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Workshop on the Fisheries Industry
in the Caribbean Islands

Port-of-Spain, Trinidad and Tobago,
10-14 September 1990

REPORT*

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Introduction

The Workshop on the Fisheries Industry in the Caribbean Islands was held at Port of Spain, Trinidad and Tobago, from 10 to 14 September 1990 under the auspices of the United Nations Industrial Development Organization (UNIDO) in co-operation with the Government of Trinidad and Tobago.

The aims of the Workshop were:

- to review the problems and prospects of the fisheries industry in the region,
- to exchange know-how and experience in this particular sector as well as to establish contacts for future co-operation,
- to discuss in particular elements of the industrial infrastructure which support the development of the fisheries industry, namely fishing boats and shore facilities,
- to encourage the countries in the region to actively look for solutions to the problems of the fisheries industry through, among others, the assistance of regional, intergovernmental and United Nations organizations.

The Workshop was attended by 38 participants from 10 countries. Visits were made to harbour facilities and industries in Port of Spain, Trinidad and Tobago.

RECOMMENDATIONS

The meeting adopted the following recommendations:

Policies and Planning

Governments in the region should, when necessary, request the advice and assistance of international organizations such as UNIDO, the Food and Agriculture Organization of the United Nations (FAO) and the Commonwealth Secretariat in the formulation of national policies and plans for the fisheries industry sector.

Training

The issue of training should receive priority for programmes at the regional level. In general, training needs in the region had been identified

in two FAO reports of 1984 and 1987*. These documents are still considered to be valid but require updating.

It is recommended that UNIDO and FAO, in collaboration with the Caribbean Community Secretariat (CARICOM), the Organisation of Eastern Caribbean States (OECS), the International Labour Organisation (ILO), the Commonwealth Secretariat and other agencies update both documents and prepare a project proposal for approval of regional governments prior to seeking funding. UNIDO should then call a meeting of donor agencies to seek their commitment to funding of the project.

Closer linkages should be established, through existing mechanisms (Technical Co-operation among Developing Countries - TCDC) similar to those provided by FAO, where countries of the same language can benefit from training facilities existing in the region. Information on the above should be gathered and circulated and fellowships provided by donor agencies.

It was recommended that the University of the West Indies Food Technology Unit, which is already involved in research and training of food technologists for the region, place more emphasis on training in fish processing and research and product development.

On shore facilities:

In view of the diversity among the Caribbean Islands in the area of support facilities, both on-shore and at sea, a survey should be carried out by UNIDO of the existing infrastructure projects. Among the facilities the meeting considered are:

- cold stores
- freezers
- ice manufacturing machines
- ice crushers
- storage holds/containers of individual fishermen or wholesalers
- insulated containers

* Report of the Workshop on Artisanal Fisheries Training in the English-speaking Caribbean Countries and Suriname, Port-of-Spain, Trinidad and Tobago, 7-11 November 1983, FAO, Regional Office for Latin America and the Caribbean, Santiago, 1984.

Report of the Meeting of National Coordinators of the Caribbean Technical Cooperation Network in Artisanal Fisheries and Aquaculture, Mayaguez, Puerto Rico, 13 September 1986, FAO, Regional Office for Latin America and the Caribbean, Santiago, 1987.

The above survey could be undertaken as a means to assist governments as well as private enterprises in formulating future investment projects aimed at the provision of support facilities for the development of the fisheries industry.

Marketing and processing

Since most Caribbean countries are still net importers of fish, local processing as well as marketing for the domestic or export markets are of vital importance.

As far as marketing is concerned, international organizations such as FAO, through INFOPECSA, and the International Trade Centre (ITC) should provide information on market trends, regulations of importing countries as well as training in negotiation skills, quality control, etc.

Local and regional markets catering for the tourism industry also deserve particular attention since they represent potential market outlets for high-value products.

Product development for processing of underutilized species should be encouraged. The development of wet fish processing and fish curing (salted, smoked and pickled) should be fostered in relation to market demand through training and the support of appropriate institutions so as to apply technology at the level of both cottage and commercial industries.

Regional meetings should be organized on a regular basis since they enable the participants, both from the public and the private sector, from the region and outside to exchange experience, share information, establish contacts for future co-operation and present new findings for potential application in other countries.

Ship building and repair

In the area of ship building and repair in each country of the region, different parameters may apply as to available facilities and type of boats. Upon an individual country's request, consultancy might be provided for the improvement and outfitting of boats and yards, as well as for the introduction of improved designs, materials and equipment.

Also, a directory of boat building facilities and capabilities should be compiled to develop an awareness of these facilities in terms of usage and assistance. In this respect the directory could form part of the on-going FAO "clearing house" project which is aimed at establishing a data base on

experts, suppliers and institutions operating in the area of ship building and repair.

On the other hand, to foster greater integration in the region in this specific area, a regional shipyard could be foreseen to cater for the needs of the region, producing boats for more countries and for additional purposes such as tourism and transport of goods and realizing, therefore, economies of scale.

In this respect, a feasibility study might be necessary and accordingly carried out by UNIDO in conjunction with FAO.

Finally, fishing boats as well as on-board and on-shore equipment, should be standardized to the maximum extent possible so as to facilitate regional technical co-operation, trade and exchange of experience.

I. ORGANIZATION OF THE WORKSHOP

The participants in the Workshop were welcomed by Mr. Mervyn La Croix, Director of Fisheries, Ministry of Food Production and Marine Exploitation, on behalf of the Government of Trinidad and Tobago, who expressed his appreciation for the selection of those countries participating.

The Resident Co-ordinator of the United Nations and Resident Representative of the United Nations Development Programme, Mr. Charles L. Perry, addressed the Workshop and welcomed the participants. He stressed the important role of the fisheries industry in the economies of the region as well as as a source of nutritional products for all sectors of the local populations.

The Director of UNIDO's System of Consultations Division, on behalf of the Director-General, thanked the Government of Trinidad and Tobago for hosting the meeting. He spoke of the need to strengthen regional links in the Caribbean so as to fully benefit from each country's experience in this particular sector. Regional co-operation can be an effective means, he added, of reaching common solutions and better utilizing available resources.

The Workshop was officially opened by the Minister of Food Production and Marine Exploitation, Dr. Brinsley Samaroo. The Minister, in his inaugural address, pointed out that one of the main concerns of the region, namely, the development of artisanal fisheries and the need to support artisanal fishermen through the provision of facilities and financial assistance. The Minister

also mentioned environmental concerns related to fisheries exploitation and the importance of information on marine resources and stock assessment for the development of the sector. He ended by thanking UNIDO for organising the Workshop.

Election of Officers

The participants unanimously elected the following officers:

- Mr. Mervyn La Croix (Trinidad and Tobago), Chairperson
- Mr. Eustace Royer (Antigua and Barbuda), Vice-Chairperson
- Mr. Fritz Pilorge (Haiti), Vice-Chairperson
- Mr. Terrence Phillips (Guyana), Rapporteur

Adoption of the Agenda

The following agenda was adopted:

- 1) Opening of the meeting
- 2) Election of officers
- 3) Adoption of the Agenda
- 4) Presentation of the background papers
- 5) Explanation and display of information on different ship designs and on alternatives for small fishing harbour facilities
- 6) Country papers
- 7) Discussion of the major problems encountered by the Caribbean Islands for the development of their fisheries industry, with special emphasis on shipbuilding and on-shore facilities
- 8) Projects and designs in the areas of shipbuilding and repair and development of on-shore facilities
- 9) Discussion and adoption of recommendations

Adoption of the Report

The recommendations of the Workshop were unanimously adopted in the last session of 13 September 1990.

II. SUMMARY OF DISCUSSIONS

The background papers, and oral and written statements, were presented and discussed during the Workshop by FAO, UNIDO and experts from participating and observer countries/organizations.

The two UNIDO consultants dealt with the following subjects which constituted the main themes of the Workshop:

- (a) boat building and repair
- (b) shore facilities

On the first theme, the UNIDO consultant gave a broad presentation on the work undertaken in his country, Indonesia, in the area of traditional boat building, modern boat building and in particular, laminated wooden boat building. He pointed out the positive aspects and commercial benefits of building laminated boats which, if built according to modern designs, used up to forty percent less wood compared to traditional wooden boats. Drawings of microfishers, speed cats and prototypes of canoes were distributed to the participants who raised several questions on boat design for semi-deep and deep-sea fishing, and cost of different locally available materials.

On the subject of on-board and shore facilities, the second UNIDO consultant stressed that each refrigeration method should be adapted to different factors such as length of vessel, length of time at sea and target markets and should be developed so as to attain economies of scale. The participants discussed the role of the government in setting up a suitable shore infrastructure for refrigeration and storage of fish, the lack of ice manufacturing facilities on some islands and the possible utilization of solar power for refrigeration purposes.

The FAO representative introduced the background paper prepared by his organization and provided extensive information on FAO boat design activities, both completed and under preparation. He also mentioned a number of initiatives undertaken by his organization in the region such as the creation of WECAFC (Western Central Atlantic Fishery Commission) and the marketing information network INFOPECA. Also discussed were problems relating to fisheries policies (which do not often give clear guidelines to industry and entrepreneurs), availability of finance for infrastructural projects, market destination of products, and, last but not least, the need to develop a specific boat design tailored to the region characteristics as well as different types and sizes of vessel to exploit particular zones/resources.

Presentation of country papers

Antigua and Barbuda

The fishing industry of Antigua and Barbuda is based primarily on the activities of 550 fishermen operating small boats, most of which fall within the 14-45 foot range. The industry is, for the most part therefore, artisanal and is centered on the near-shore demersal species that are considered to be exploited at or quite near to the maximum sustainable yield. The pelagic resources of the deeper waters within the EET are exploited by foreign fishing vessels. Fishing trips by local fishermen are of a short duration and within fifteen miles of the coast. On-shore facilities, such as storage areas and ice manufacturing facilities, are lacking or inadequate and the need to train fishermen in the techniques required to operate vessels for pelagic fishing is most urgent as is the acquisition of such vessels.

Processed fish for which there is a strong demand in the country, has to be imported for lack of local transformation industry. Besides its utilization in the domestic market, processed fish could be exported to other countries of the region and utilized in the growing tourism industry of Antigua.

Curacao

In general, the economy of the Netherlands Antilles faces considerable economic problems arising from the decline of a number of major sources of income such as oil refining and tourism. The major ship-repair industry in Curacao has consequently also declined with the fall of international trade. New harbour facilities have, however, been completed in 1990 as have ice manufacturing machines and berthing places for vessels.

Also, as in the case of Antigua and Barbuda, fishing concentrates on demersal and coastal pelagic stocks and offshore fishing operations cannot be undertaken because of the lack of larger vessels. Small pirogues are often used and application of fiberglass to wooden boat construction to prevent breaking and rotting is increasing.

Dominican Republic

The fishing industry in the Dominican Republic is small in terms of its contribution to the national economy. However it is of great importance in a country where animal protein is in short supply. So far per capita supply of fish in the country has only reached 3.9 kg per year, very little compared

to other islands in the region, such as Cuba (14.2 kg), Trinidad and Tobago (17.5 kg) and Jamaica (33.1 kg).

In view of the fact that already in 1978 approx. 12,000 tons of fish products, comprising dried, salted and canned fish were imported, it is evident that there is a need to increase domestic fish production to the highest possible level.

One of the major problems seems to be the lack of planning for the development of fisheries which has resulted in the absence of processing facilities at landing points and neglect of the existing fish processing plants.

The rehabilitation of the two government-owned idle processing plants producing dried and salted fish, could, if undertaken, provide for import substitution of processed fish.

Two main problems directly and indirectly affecting the fisheries industry in the Dominican Republic are: (a) its relative isolation from the other countries in the region, a situation which might change in the near future since the country recently joined CARICOM; and (b) the lack of mechanisms for channelling available financing to the fisheries industry.

Grenada

One of the main causes of growth of the industry in Grenada is tourism. The sector recorded a 39 percent increase in value added in 1985 and stimulated fishing for this particular market.

Some efforts are being made to improve the fishing fleet and to train fishermen in new fishing technology. In this connection, a Katamaran, designed originally for West Samoa, an FAO project, has been developed and adapted to Grenada's needs. The engine has been modified and the boat, originally made of aluminum, has been built in fiberglass. In addition, a forty-two feet launch for training and experimental fishing has recently been put into operation.

A coastal fisheries development project, financed on a bilateral basis, is also under implementation and includes ice-making machines, cold storage, boat repair facilities as well as a packaging plant.

Guyana

The fishery sector in Guyana consists of marine fisheries, industrial and artisanal, as well as of inland fisheries.

Generally speaking the industrial marine fisheries sector is well organized with a large fleet, suitable shore facilities and a number of processing plants.

The artisanal sector is organized into fishermen cooperative societies through which government assistance is channelled.

Several projects are under implementation to improve the onshore infrastructure for small scale fishermen and to provide training in areas such as management, operations and maintenance, marketing and quality control.

It can be said that the fishery sector of Guyana as it relates to ship building and repair, as well as onshore facilities, is at a stage of rationalization and diversification with a view to effecting better capacity utilization in the industrial sub-sector; the artisanal sub-sector can be viewed as being at a transitional point where it is moving towards a stage that will enhance its prospects for contributing to the development of its members and the national economy.

Haiti

In this country the fisheries sector is purely artisanal with approximately 20,000 fishermen operating small wooden boats. Because of the narrow continental shelf, large vessels cannot be used. The ideal size of fishing boats for Haiti seems to be between 10 and 15 meters. The potential for the development of the fisheries industry is very high since Haiti imports a large quantity of fish (approx. US\$ 24 million per annum).

As in the case of the Dominican Republic, Haiti has not had trade so far or co-operation linkages with other countries in the region. In this respect the CARICOM membership may provide a new impetus in that direction.

The main problem, however, lies in assistance to fishermen who have to be trained and motivated in the application of modern technologies. As in some neighbouring countries, cooperatives should be set up to assist the efforts of individual fishermen in obtaining credit, inputs and other facilities for their operations.

Fishing ports and landing points equipped with suitable infrastructure

are needed and could be developed on a modular, flexible basis to meet different requirements.

Shipbuilding facilities, if available, could serve not only the fishing industry but also other sectors such as goods transport and tourism.

Jamaica

The fisheries sector in Jamaica incorporating marine and inland fisheries, is able to meet only 50 percent of domestic requirements. The sector is largely artisanal and consists of approx. 16,000 licensed fishermen operating on 6,000 registered canoes and boats from seven to forty feet, mainly employing outboard engines. Fiberglass is becoming popular for fishing boats due to its durability but is relatively expensive and has to be imported. The main problem, however, relates rather to the lack of data for effective resource management and planning, leading to heavy overfishing. The main prospects for further development lie therefore in the utilization of stocks hitherto untouched and consequently in the development of special technologies needed to export, for example, off-shore pelagic species.

Saint Lucia

As the development of the fisheries industry is a priority for the Government of St. Lucia, a number of projects, both bilateral and multilateral, have been developed in this area, dealing, among others, with fishing boats and store facilities.

The vessels constructed locally are built of timber and designed as pirogues. Additional boatbuilding facilities are however needed in order to reduce imports of new vessels. The same applies to processing facilities which, if available, would reduce the import of processed fish.

In spite of the presence of available infrastructure, however, the scarcity of trained personnel in the above areas and in others such as fish handling, processing and preservation, hampers the development of the fisheries industry, clearly showing that all components of a given sector must be integrated with each other to produce an optimal result.

One means which has proved successful in supporting individual fishermen has been the establishment of cooperatives through which fishermen get free gasoline and can import inputs for their fishing operations duty free.

Trinidad and Tobago

In spite of the Government's efforts towards the development of the fisheries industry through subsidies, loans and duty exemptions, local production of fish and fish products only meets fifty percent of domestic consumption; the other fifty percent is covered by imported fish.

The composition of the fishing fleet indicates a gradual shift from coastal to deep sea fishing, consisting both of pirogue type vessels and vessels for oceanic fishing. A large number of vessels, fishing mainly oceanic pelagic species in the extended economic zones, carry, however, foreign registration and the fish landed by these vessels is mainly aimed at foreign markets.

Basic shore facilities are available on several landing points but need to be improved and extended to processing. Besides, they need to be differently set up if the trend towards deep sea fishing is pursued. Refrigeration and conservation facilities are available only in two ports. In other locations similar facilities are underutilized. This imbalanced situation is due, among others, to the lack of resource assessment and management which causes overfishing on the one hand and under-exploitation/utilization on the other.

One area which has great potential in Trinidad and Tobago, because of the existence of a well-established institute, is that of training. The Caribbean Fisheries Training and Development Institute (CFIDI) is the co-ordinator for artisanal maritime fisheries in the English-speaking Caribbean and in Suriname and offers courses in fish handling and processing. The institute is a national organization which, if restructured and supported, could become more effective in assisting the region as a whole.

A reactivation of CFIDI would involve an increase of courses to include subjects such as

- engine mechanics
- safety at sea
- quality control
- refrigeration

In addition, the capabilities of the institute could be expanded so as to offer:

- a) institutional/non-institutional training
- b) mobile training
- c) training of trainers

General Discussions

On the subject of training which horizontally applies to all areas of the fisheries industry, the participants felt that intraregional co-operation should be strengthened to reach not only Anglophone countries but also countries of other languages such as French, Creole, Dutch and Spanish. Language requirements, and training opportunities available in the region should, therefore, be borne in mind before formulating plans for the development of human resources. Existing institutions such as CFTDI and the University of the West Indies which offers courses for agricultural extension officers and food technologists and which could expand its capabilities in giving more emphasis to fisheries, need to be supported.

In this respect the participants agreed that organizations such as the Commonwealth Secretariat, CARICOM, OECS and WECAF could play an important role in raising financial assistance from the donors community.

Co-operatives of fishermen were discussed at several stages since they have proven successful in some countries and less fortunate in others. The benefits for the individual fisherman in obtaining loans, basic inputs and gasoline at subsidized rates are well-known. However, reluctance by individual fishermen to co-operate or lack of encouragement and support by the government may hamper their development.

The participants stressed the importance of clear-cut policies in the area of fisheries planning, defining priorities and formulating guidelines for the development of the sector. In this respect, a list of programme proposals for the Fisheries Industry System (FIS) in developing countries was made available to the participants to attract their attention on the work carried out by UNIDO in the application of an integrated sectoral programming approach.

On the subject of boatbuilding, several suggestions were made on the different parameters existing in each country and relating to skills and materials available, adaptation of designs to local conditions, shipbuilding and repair facilities already established or in need of restructuring.

Being a capital intensive sector, the participants agreed that a regional shipyard producing different types and sizes of vessel for a large number of countries would foster greater integration in this area and, most important, realize economies of scale. Such a project would need a feasibility study and an accurate collection of information on capacities and facilities existing and needed.

Finally, in the area of shore facilities, the participants stressed the diversity between the facilities needed to meet the first requirements of

artisanal fishermen, whereby a centralised location for ice manufacturing and fish storage served by a collecting boat could represent an economic solution and the shore facilities for larger vessels which may comprise freezing and canning plants and which, ideally, should be developed in subsequent phases to avoid underutilization. The maintenance of such facilities is of extreme importance as is the training of personnel to use and manage them.

As the establishment of shore facilities is a capital investment project to be initiated by the government, a survey of what is available and what is needed should be the basis for any further consideration.

Annex I

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Annex I.I

LIST OF DOCUMENTS

- | | |
|---|-----------------------------|
| <u>Fishing Ports Refrigerated Stores
Design Guidelines</u>
S.C. Schiff | ID/WG.503/1(SPEC.)
E/F/S |
| <u>Main Factors in the Development of the Fisheries
Industry</u>
UNIDO Secretariat | ID/WG.503/2(SPEC.)
E |
| <u>Further Development of Fisheries in the
Caribbean</u>
FAO Secretariat | ID/WG.503/3(SPEC.)
E |
| <u>Brief Review of the Fishing Industry of Antigua/Barbuda</u>
Eustace Royer | |
| <u>The Fishing Industry in the Dominican Republic</u>
Arteris Segura | |
| <u>Country Report - Guyana</u>
Terrence C. Phillips | |
| <u>Fisheries in Haiti</u>
Serge Pericles | |
| <u>The Jamaican Fishing Industry, It's Structure
and Major Problems</u>
G. Andre Kong | |
| <u>Fisheries Development in St. Lucia as it pertains
to Fishing Vessels, Cold Storage and Shore Based
Facilities</u>
Horace D. Walters | |
| <u>The Marine Fishing Industry of Trinidad and Tobago</u>
Fisheries Division, Ministry of Food Production &
Marine Exploitation | |