

## 7-5. Fishery in Egypt

### 1. EGYPTIAN FISHERY POLICY AND OBJECTIVES

The main short-term objective of the Fisheries Administration is to help ensure adequate supplies of food for the Egyptian consumer and this appears to be clearly understood by all concerned. A subsidiary objective is to earn foreign currency by export of certain high-value fisheries products, including sponges and also food fish; some of the latter is in effect bartered for a much greater weight of other, cheaper fishery products that are acceptable in Egypt, thus fulfilling the first objective also.

These activities are carried on within the framework provided by other national policies such as, for example, the encouragement of producers cooperatives, and the employment of comparatively large numbers of people in any given activity (the inappropriateness of the latter policy to the circumstances of deep sea fishing was the subject of comment in earlier FAO reports).

Among longer-term objectives, the most important, and most widely understood, is the intention to make Egypt self-sufficient as regards supplies of all foodstuffs, with the exception of wheat. There is, therefore, in the case of the High Dam Lake, for example, a conscious intention to develop to the maximum its potential for fish production (both by capture fisheries and by fish farming). There is also a general recognition of the potential of aquaculture in many other parts of Egypt, although not yet any development of criteria for assessment of priorities vis-a-vis agriculture.

There is, likewise, no clear picture (at least at working level in the Fisheries Administration) of the Government's view of, or intentions towards, the marine fishery resources, especially as regards the establishment of exclusive economic zones off the Mediterranean and Red Sea coasts, or the conclusion of bilateral or multilateral fishery agreements, or agreements for technical cooperation with other countries. Action in these fields depends not only upon considerations of ensuring adequate supplies of food, but also on the general maritime aspirations and policies of the Government, a subject that the Mission did not investigate.

There is great potential for expansion of production in inland and brackish waters, especially by fish farming. There may be some potential for expansion in the capture fisheries. There is a good deal of scope for reducing costs of production by use of more modern methods and equipment.

## 2. ACTIVITIES REQUIRED

Given the objectives outlined above, the geographical situation and natural resources of Egypt, the state of development of the economy, the political philosophy and economic policies of the Government, and the underdeveloped potential and productivity of the fisheries sector, the Fisheries Administration might be expected to be concerned with encouraging, or actively engaged in, the production of fish as food, both by capture fisheries and by fish farming; in the procurement of additional supplies from abroad, as seems necessary or desirable; in the marketing and distribution of fishery products; and in development work aimed at expanding local production and reducing costs, including foreign exchange costs. This indeed can be said to be the case, but when the situation is examined in greater depth and more detail, the conclusions are less reassuring.

Among the specific activities in which the Fisheries Administration might be expected to be engaged, and the subject matter fields in which it might be expected to possess expertise, are the following:

(1) Conservation of the resources: resource management and resource protection, including collection and analysis of statistics and related scientific work; surveillance, licensing and control of fishing operations; anti-pollution measures.

(2) Exploration and survey of new fishing opportunities and identification of suitable areas for fish farming.

(3) Innovation with a view to fuller exploitation of resources and reductions in costs: technical development, including experiment in the field; pilot-scale projects; trial and adaptation of methods already in use abroad; subsequently in appropriate cases, demonstration, extension work and practical training.

(4) Applied research in support of (1), (2) and (3) above.

(5) Provision of equipment and services to the fishery industry, for example: port facilities, ice plants, slipways, hatcheries, fish markets, supply of fingerlings and feed, supply of imported equipment.

(6) Basic and advanced craft training.

(7) Policy formulation regarding investment in expansion of production and/or procurement of supplies from abroad, in the light of policies regarding food, land use, maritime affairs and foreign relations (for example, whether to concentrate investment in high seas fishing or in aquaculture or to use the money to import supplies); contribution to the formulation of policies on food, land use, maritime affairs, etc.

(8) Relations with other Government departments whose activities can have an impact upon the development and wellbeing of the fishery industry (for example: Ministry of Transport and Marine); the Military Navy; Ministry of Irrigation; Ministry of Land Reclamation; Suez Canal Authority, also with the regional Governorates.

(9) International affairs representing the fishery industry as regards relations with participating in the work of IMCO, UNLOSC, etc.; participation in bilateral negotiations on fishery matters; relations with international development agencies including IBRD, FAO and with bilateral aid agencies active in the fisheries field.

(10) The operations of production; processing, storage, marketing and distribution, in so far as these are to be done by the public sector.

The administration is not at present engaged in all of these matters; a brief description of its present structure and activities now follows.

### 3. PRESENT ORGANIZATION

#### 3.1 Main Government Bodies

*Note: The figures and other information are as given to the Mission; they may not always be in exact accordance with official information, but this is unlikely to affect the argument and conclusions in the present context.*

The principal organizations of central government active in the fisheries sector are four in number; they work where appropriate in cooperation with or in support of the regional governorates.

These are:

(1) The Aquatic Resources Under-Secretariat of the Ministry of Agriculture, with general responsibility for all fisheries other than those of the High Dam Lake.

Three state corporations based in Alexandria: the Northern Fishing Company, the High Seas Fishing Company, and the Fishing Equipment Company, are also sponsored by the Minister.

(2) The High Dam Lake Development Authority, responsible for development of fisheries on Lake Nasser (fisheries being the Authority's most important activity at present). Roughly one-fifth of the total production of fish in Egypt comes from the Lake.

(3) The Ministry of Supply, which is concerned with price controls and supplies of cheap fish to the consumer. This Ministry organizes the importation of fish and, through

the Fish Marketing Company, its storage, transport, distribution and final sale at subsidized prices.

There is also a free market in fresh fish produced by the private sector.

(4) The Institute of Oceanography and Fisheries (IOF), an establishment of the National Academy of Science and Technology. The Institute is responsible for most of the scientific work at present carried out in fisheries and related fields.

### 3.2 Cooperatives

There are now about 60 cooperatives in Egypt, which are responsible for about 85 to 90 percent of the total fish production. They are organized in eight zones, each zone having a council, while each cooperative elects a board. All licensed fishermen should belong to cooperatives. The degree of internal democracy varies from case to case but situations in which a small oligarchy is able to retain power for long periods of time are not uncommon.

An 11-man council for all cooperative societies ("Union Council") meets monthly at the Undersecretariat for Aquatic Resources of the Ministry of Agriculture, which is in charge of supporting and controlling cooperative activities.

Employees from the Ministry act as liaison with each cooperative, helping on administrative matters and in obtaining government support. The latter takes the form of loans (short, medium, long-term), tax-free gear import (in the past only through the Fishing Equipment Company, now also through privates), and various kinds of subsidies. Originally government tried to induce cooperatives to market their catch through state channels, but the initiative failed because government prices were too low, and there was a dearth of cold rooms for storage of the product.

Cooperatives have no welfare programmes (which should be handled by government), and only some limited training ones, through the Union Council. The kind and amount of equipment owned by cooperatives varies; on Lake Nasser, for examples, the cooperative has a small fleet of carrier boats. In most cases, however, boats belong to the members, and not to the cooperative as a corporate entity. In fact, only boat owners can usually be members of the cooperative.

### 3.3 Present Activities

#### 3.3.1 Capture Fisheries

##### (1) High Seas Fishing

In this context, high seas fishing means operations by ocean-going fleets in distant waters outside the jurisdiction of the Egyptian Government. Egypt has been actively interested in high seas fisheries since 1967. The operations and management of the High Seas Fishing Company were the subject of a series of FAO reports prepared in the course of a UNDP-assisted project that was active during the second half of 1975 and the early part of 1976. At that time the performance of the Company's fleet in terms of annual production did not come up to expectations; unit costs of production were high both in absolute terms and in terms of foreign exchange. A number of reasons for this state of affairs were identified: operational, technical, managerial, financial, administrative and legal. Among many recommendations were three to the effect that the Company's fishing vessels should undergo refitting and re-equipping, that the officers and crews should undergo retraining, and that continuing support should be provided in the field of fleet management through a further project; it was further recommended that no-one of these three recommended actions should be taken without also undertaking the other two. In the event, the ships have undergone a US\$ 5 million refitting and re-equipping in foreign yards, but the other actions were not taken because a source of funding could not be found. Of the many other recommendations, few have been acted upon, especially if they called for administrative or legislative action by the Government.

Meanwhile, the general extension of national fisheries limits and the unfavourable terms on which various coastal states are willing to provide licenses, has severely restricted the options open to the Company regarding choice of fishing grounds; it is not clear where, if at all the refurbished fleet will operate. Moreover, the latest estimates of unit costs of production indicate that they will at least for some time to come be much in excess of the price of similar products on the international market; indeed, the foreign exchange component alone is estimated at about equal to the current international market price. Morale is not high, and many key officers and staff have found other employment.

The ships are at present idle, and the immediate future of high seas fishing in Egypt is in doubt. The situation is being examined by a special committee established for the purpose by the Minister of Agriculture. Among options being considered

are fishing in new areas, perhaps with new vessels of appropriate size, power and capacity for the new grounds. A Pan-Arab fishing enterprise is being considered and Egypt is a contributor; this enterprise is not yet active and its prospects are somewhat doubtful.

A disturbing feature of the situation is that until the present Mission, the Chairman of the Committee considering the future of high seas fishing (who is also Acting Chairman of the High Seas Company) was not aware of the contents, or indeed of the existence, of the FAO reports of 1975 and 1976. This is a consequence, perhaps, of the complete replacement of the Board of Directors and also of the transfers since that time of the Company, and the Under-Secretariat for Aquatic Resources, from one Ministry to another, finally ending with the Ministry of Agriculture.

The Company has incurred heavy financial losses (about 10 million Egyptian pounds in ten years). However, its management staff and its officers and crews are still in the process of acquiring the rather uncommon knowledge, skills and experience necessary for the management of a deep sea fishing enterprise; since it is necessary to pay to gain this experience, some of the "losses" can be regarded as an investment, by way of an entry fee into the "high seas fishing club". Whether it is worth continuing to pay this entry fee is a matter for the Government to decide in the light of its foods, maritime and foreign affairs policies.

It is generally the case that only the more efficient elements of fishing fleets operating in mature deep-sea fisheries operate at a profit in the average year. Moreover, the price of the products on the international market may not necessarily reflect the entire cost of production, for various reasons that need not be gone into here; moreover, their availability may vary in the years to come. The lack of experience, referred to earlier, includes a lack of familiarity with, or realisation of, such facts of life as these, not only on the part of the Company, but also on the part of the Ministry.

Poor performance, from a variety of causes, is one factor contributing to the large financial losses made by the Company, but there are others, and these are the product of administrative decisions or the lack thereof. One is that the Company has never had any working capital, so that it has to borrow at high rates of interest. Another is that it is constrained to sell all its catch to the Fish Marketing Company at an artificially low price fixed by the Ministry of Supply, which bears no relation either to costs of production or to the international market price.

Although the Company is affiliated to the Under-Secretariat of Aquatic Resources of the Ministry of Agriculture, there are no departments within the Under-Secretariat that are concerned with general support to the Company, or with seeking to create an administrative and legal framework appropriate to deep-sea fishing, or with providing working capital, or with establishing criteria of performance with the Company and agreeing norms, or with assisting in negotiating with foreign coastal states, etc., or with undertaking research and investigations in support of the Company's activities. The Company is therefore worse off in this respect than the private enterprise fishing companies of (for example) N.W. Europe, North America and Japan, which enjoy a strong measure of support from the state in some or all of these fields; moreover, in the developed, centrally-planned economics (for example Poland) the operating companies likewise enjoy such services, provided by the central government.

## (2) Mediterranean Fisheries

Before the wars with Israel, there were about 600 boats fishing between Port Said and Alexandria; after hostilities began, all the fleet concentrated in Alexandria, causing a sharp fall in catch rates (from 40 kg to 13 kg per hour, according to one source). This has reduced the number of boats, whose total now does not exceed 400. Most of them belong to three cooperatives (Alexandria, Abou Kir and Idku) and some to a parastatal company, the North Seas Fishing Company, of the Ministry of Agriculture and Rural Development.

### (a) Public (parastatal) fisheries

The Northern Fishing Company has resulted from the Amalgamation of four previously existing ones, so that its activities are still rather diversified. In the Mediterranean, the Company has a fleet of 12 fishing boats powered by 150–200 hp motors, engaged in trawling and lampara fishing. The operation has not been very profitable, due in part to the poor efficiency of the boats, and to the difficulty in obtaining spares (because of Governmental regulations), and in part to the redundancy of manning scales, coupled with the difficulty in firing personnel. For these reasons, the Company has been thinking of discontinuing coastal fishing, and concentrating on its other activities. The recent acquisition of two new well-equipped boats, capable of bringing in a catch of 20 tons per month, is inducing the Company to reconsider the continuation of coastal fishing. The matter will be decided within the end of the year.

The other Mediterranean activity of the Company is sponge fishing, carried on off the west coast, in what are purported to be the best sponge grounds in the world. The average catch is six to seven tons per season, and all of it is exported, mainly to Japan, at a price of LE 15,000 per ton. The fishers used to employ scafanders, but now they use skin-diving equipment. Keeping enough experienced divers is becoming a problem: the Company has a training centre, but divers tend to leave once they are fully trained, and find employment with better-paying foreign companies (mainly Greek). There are now around 45 of them with the Company, as opposed to 90 a few years ago; they are paid on a percentage of the sales, which has been recently increased to 40 percent.

(b) Private fisheries

Private fishing as elsewhere is done largely by cooperatives, the most important of which is located in Alexandria. Figures regarding the latter are rather tentative; cooperative members appear to own about 100 motor boats, and ten times as many sailboats. Only boat-owners can become members, although the Alexandria Cooperative has a reputation for being run rather democratically. Labour is paid by a share of the catch (80 percent after costs).

The technological level of boats and equipment has remained unchanged since some decades, when the Italians began fishing in the zone. The use of radios is forbidden for security reasons. Port facilities are defective; for example, the depth of the harbour is insufficient to allow mooring alongside jetties.

Nevertheless the productivity of the cooperative's boats is alleged to be superior to that of the North Seas Company, because of higher crew salaries and fewer stoppages. Awareness of the importance of maintenance work is inducing the cooperative to consider the establishment of its own repair shop.

Total catch is being effected by overfishing and by the dispersion of fish caused by the building of the High Dam (especially sardines and shrimps). For this reason cooperative officials consider it important that trawling operations be stopped during the spawning season, but the local authorities appear unwilling to issue the necessary decrees, fearing that such stoppage might cause unemployment<sup>1)</sup>.

1) Cooperative representatives reply that during the closed season fishermen could be employed in other kinds of fishing, or in auxiliary activities. The Institute of Oceanography has taken no stand on the matter; the Under-Secretariat for Aquatic Resources does not feel bound to act, because no formal written request has yet been filed by the cooperative.



(c) The Northern Lake fisheries

The Northern lakes show the same joint presence of public and private fisheries as the Mediterranean.

The main public agency is still the North Fishing Company, which operates a rather successful operation on Port Fuad Lake, catching (both directly and through local fishermen) grey mullet and orata (sea bream). The orata is exported to Italy in the barter exchange mentioned above (one ton against ten tons of blue fish). The grey mullet is sold on the local market. The price is fixed by the Port Said local government at 36 PT per kg, against an average market price of LE 2 per kg. (The company still makes an overall profit, however, although a small one.)

Another lake operation of the Company is concerned with the catching of live eels in Lake Manzalla and Lake Burullus. The catch averages 200–250 tons per season. It is a joint venture conducted with a Dutch–Italian firm, which provide equipment and transport facilities, and some expertise, and purchase all the production (the eels are brought to Europe alive). There seems to be much scope for the development of this fishery; the counterpart company is willing to absorb as many as 5/600 tons, and the lakes could probably yield up to 700 tons per year.

(d) Lake Nasser fisheries

Fishing in the High Dam Lake is done entirely by the private sector, with some public support from the High Dam Lake Development Authority and the Fish Marketing Company.

There are at present about 7,000 fishermen on the lake, and 1,500 boats. The conditions of the (non-boat owning) fishermen are destitute. They come from provinces some hundred kilometres north of the lake (Quana and Sohag) and remain on the lake two/three months at a time, while their families stay at home in the north. They are under the power of the tribal chiefs and local influential personages who advance subsistence money, handle the catch, and control transport facilities. The fishermen's cooperative (from which non-boat owners are excluded) is firmly in the hands of such influential locals. The fact that many of the fishermen (as many as 50 percent, according to one UNDP source) are fugitives from justice strengthens the chiefs' control over them.

Tribal and clan patterns also obtain in the division of fishing zones; it appears that rivalry among the two main ethnic groups is rather strong and has led, at least in the past, to considerable violence.

Fishing techniques are rather primitive. The boats, locally produced at exorbitant prices (LE 700) are around five metres long, and carry one or two people. Fishing is only coastal, with gill-nets and some hook-and-line. The catch has increased rather slowly over the years, reaching 18,500 tons in 1977.

The main problem for this fishery has been disposal of fish after catch. The shores of the lake are completely without population, so that local marketing is out of the question; the fish then must be brought to the main centre (Aswan) and be shipped north from there. The operation is performed by the Fish Marketing Company, to be discussed later together with matters concerning costing and pricing relations between the Company and the fishermen. Distances are very great (some catching places are as far away from Aswan as 350 km) so that transport using the fishing boats themselves is out of the question. It is easy to see, then, what a crucial role is played by the carrier boats. They are at present 78, of which 60 belong to the Lake Nasser Development Authority and 18 to the fishermen's cooperative. Fishermen time their catching operations on the expected arrival of the transports; poor maintenance of the boats, and the lack of efficiently planned carrier routes have severely curtailed actual fishing times. It appears that many of the fishermen do not fish more than once a week.

Ice is provided by the Authority, and its price is included in the 3 PT/kg charge made by the Authority. The latter's leadership recognize that ice production (50 tons a day) is insufficient. A new 20 tons factory is being set up.

In the course of transport operations the fish is handled at least five times (from the fishermen's boats to the carrier, from the carrier to the dock, from the dock to the Fish Marketing Company depot, during sorting and repacking in the depot and from the depot to trains), so that its quality tends to be spoiled. Harbour facilities are rather primitive.

The Development Authority is considering several projects for improving production on the lake. In the course of next year some outboard motors will be brought to Aswan for trial. A "villagization" project has been approved, whereby some

ten villages should be built on the coast, in order to house fishermen and their families, and initiate agricultural activities. The money has been apparently allocated, but the project has not become operative yet because of the high construction costs. Some better means of fish collection are being considered, including the use of containers carried by barges.

If these projects were totally or partially realized, they would bring about a sizable increase in catches, which in turn would raise the problem of resource management. However, the management of the Authority gave the impression of having entered into such projects rather haphazardly, without a serious assessment of the consequences they might have on existing fish stocks and future development.

On the other hand, a study is to be carried out by Norway on the potential of "deep" lake fishing (below ten metres). The study should begin next year, and it is being looked upon as providing the main inputs on which most future decisions will depend.

This seems to be an on-going pattern with the Authority's decision-making processes: the Authority does not have a real fishery staff, so that it has relied on external advice for most of its decisions. This means that projects and their consequences have not been permanently monitored by a local, resident staff, nor have any long-term policy lines been developed. Other aspects of the Authority's operations will be commented upon in discussing the administration of fisheries.

(e) Red Sea fisheries

The main base for the Red Sea Fisheries is Suez, where at present there are about 200 motor boats, powered with 100 to 350 hp engines, engaged mainly in bottom trawling and purse seining. To these at least as many sailing and sailing-and-rowing boats should be added, some of them using hook-and-line.

The area of the fleet's operation is very wide, going as far south as the border with Sudan: the absence of carrier boats causes serious transport problems, since the boats are not equipped to freeze the catch, but merely preserve fish with crushed ice. This means that actual fishing operations must be relatively short, compared to the time spent in reaching the grounds and returning from them to the home base.

Other problems facing the industry stem from the inadequacy of services. The harbour lacks a slipway or an ice factory. There are, likewise, no maintenance

shops, or marine engineers, so that, for heavy repairs, motors must be sent to Alexandria. The construction of a new harbour is being planned but it will accommodate vessels of limited draught.

The total production in 1977 was about 17,000 tons. The industry feels rather strongly the need for research of stocks. The last information was produced by a 1966 Russian survey, whose estimated (50,000 tons) are now considered too optimistic.

About 25 to 30 percent of the catch is marketed locally, the rest is shipped to Cairo and other Governorates by a small group of dealers (not more than five or six) who daily fix the price outside of any auction. The dealers' power appears to be considerable, for the usual reasons: during the closed season (six months) they advance money to fishermen, who repay the debts during the season, only to borrow again when the season is over — remaining thus constantly in debt. The dealers appear also to have a strong influence on the fishermen's cooperative, either directly or through boat-owning associates.

There are two cooperative units, one for the big, the other for the small boats. They appear to be controlled by the big boat-owners, some of whom are alleged to be millionaires. Crews and non-proprietor fishermen are not members. It appears, however, that the incomes of labourers are relatively good; the crews of trawlers earn about £E 50 per month, those of purse seiners about £E 10 more. This compares favourably with fishermen incomes from other areas (especially those on Lake Nasser), and general labour wages in Suez Governorate.

### 3.3.2 Aquaculture

Most aquaculture operations in Egypt are managed privately (about 70 per cent according to an IOF source). There is very little information about them, except on some aspects: a) interest in this type of activity is very lively; b) fish-farmers are very differentiated among themselves — ranging from small, individual operators to large, international companies; c) they all expect and need governmental help and support in such matters as: selecting the sites; learning basic construction and management techniques, acquiring additional food and fry. The public role in aquaculture is thus crucial. The main public initiatives appear to be the following:

#### (a) Government-owned Farm

Located near Manzalla, it is managed by the Undersecretariat for Aquatic Resources. It comprises about 250 feddans and during the last season (of 13 months) it

produced 150 tons or 450 kg per feddan. (The fish is sold through the Fish Marketing Company). There is a permanent staff of about 15 people, while as many as 70 work there harvest time. The level of sophistication is quite low; the operation consists mainly of putting in the fry and harvesting the fish.

(b) North Sea Fishing Company's Farms

These are two: one on Lake Manzalla, the other at Idku; the former produces tilapias, mullets, catfish; the latter mainly eels. Although they are called fish farms, in fact they seem to be simply ponds where fish are let in with water through inlets, are allowed to remain and grow, and later on are harvested without any supplementary work. According to the Undersecretariat of Aquatic Resources, the productivity of these farms is only a small fraction of what it could be.

(c) Experimental Stations of the Institute of Oceanography and Fisheries

They are also two: one, near Manzalla, comprises about 50 feddans, and is intended basically for the breeding of fingerlings; some experiment in production is also carried on. The second, at El Mex, near Alexandria, is intended for small-scale experiments, and the collection of mullet fry.

(d) Sharkaya Governorate Farm

The Governorate of Sharkaya owns a farm near Zagazig, of which the supervision is entrusted to the IOF.

The importance of aquaculture and its potentialities for Egypt have led international agencies and foreign donors to take a keen interest. At least three major projects are at present at various stages of development: the FAO pilot project in Kafr El Sheikh, the World Bank Project (linked to the former), and the USAID project to establish a centre on aquaculture technology.

One of the difficulties that all these projects are encountering is the identification of an appropriate counterpart within the Egyptian Government<sup>1)</sup>. This, in turn, refers to the weakness of the institutional structure for the support of aquaculture in Egypt.

- 1) For example, the terms of reference of the USAID project include the appointment of an Egyptian project director, before disbursements are to begin. A few days before the expiration of the deadline for such appointment, it was obvious that the administrative machine was nowhere near accomplishing the task.

The main agency in charge is the Undersecretariat for Aquatic Resources, whose Aquaculture Division has a staff of about 25 people. They are charged with the general task of developing the activity in the country which means, among other things, to select sites, to advise private farmers, participate in international programmes, etc. Many of the staff never go in the field; the number of real specialists is not above 10; there are no civil engineers; most of the combined experience was acquired in the U.S.S.R. (that is, in northern temperate climate conditions) some years ago.

### 3.3.3 Imports

A monopoly on fish imports is held by the Fish Marketing Company of the Ministry of Supply, established in 1965.

The Company imports only frozen fish, the main source having been in the past, the U.S.S.R. At present, some quantities also come from Sweden, Korea, Yemen. Past imports have averaged around 40/45,000 tons per year, with an expected total for the current year of 55,000 tons. Until now imports have been paid for with hard currency. For the next year it is hoped to acquire a certain quantity (40,000 tons) through "clearings" (commodity exchanges) and to import via normal channels another 60,000 tons, so as to reach a total of 100,000 tons.

With a partial, recent exception that will be briefly mentioned below, the real importing agency is the General Authority for Commodity Supply, belonging to the same Ministry. The Authority pays to the U.S.S.R. exporters U.S.\$ 200 per ton (- LE 140, at the rate of .70) that is, a price probably well below that of the international market. The Authority also is responsible for harbour handling costs (and some transport?). The prices paid by the consumer are fixed at a level below that implied by these costs; the difference is absorbed by the Authority, and there is a book profit to the company.

Since 1978 the Company has been allowed to import directly, out of its own funds and without going through the Authority, some quantities of fish; this activity is expected to acquire more importance in future.

The Company retails the fish it has acquired through 50 outlets it owns in Cairo, and through the stores of other public companies (El Nasr etc.).

The Company does not confine itself to importation of frozen fish. In the first place, while the High Seas Company was in operation, its catch had to be sold to the

Fish Marketing Company (at a price far below market prices and production costs, as will be seen below).

Moreover, the Company purchases fresh fish, most of it from the Lake Nasser fishermen cooperative, viz about 13,000 tons a year, out of a total fresh fish purchase of 14,000 tons. Fishermen from other areas are unwilling to sell to the Company because of the low prices it pays. Those from Lake Nasser have no alternative, since they cannot reach the city markets except through the Company's transport system as was shown above. The Company packs the fish in Aswan, and ships it north by train on a fleet of wagons (some electrically refrigerated, some only insulated) it rents for the purpose. Here again the price is fixed by Government (i.e., the Ministry of Supply); consumer price for Tilapia is PT 18/kg; the Cooperative is paid PT 14/kg; transport costs amount to PT 10; the Company obtains a subsidy of PT 6/kg.

#### 3.3.4 Marketing

Marketing presents different features according to location.

On the Mediterranean and along the Nile there appear to be no major problems may arise, due to the scarcity of means of transport. It has been seen above, for example that, on the Red Sea, dealers are able to yield a significant measure of power on the industry because they control transport facilities and market the product; their earnings are supposed to be larger than those of the producers, as is often the case in these circumstances.

Two other special marketing situations involve the public sector, and within it the Fish Marketing Company. They have already been touched upon: one concerns the High Seas Fishing Company, the other the fisheries of Lake Nasser. In both cases the Fish Marketing Company is the compulsory buyer, and prices are fixed by the Ministry of Supply at an artificially low level, bearing no relation to costs of production or free market value. In either occurrence it appears that the Government's policy has been to favour consumers and impose on producers a very low selling price, the "executive arm" of this policy being the FMC.

#### 3.3.5 Research, Development, Innovation

Practically all of the research at present undertaken in the field of fisheries is carried out by the Institute of Oceanography and Fisheries (IOF), an establishment

belonging to the National Academy of Science and Technology. The institute is organized partly by specialist disciplines and partly on a geographical basis. Physical oceanography and marine geology are separate departments, but people working on fairly fundamental aspects of aquatic biology are within the same departments as those concerned more directly with commercial fisheries biology and resource management. The Academy is still in the process of revising its programmes of work following a policy decision to concentrate upon problems of national economic importance, but the academic links and tradition of publication remain; no staff were replaced as a direct result of the policy, and there is still a tendency to measure the potential usefulness of a member of staff by whether or not he possesses a higher degree. In the case of fisheries, the user industry is not represented on the appropriate Academy Committee of the Research Council, and the Council itself deals with terrestrial animals as well as with aquatic science. Nevertheless, there is a willingness and desire in the division mainly concerned with the fishery industry, at Deputy-Director level, to do work that will be of direct and immediate use to the fishery industry.

The Institute staff includes economists. There is some work on pollution. Experimental work and original research includes a small effort in the field of aquaculture. Staff of the Institute attend the General Council of Fisheries for the Mediterranean on Egypt's behalf, and other international scientific bodies.

The Institute is prepared to carry out research under contract, and does so. The Academy can also place contracts with research establishments not under its own control, including those administered by government departments.

In the fields of handling, processing, preservation and transport of fish as food (food science and technology as applied to fish or, as it is often termed, fish technology) there is no effective research or development activity in Egypt.

As regards the development of fishing vessels and their equipment, and methods of operation: the only activity is a rather small, spasmodic, *ad hoc* effort on the part of the Fishing Equipment Company, noted later below. There is no professional engineering capability in this field within the Undersecretariat for Aquatic Resources or the High Dam Lake Authority (or in the IOF).

In the analogous field of aquaculture, the official approach seems to be that its development is largely a matter of placing contracts with civil engineering contractors to build ponds and provide the appropriate means for producing and controlling a flow of



water, although the supply of fingerlings is also recognized as a potential problem. However, various practical experiments in the field supported by international and bilateral aid are in the course of getting under way and will no doubt identify various problems, some of which may be amenable to solution by research or technical development.

It is recognized that development of aquaculture will need a trained and experienced extension service which does not yet exist and the recruitment and training of which is not yet put in hand. The existing extension services in the field of capture fisheries are mainly concerned with disseminating information about new and amended regulations, etc., etc., — a not surprising state of affairs since there is little innovative activity and little by way of transfer and adaption of foreign methods and equipment.

Apart from the international and bilateral projects mentioned earlier, there is no specific fund for pilot-scale trials in the field, practical demonstration of new methods and equipment, or support for innovative enterprises. Even in the case of aquaculture projects some difficulty has arisen because of this, insofar as IBRD have as yet failed to identify a corporate legal person competent to handle a large development loan, and the same situation would arise in other fields of fisheries technology and management. There is a general shortage of professionally qualified staff, especially of experienced staff capable of organizing and leading development programmes.

### 3.3.6 Resource Management: Regulation of the Fishery

Statistics of catch and effort are collected by staff of the Under-Secretariat for Aquatic Resources and, as noted earlier, these are analyzed by the IOF to ascertain the effects of fishing upon the well-being of the resource; the IOF carry out other investigations in support. However, there are few, if any, instances of the fisheries authorities taking action based on the Institute's findings, and indeed there is no branch of the Under-Secretariat that could handle the feedback of information and draw up proposals for action based upon it, or handle representations from fishermen's organizations or others alleging overfishing or detrimental effects from the use of certain methods of capture. There are some mesh size regulations, there is licensing of vessels and a control of total effort in certain cases, but these have been the result of *ad hoc* consultations; there is no continual process of adjustment of present fishing effort and of future development plans in the light of up-to-date information on the state of the stocks and the trends therein<sup>1)</sup>.

1) The episode, mentioned above, of the cooperative from Alexandria not being able to obtain a three month stoppage on trawling operations is an eloquent example of this situation.

Surveillance of the fisheries to enforce the law in such respects was formerly undertaken by the armed forces, but they are no longer prepared to undertake this task. The Under-Secretariat for Aquatic Resources is planning to establish a new branch to carry out the duties of surveillance and enforcement.

### 3.3.7 Equipment and Services

The Fishing Equipment Company imports proprietary equipment and materials of foreign manufacture, such as engines, deck machinery and fittings, nets, hooks, twine, and other fishing gear components, and makes them available to recognized producers' cooperatives; the goods are supplied free of customs duties and bear a comparatively modest profit. Certain items of capital equipment such as engines can be the subject of loans at reasonable terms. Although the most obvious advantages to the fishermen are financial, there are others. Besides avoiding the excessive profits made by agents of foreign manufacturers at the expense of local fishermen (and consumers of fish) in some parts of the world, the company provides the after-sales service that is sometimes lacking, as regards provision of adequate stocks of spare parts, provision of technical support and, if necessary, skilled workmanship. It also has facilities for building, maintenance and repair of boats. Moreover, it carries out a certain amount of design and prototype construction and development as regards the application of the equipment it sells, in cases where this is perceived to be of potential benefit; for example, the design of a standard bedplate and foundation for the main engine and winch power take-off for local trawlers, employing one popular make of engine, in order to avoid trouble caused by poor design on the part of local boatyards or marine engineering firms, or by amateur installations.

These services are mainly used by the private enterprise section of the industry (cooperatives) either on the Mediterranean, the Nile, the Northern Lakes and Lake Nasser. The two state fishing companies tend to make their own arrangements for procurement of equipment and services and have professional staff of their own.

Among the reasons given for this state of affairs are the long delays in procuring supplies, because of the bureaucratic processes the Company is constrained to use; and the fact that the fishing companies can procure supplies at lower prices elsewhere, due to the company's large overheads and the fact that it has to borrow its working capital. These complaints are echoed by the fishermen's cooperatives. The Company in turn points to a lack of coordination of users' requirements and lack of standardization of specifications

among the different users. It is reluctant to import many types of improved or advanced equipment in the absence of any programmes of training in its proper use and maintenance.

The Company's turnover was LE 4 million in the last full year, of which a quarter was in spares. The turnover is expected to decline as it becomes easier for the private sector to import equipment and material through other channels.

The management of the Company has recently been the subject of an official enquiry.

Subsidies for fuel for fishing boats were abolished some years ago.

Services concerned with port facilities such as ice plants, water supplies, provision of fish boxes, slipways and specialist workshops are not well developed and such facilities are said to be inadequate or lacking in several areas. This is certainly true of Lake Nasser. Cold stores operating at the low temperatures considered to be most suitable for frozen fish are not yet available and the Marketing Company makes use of general cold storage facilities for the storage of the frozen fish it imports.

Telecommunications and other electronic aids are not in general use in the Mediterranean or on Lake Nasser.

Services to fish farming, including supply of fingerlings and feedstuffs, are described separately under aquaculture.

Inland fish markets are capable of much improvement.

### 3.4 Fisheries Administration

As should be evident from the preceding paragraphs, the administration of fisheries in Egypt is rather intricate and it involves many different agencies. Moreover, the governmental bodies involved have tended to vary considerably through times. Between 1968 and 1978 responsibility over all or part of the fishing industry has shifted between the following: Armed Forces; Ministry of Supply; Ministry of Agriculture; Ministry of Marine Transport; Ministry of Supply again; then again of Agriculture; of Sudan Affairs; of Agriculture; of Housing and Reconstruction; of Scientific Research.

As a consequence, operating sectors, agencies and organizations have been moving from one affiliation to another, without much advantage or consistency and adequacy in the division of responsibility<sup>1)</sup>.

At present, the highest-level governmental bodies (Ministries) involved in fisheries are: the Ministry of Agriculture and Rural Development; the Ministry of Supply; the Ministry of Scientific Research (through the Academy of Science and Technology); the Ministry of Development and New Communities. To these one should add the local government authorities (Governorates), which are generally responsible for the provision of food to the population, and in several areas are actively interested in fisheries (Port Said, Suez, etc.).

The agency whose responsibilities theoretically should embrace the widest areas is the Under-Secretariat for Aquatic Resources, of the Ministry of Agriculture. Here also there have been many variations; some office concerned with Aquatic Resources has existed at ministerial level (Under-Secretariat) since 1961, being repeatedly shifted between Agriculture and Food Supply. In 1975 it was abolished, and all of its experts were disbanded. It was re-established in 1977 within the Ministry of Agriculture but all the experienced staff were not recalled.

At present the Under-Secretariat has a personnel of about 190 persons, organized in three main operational departments (Aquaculture and Projects, Extension and Field Offices, Cooperatives and Land rentals), plus two "general divisions" Finance and Administration and Office of the Under-Secretary (which takes care of statistics, coast-guard, and licensing).

The absence of qualified technical staff has a damaging effect on the activities of the Under-Secretariat, confining them mainly to administrative tasks. Thus, for example, the officials responsible for assistance and support to cooperatives are concerned mainly with helping the cooperatives through administrative intricacies for the obtainment of loans (no small feat, to be sure), or with controlling budgets and records. There is, however, no technical fishery advice, nor any attempt to influence the cooperatives' politics and policies. The same applies to land use: when would-be fish farmers ask for a land concession, the evaluating committee of the Under-Secretariat is more concerned with the

1) An extreme case is perhaps that of the High Seas Fishing Company, which in ten years has changed seven affiliations, at one time being simultaneously under the (theoretical) supervision of two Ministries.

land's value for financial purposes than with technical aspects. The understaffing of the Aquaculture Department has been pointed out above; the Extension Department does not seem to have more than fifteen personnel who are concerned mainly with giving publicity to new governmental regulations.

The general weakness of the Under-Secretariat reflects itself in the limited scope of its range of action. The Under-Secretariat has no responsibilities concerning international fishery matters and the administration of the Law of the Seas. It does not have a permanent office charged with direction and coordination of the companies coming under the jurisdiction of the Ministry (High Seas, North Seas and Equipment). It does no research itself, nor does it have a permanent unit charged with relations with the IOF, nor is it represented in the Academy's committee charged with the IOF's activities. It should be added that the unstable affiliation of the Under-Secretariat, its minority role in a large Ministry prevalently devoted to other matters, where few people have interest or understanding for fisheries, its very location at Heliopolis while the rest of the Ministry is in Dokki – all these factors give to the Under-Secretariat a "poor relations" status, which certainly does not increase its prestige in dealings with other administrative units (like for example the companies which it should in fact coordinate, let alone other ministries).

As a consequence, the Under-Secretariat does not perform a general role of coordination and guidance over fishery matters for the whole country, but is confined to the performance of limited tasks, having prevalently administrative or bureaucratic content.

The main area whose administration is outside the scope of the Under-Secretariat is the area surrounding Lake Nasser, where the principal governmental body concerned with fisheries is the Lake Nasser Development Authority, besides the Governorate (the Aswan Regional Planning Authority seems to have little if any powers).

Here again there have been some shifts in the Authority's affiliation, which has moved several times between the Ministries of Agriculture, of Sudan Affairs, and finally of Development and New Communities.

The Authority should be in charge of general development projects concerning the Lake area; in fact, it has been concerned only with fisheries and within fisheries it has confined itself to providing transport for the catch from fishing areas to Aswan. The Authority seems to have been unable to articulate a policy line of its own; most of the

plans and projects it has entered into have been the result of external interventions (surveys, consultancies, aid missions, etc.) of differing length, depth and reliability. This might be due to the fact that the Authority, with a staff of 500 (of which 450, including boat crews, are concerned with fisheries) simply does not have enough professional talents at management level in order to elaborate long term policies and options.

Thus, the Authority's management has accepted rather supinely the prevailing, non-expressed view that fishermen's needs must be compressed in order to provide cheap food for city dwellers; it has made no attempt to break or reduce the very tight hold that village strong men enjoy over boat-less fishermen; it has not produced any systematic analysis of the possible consequences of various courses of actions in which it seems to be entering (motorization of boats, villagization, improvement of transport facilities, etc.).

In this case, as in that of the Under-Secretariat's, although for different reasons, the result is a serious lack of politico-administrative guidance and leadership on fishing operations.

### 3.5 Summing-up

The present Egyptian fisheries administration consists of a number of groups carrying out various special functions and which were established at various times to meet perceived needs, and in accordance with the then-existing policies and priorities; these groups belong to various official bodies, and the criteria according to which powers and responsibilities have been apportioned among them are quite different (area, function, industry, etc.). The formal coordination between these groups and bodies leaves much to be desired. More important, the fisheries administration is lacking to a serious degree the professional capabilities, experience, structure and powers that are necessary if it is to organize, regulate and develop the fishery industry of Egypt to enable it to meet the known national objectives.

A special problem in the case of fisheries administrations and fishery industries often arises when the industry is comparatively small and does not play a dominant part in the economy; the feeling that, whichever department of government is the official sponsor, fisheries will be the neglected, poor relation; this feeling is all the stronger because few legislators and administrators have a wide and deep understanding of this peculiar and very complex industry. This feeling certainly exists in the Egyptian fishery industry and administration.









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