and frozen forms to the markets of North America (Canada and USA) and the Caribbean. Exports to the European Union have been suspended pending possible Third Country status for this market.

A substantial amount of the landings of artisanal fishery, especially the lower-value species, is consumed locally in the fresh state. In Trinidad, the Port of Spain Wholesale Market is the main hub of activity, where landings from many landing sites throughout the island are taken to auction, before entering the retail trade.

The major exports from the island of Tobago consist of frozen flying fish fillets, dolphin fish, kingfish and tuna species.

The Caribbean Fisheries Training and Development Institute, through its Fish Processing Unit, conducts research and experiments in the handling, processing and preservation of fresh tropical food fish and the downstream preservation – salting, drying and smoking – of underutilized species and by-catch as a means of reducing post-harvest losses and making a larger range of products available to the population. In addition to the training of management and employees of fish processing facilities, fishing communities are also educated and informed through the Fisheries Extension Services.

State of the industry

The inshore artisanal fisheries resources are considered to be very heavily fished, to the point of being overexploited, while the offshore resources, although underexploited by national vessels, are under some threat from illegal fishing.

The information and data on landings cover adequately the artisanal and inshore fisheries, and can be considered as being relatively dependable. However, it is somewhat more difficult to obtain information and data from the industrial and semi-industrial fleet, since these operations do not currently allow for easy monitoring, added to the fact that there is some reluctance by operators to divulge the required information.

The industry therefore may be considered to be more or less in a conservation and management mode.

The Government offers assistance to the fishing industry in the form of subsidies, tax exemptions and rebates under the Agriculture Incentive Programme, which is administered by the Ministry of Agriculture, Land and Marine Resources. The following areas are being targeted in the programme:

- Subsidy on gasoline, diesel and oil used by fishing vessels.
- Subsidy for the replacement of a vessel used in the inshore artisanal fishery if the replaced vessel is completely withdrawn from the fishery.

- Subsidy for a new multi-purpose vessel to operate offshore away from the inshore artisanal areas of operation.
- Subsidy for the construction of ponds of not less than 1 ha.
- Duty and tax exemptions on the following items used in the fishing industry: boats, engines, spare parts for engines, marine accessories, navigation instruments and aids, and support vehicles.

At the present time, fish is landed at approximately 80 landing sites in Trinidad and 20 in Tobago. However, about 30 of these sites in Trinidad and 12 in Tobago are provided with amenities such as landing area, storage rooms and other basic facilities for the fisherman.

In Trinidad, 4 fish markets have been established − Port of Spain, Orange Valley, Otaheiti, and Claxton Bay − that serve as distribution points for fresh fish throughout the island. There are no such facilities in Tobago. In addition, there are 12 fish processing facilities in Trinidad and 4 in Tobago.

Economic role of the fishing industry

Although it has not been fully quantified, the fishing industry plays a most important role in the economy of the country through direct and indirect employment, and the support of ancillary industries and sales as these relate to marketing of fishing gear and equipment, marine engines and accessories and their maintenance. In addition to providing food, especially for coastal and rural communities, fish processing facilities employ those individuals who are trained in the area of fish handling, processing and preservation.

Demand

The demand for fish and fishery products for local consumption may be gauged by the dramatic increase in imports in recent years, although this should be viewed in the light of most of the high valued finfish and shrimp being exported to foreign markets.

DEVELOPMENT PROSPECTS

The artisanal inshore fishery sub-sector is considered to be overfished, thereby placing the resources under some threat. Development would therefore be focused on the resources offshore and in the Exclusive Economic Zone, especially for pelagics and deep-sea demersal species.

The Government is currently undertaking an examination of the offshore resources in order to determine availability and abundance of marine species that could be exploited in a sustainable manner. This project is being executed through the Caribbean Fisheries Training and Development Institute, and comprises exploratory and experimental fishing, development of appropriate fishing gear and methods, training of human resources in the fisheries sector in fishing technology; seamanship; navigation; personal safety; fish

handling, processing, preservation and quality control; marine engineering; and associated areas. The project has also been provided with a well-equipped prototype fishing vessel suitable for the targeted offshore resources, and this is used for exploratory and experimental fishing.

For shrimp, an upper limit has been placed on the number of industrial and semi-industrial shrimp trawlers that may operate in waters under national jurisdiction. In addition, legislation has been put in place to zone areas of operation, with the establishment of closed periods in some of these zones. This approach helps reduce conflicts between the traditional inshore fishers and the trawler operators.

Trinidad and Tobago and Venezuela signed an Agreement for Co-operation in the Fisheries Sector, in 1998, which allows trawlers from both countries to operate in a common area south of Trinidad and north of Venezuela. The Agreement also allows for joint research and study by both countries of the resources in this area and in the Gulf of Paria.

Trinidad and Tobago also participates in a Working Group with Guyana, Venezuela, Suriname and Brazil in a continuous assessment of the fish and ground fish resources of the Guiana/Brazil Shelf.

The flying fish industry in Tobago has been developing over the past 10 - 15 years and has a good potential for growth and expansion with the implementation of sustainable utilization mechanisms. This would be enhanced with the installation of appropriate land-based infrastructure and acceptable processing and marketing facilities. Access to both local and foreign markets is also a key factor in the process.

At the present time, about 95 percent of the vessels in the industry are *pirogues* of less than 9 m LOA, powered by outboard motors and involved in day fishing, while the other 5 percent range from 9 to 12 m LOA, with the capability of carrying ice and spending three to five days at sea.

An increase in the number of the larger vessels would assist in the expansion of the flying fish industry, since they operate farther offshore and away from the traditional fishing areas of the pirogues. Information and data are collected on a continuous basis from this fishery as a means of monitoring landings and fishing operations.

The information and trend in the fisheries sector seems to suggest that there is need in general to put management plans and legislation in place and provide sustainable management for the inshore fisheries, which have shown signs of being overexploited. At the same time, there is potential for expansion and development through rational exploitation of the offshore marine resources.

Aquaculture potential development for freshwater culture for food is constrained by availability of land, water and funding. The community-based aquaculture projects undertaken to date seem to be a possible way to promote rural development since they provide training, food production, employment and economic returns.

The ornamental fish industry has good potential, but development will have to be guided through monitoring and management of the exploitation and harvesting of indigenous species from the wild for export, and the development of systems of artificial rearing of exotic species, while taking care to maintain existing biological diversity.

In the area of sanitary and phytosanitary standards and guidelines for fish and fishery products for local consumption and exports, the Fish and Fishery Products Regulations 1998 were prepared and enacted as an amendment to the Food and Drug Act of Trinidad and Tobago.

RESEARCH

The major area of activity in this area consists of marine resources assessments through the collection of biological and associated data on landings, especially from the inshore fishery, in accordance with methods and systems developed by the CARICOM Fisheries Resource Assessment and Management Program (CFRAMP) in which Trinidad and Tobago participated from 1994 to 1998. The FAO/WECAFC ad hoc Working Group on Shrimp and Groundfish Resources of the Brazil-Guianas Shelf has been holding regional stock assessment and bio-economic modeling workshops on the main commercial species of shrimp and groundfish and providing scientific advice for management, yearly since 1996.

Research in terms of exploratory and experimental fishing is conducted by the Caribbean Fisheries Training and Development Institute, studying marine species in both the near-shore and offshore areas.

The Institute of Marine Affairs conducts environmental research on water quality and pollutants in the Gulf of Paria and other marine areas around Trinidad and Tobago. Some aquaculture research is also being conducted by the institution.

The University of the West Indies, St Augustine, Trinidad and Tobago, through its Natural Sciences Faculty, also conducts marine and aquaculture research.

AID

Current

The Government of Japan through the Japan International Co-operation Agency (JICA) is currently providing technical assistance by way of the Regional Fisheries Training Project, with the Executing Agency being the Caribbean Fisheries Training and Development Institute of the Ministry of Agriculture, Land and Marine Resources. The major objective of this project is to enhance the institution through the development of human resources to improve the quality and level of teaching and instruction in the areas of fishing technology, fish handling and processing, and marine engineering. In addition it encompasses a considerable amount of experimental and exploratory fishing and the development of improved fishing gear and equipment and methods. Training at the institute and extension exercises are conducted in the transfer of technology in relevant

areas. The technical assistance offered by the Project consists of the provision of Japanese expertise, equipment, and training of counterparts in Japan and in Trinidad and Tobago.

Future needs

It is envisioned that aid in the future may be required to develop and implement management plans and legislation, and also to examine aquaculture feasibility.

INTERNET LINKS

The Fisheries Division maintains a webpage at:

http://www.cep.unep.org/trini-tbago/fisheries/index

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