Supplying Fish to Combat Meat Shortage

By

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INTRODUCTION

WITH the present world population of about 4,000 million people growing at an annual average of 2.1 %, the need to increase food production has become very urgent and this is especially so in developing countries. According to the FAO, the per capita daily calorie intake for the African region is approximately 2,000 calories as compared to 3,000 calories in North America or Western Europe. Moreover, the proportion of animal protein in the diet of majority of people in the region is very low. An average Nigerian, for example, consumes about 10% of the grammes of animal protein that his counterparts from the developed countries consume daily. Fish is a valuable source of food, rich in proteins. Indeed, it has been suggested that fisheries resources are

the last remaining major means of saving mankind from hunger and ensuring adequate supply of protein.

FISH SUPPLY AND DEMAND IN NIGERIA

According to Olayide *et al*, (1971), about one third of all the animal protein consumed in Nigeria comes from fish (See Table I.) It is, at the same time, considered that the per capita consumption of fish which is only about 10.6 kg. per annum is inadequate and can be readily raised if supplies were available. The current estimated total fish supply to Nigeria is well over 800,000 metric tons per annum. Of this amount, approximately 700,000 metric tons are supplied locally while the balance is imported in form of frozen fish, stockfish, dried/smoked fish and

TABLE 1

Nigeria: Livestock Products 1968/69

Commodity	Food 1000 long tons	Net 1000 Metric tons	Kgs/caput year	Per Caput Consumption/day		
				Grams	Calories	Grams of Protein
Beef	206.986	210.731	3.346	9.167	21	1.35
Goat Meat	90.625	92.273	1.465	4.014	5	0.56
Sheep Meat	30.000	30.545	0.485	1.329	3	0.16
Pig Meat	26.250	26.727	0.424	1.162	4	0.11
Poultry Meat	46.406	47.250	0.750	2.055	3	0.25
Offals	162.620	165.577	2.629	7.203	10	1.15
Bush Meat	163.763	166.741	2.647	7.252	8	1.31
Eggs	76.000	77.382	1.229	3.367	5	0.37
Milk (domestic Production)	188.075	191.520	3.041	8.331	6	0.29
Imported	117.857	120.000	1.905	5.219	4	0.18
Fish	657.079	660.026	10.622	29.101	18	2.56
Cheese (Imported)	1.605	1.634	0.026	0.071		0.03
Total				-	87	8.32

Source: Olajide, S.O. et al., A Quantitative Analysis of Food Requirements, Supplies and Demands in Nigeria... 1968-1985 (Technical Report to N.A.D.C.) July 1971.

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canned fish. On the other hand, the effective total demand for fish and fish products is about one million metric tons per annum.

The unsatisfied demand for fish was aggravated by the recent drought which affected the whole of the Sahelian region. As it is now well known, the drought brought about marked decrease in agricultural and livestock production. Furthermore, the importation of cattle from neighbouring countries into Nigeria was reduced to near zero. Because of the resultant meat shortage, an increased pressure has been placed on fish production and consumption. With the present rate of population growth in Nigeria (estimated at between 2.5 and 3%) and the rise in income levels, it is estimated that the demand for fish will exceed 1.5 million metric tons by 1980.

CURRENT STATUS OF THE FISHERIES

Nigeria has considerable fisheries resources which consist of over 800-kilometre coastline, extensive brackishwater lagoons

Western coast of Africa — e.g. Mauritania and Senegal in the North and Angola in the South.

In its present structure, the fisheries may be broadly divided into Industrial and Artisanal fisheries.

The industrial fishery which is mainly marine and capital intensive, comprises the distant water as well as the inshore fisheries. The artisanal fishery is, on the other hand, labour intensive and characterised by low productivity. The subdivisions include coastal and brackish-water canoe as well as freshwater fisheries. The following table gives the breakdown of the current fish production statistics by sources:-

CONSTRAINTS

The major constraints hampering a rapid fisheries development in the country have been identified and include the following:

- (i) Inadequacy of capital for fisheries development: the local fishermen do not have the necessary financial resources to transform their largely

Domestic Fish Production 1974

SOURCES	PRODUCTION (’000 METRIC TONS)
INDUSTRIAL	
Distant Water	71.4
Coastal Trawlers	5.0
Shrimps (Head-on)	1.0
ARTISANAL	
Coastal and Brackishwaters	404.0
Rivers and Ponds	167.5
Lake Chad	56.0
Kainji Lake	3.0
TOTAL	707.9

and creeks, rivers and lakes including the Lake Chad and man-made lakes such as the recently formed Kainji Lake. However, the continental shelf in which most of the available fish is to be found is quite narrow varying from 18 nautical miles off Lagos to about 44 nautical miles off Calabar. This compares with widths of 100 to 150 nautical miles in other richer parts of the

subsistent fishing into an industrial fisheries;

- (ii) Lack of infrastructure especially fishing terminals;
- (iii) Shortage of trained man-power: this problem has been made more acute because none of the Nigerian institutions of higher learning

offers full courses in Fisheries Science at present while the Fisheries Schools to train the intermediate technical and extension staff are just under way;

- (iv) Inadequacy of modern inputs, e.g. boats, engines, nets, etc.
- (v) Poor communication network in the production centres — affecting fish distribution and marketing;
- (vi) Lack of effective fishermen co-operatives.

In addition, development planning is seriously impeded by paucity of data on fish landings, fishing efforts, fish marketing, etc.

STRATEGY AND POLICY OBJECTIVES

In preparing the fisheries programme for the Third National Development Plan, therefore, measures were introduced to remove the above-mentioned problems and bottlenecks. Emphasis has been placed on the modernisation of the artisanal/small scale fisheries which at present account for about 90% of the current domestic fish production. At the same time, adequate provisions have been made for the development of industrial fishing both in the public and the private sectors.

Furthermore, the Federal Department of Fisheries has been re-structured and given the role of co-ordinating fisheries development in the country. While research aimed at identifying and monitoring the fisheries resources will continue as before, the Department will also ensure that the local fishermen participate effectively in the exploitation of these resources.

The following policy objectives are therefore envisaged in the Plan:

- (i) to increase domestic fish production so as to meet the local fish demand and requirements;
- (ii) to earn foreign exchange by exporting products like shrimps which are in high demand in the world market;

- (iii) to encourage the local manufacturing of fish products (e.g. fish meal and dehydrated fish) which are at present imported thereby helping to conserve foreign exchange;

- (iv) to provide employment to Nigerians especially young school leavers in the coastal areas;

- (v) to increase the per capita income of indigenous fishermen and fish farmers and thereby improve the socio-economic conditions of our rural communities.

FISHERIES PROGRAMME

The main elements of the fisheries development programme for the whole country include: the development of infrastructure, artisanal/small scale and deep sea fisheries; aquaculture, fish storage, processing and marketing; research and man-power training. The total national outlay (i.e. Federal and States) for the development of fisheries and fishing industry during the Plan period, is ₦128.514 million. The highlights of the fisheries development projects are briefly described as follows:

- (a) *Fishery Infrastructure:* The Federal Government has placed top priority on the construction of a Fishery Harbour Complex at Tin Can Island in Lagos. When completed, this terminal will provide the much-needed facilities for the docking of ocean-going fishing vessels (both in-shore and off-shore) cold storage, processing plants, fuel storage, slipway, etc. Other coastal fisheries terminals are to be built in Badagry (Lagos State), Aiyetoro — Igbokoda (Ondo State), Koko (Bendel State), Port Harcourt (Rivers State) and Oron in the Cross River State.
- (b) *Artisanal Fishery:* A National Accelerated Fish Production Programme which is aimed at bringing the benefits of modern technology

to the masses of Nigerian fishermen with a view to increasing their productivity, is being financed by the Federal Government. States' efforts in this sector include Loans Scheme by the Benue State, development of riverine fisheries by the East Central State, fish farming by the Kano State, Canoe Mechanisation Schemes in the former Western, Lagos, Mid-Western, Rivers and the South Eastern States.

- (c) *Aquaculture*: It has been rather difficult to obtain Governmental support for large scale fish farming projects owing to the fact that the economic viability of the existing projects have not been well demonstrated. However, the potential for raising fish from ponds, man-made lakes and reservoirs in Nigeria is considerable. For instance, approximately one million hectares of swamp land are available in the delta area alone for brackishwater fish culture.

- (d) *Fish Storage, Processing and Marketing*: It has been estimated that up to 50 % of the fish produced in the remote coastal centres and in the hinterland perish because of inadequate and sometime total lack of fish storage, processing and distribution facilities. The Federal Department of Fisheries is therefore providing assistance for the establishment of modern facilities for fish storage, processing and marketing at strategic points in the country. Some State Governments (Bendel, Rivers, Cross River, Benue and Niger) have included the provision of similar facilities in their programme.

- (e) *Commercial fishing*: Both the Federal and some States Governments have made provisions for the establishment of Fishing Companies during the current Plan

period in an effort to boost domestic fish production. The two Federal Government-owned Fishing companies are the Nigerian National Shrimp Company Limited and the Nigerian National Fish Company Limited. The former will embark upon commercial shrimping from coastal waters while the latter will embark upon large scale fishing from distant waters. Entry of the Federal Government into distant water fishing has become necessary in view of the huge capital investment involved and the need for bilateral negotiations to enable the trawlers gain access into the fishing grounds in non-Nigerian territorial waters. This will ensure that the fish supply to the country will, in future, not depend solely on the productivity of Nigerian waters.

FISH PRODUCTION TARGETS

Table II shows the production targets for fish for 1970, 1975, 1980 and 1985. It is anticipated that by the end of the current National Development Plan (i.e. 1980) the domestic fish production will exceed one million metric tons per annum. It can also be readily seen from the data presented in the Table that about 90% of the total domestic production is from artisanal fisheries which also provides employment to the largest proportion of the fishing population. This fisheries also remains one of the principal sources for meeting the national requirements for animal protein. However, when the target domestic production of about one million metric tons by 1980 is compared with the projected demand of about 1.5 million metric tons, there is a deficit which would have to be imported.

CONCLUSION

It is obvious that the present available animal protein in Nigeria falls far short of what the nutritionists consider to be a minimum requirement. There has been a decrease in livestock production resulting

TABLE II

Target Local Fish Production by Sectors 1970-1985: (000 Metric tons per annum)

Sectors	1970	1975	1980	1985
<i>Industrial:</i>				
Distant waters	-	17.5	105.6	210.0
Costal Trawler's Fish	5.0	12.5	18.0	18.0
Shrimps (Head-on)	1.0	2.1	2.7	3.0
TOTAL	6.0	31.6	125.7	231.0
<i>Traditional:</i>				
Coastal and Brackish water	404.0	543.0	607.0	630.0
Lake Chad	56.0	78.0	93.4	100.0
Kainji Lake	3.0	6.0	10.0	10.0
Rivers and Ponds	167.5	190.0	212.5	235.0
TOTAL	630.5	817.0	922.9	975.0
Grand Total (Exliding	635.5	846.5	1,045.9	1,203.0

in considerable meat shortage. This has led to a sharp increase in the demand for fish. From all available data, it appears that Nigeria can meet a greater part of her national animal protein needs, from local sources, if particular attention is paid to Fisheries. In the fisheries development programme for 1975-80, it will be observed that due emphasis has been placed on artisanal/small scale fisheries as well as distant water fisheries.

As a short-term measure, the deficit in our protein food including fish will have to be imported. However, as many countries are themselves short of protein food, it will become increasingly difficult, as time goes on, to find a ready source from where to import protein food. It is my submission therefore, that it will be in the best interest of this country if an all out effort is made to increase domestic fish production.