

## KEYNOTE ADDRESS ON PRODUCTION, UTILIZATION AND MARKETING IN FISHERIES STATUS AND OPPORTUNITIES

By

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I thank the Local Organizing Committee for giving me this unique privilege to give the keynote address to the 10th Annual conference of fisheries Society of Nigeria. The Fisheries Society of Nigeria has continued to be a champion for sustained fisheries development in Nigeria. We cannot accurately gauge the success achieved to date. I honestly think it is remarkable. But we have a long way to go. The Fisheries Society of Nigeria must stamp her authority indelibly on all facets of Fisheries Development in Nigeria.

I am required to make a short speech on production, utilization and marketing in fisheries - status and opportunities.

### BIOLOGICAL PRODUCTION

Biological production in water is a step wise programme commenced by plants. Phytoplankton and aquatic macrophytes synthesise organic carbon compounds from simple inorganic substances (water and carbon dioxide). This process is light dependent and it is the nucleus of production processes in the aquatic environments.

The production capacity of a water body is limited by its nutrient status and water quality. Production by phytoplankton and aquatic macrophytes is known as primary production because it is the source of energy for all other forms of life in the water except a few autotrophic bacteria. The organic materials synthesized by plants become food for some fishes and zooplankton which also serve as food for fishes. Some fishes serve as food for other fishes. Thus quantity of fishes produced by a water body has a direct proportionality to its primary production capacity. This is why areas of upwellings in the sea are much more productive than other aquatic areas. Man harvest some of the fishes, some die naturally and decay like myriads of other aquatic organisms. The decay processes add nutrients to the environment. These nutrients are recycled in the production process. Thus the environment has a dynamic equilibrium. the production process has a finite limit determined by temperature, nutrient levels, water quality, depth of water, light penetration etc.

## FISH PRODUCTION IN NIGERIA.

From available statistics fish production in Nigeria comes from three main sources, namely:

- i. Artisans (local fishermen - engaged in either part-time or full-time fishing).
- ii. Commercial trawlers (industrial fishing in inshore and off-shore waters of the sea).
- iii. Fish farming (culture of fish in enclosures - ponds, tanks, raceways etc.).

The quantity of fish supplied to the Nigerian economy from 1980 through 1989 is shown in Table 1 and Fig. 1. From this information it is obvious that artisanal fishermen are responsible for the bulk of fish which we produce locally. It is also obvious from the table and Fig. that a substantial proportion of fish consumed by Nigerians was produced in other lands. This trend has remained with us up till now and we need to address this issue of animal protein security with all vigour.

Fish production from trawling operations has a finite limit and currently it would appear that the number of trawlers registered with the Federal Department of Fisheries far outnumbers what the fisheries can support. We are at the threshold of over-fishing if we are not yet there. In my opinion two options are available to the regulatory authorities:

- (a) maintain or reduce the present level of exploitation and hope that the fisheries will stabilize
- (b) continue the licensing of new boats and ensure the rapid collapse of the fisheries with its attendant problems on the economy

The licensing authorities I am aware are under severe political pressures but they must educate the potential new trawler owners of the dangers to existing owners and themselves. Gentle persuasion, firm commitment to the fisheries and over all good of the vast authorities in withstanding the assault from the wealthy. In sharp contrast to the large number of trawlers fishing in the continental shelf, the number fishing in the deep sea are rather low. There is no doubt that a higher degree of risk is involved in fishing in the EEZ than in coastal waters especially as there is dearth of information of good fishing grounds in this area. The marine environment can provide up to 10% of the fish we need in this country. This however excludes the potential that is available for the production of marine fauna and flora through mariculture.

Fish production from aquaculture constitutes a paltry fraction of the national total. This is in spite of the fact that over 1.5 million hectares surface water area is available for fish culture. We should aim at putting at least 10% of this area into productive use. This will raise for us about 300,000 tonnes of fish annually. In this way we would have saved a large amount of money, we would have created several thousands of jobs, we would improve the health of our country men & women and save ourselves potential international embarrassment. This idea is easier said than done. I know it involves a lot of planning, considerable investments in construction of ponds hatcheries, feed mill etc. but we can start on a modest scale. We should encourage each local government to have a minimum of 10 hectare fish farm. We shall have some areas specializing in cage culture, some in raceways, some in fingerling production and some others in feed production. Areas naturally endowed with suitable habitat will be

encouraged to put more hectarege under production. Successful one will further be encouraged to go further to develop 50 to 100ha farms. 300 local governments can each put 50ha fish farm into production in 5 to 10 years, we would be aiming at self sufficiency in fish production. I have not looked at the export potential available to us in areas such as raising of bull frogs, ornamental tropical fishes, crocodiles, prawns and shrimps, processed products, etc. These are to my mind potential gold mine. Investment in fish farming is like that in real estate. The profit is not rapid but it is surely there to be reaped. Use of modern techniques has in fact made fish farming a good investment with prospects for good profit in 2 to 4 years.

I humbly submit that the Fisheries Society of Nigeria should without further delay articulate a blue print of self sufficiency in fish production for Nigeria within the next year such that the desired goal can be realized by the year 2,000.

## OVER EXPLOITATION OF FISH

Man's exploitation of the aquatic environment for his benefits is multifaceted. Rivers are dammed for hydro-electricity generation. provision of water for irrigation and improvement of fisheries; ocean currents are harnessed for energy production; rivers, lakes and the sea are harvested for food and profit. Exploitation of the aquatic environment for fin and shell fishes has continued to gain momentum in sophistication and efficiency with the passing years. In Nigeria, although we lack the sophistication of the developed economics we have the several thousands men and women who daily exploit the rivers, lakes, estuaries, lagoons and coastal water for aquatic products. The influence of their efforts combined with those trawlers operators in reaping where they have not sown is that of gradual depletion of the aquatic resources. In theory the aquatic resources are renewable and should support a sustainable development. This can be achieved in a regulated and well managed environment. We must therefore be able to formulate and enforce effectively appropriate legislative regulatory laws. The country has the appropriate management laws but their enforcement is just not there. We must therefore strengthen our surveillance capacities in both coastal and EEZ waters as well as in the large rivers, lakes, estuaries, lagoons and coastal

## THE FISH'S ENVIRONMENT

Water, the home of fish is subject to a lot of abuse by man. In virtually all urban centres of Nigeria - Kano, Ibadan, Kaduna etc. rivers flowing through each city are the dumping sites for domestic wastes, sewage and industrial wastes with the result that such rivers stink especially during the dry season. High organic load and presence of deleterious chemicals make these waters unsuitable as home for desirable fish species. We are losing the beauty of the clean water and the quality fish it would have produced. Many economic development programmes also alter adversely the habitat and breeding grounds of many fish species. The food plain of the Ogun River near Lagos is a good example. When we alter and or destroy the breeding ground of fishes we are no doubt also destroying our potential source of food, jobs and good health. We need economic development to improve the lots of our teeming population but we must balance this against environmental degradation. We must in all our economic development activities take the cognizance of the consequences of such development on our lives now and in future. The price which shall be paid in future for today's negligence will be colossal. The erosion problems of Anambra, Imo, Abia, Enugu etc. require billions of naira. We need not pay so much if we had taken good care of the environment in our development efforts.

## FISH UTILIZATION

Fish flesh is about the best source of animal protein. It is better digested than beef and poultry, it contains mineral salts and its oil is mainly poly-unsaturated fatty acids and which has an anti-cholesterol factor. Regular consumption of fish is therefore beneficial to the human body. In spite of its remarkable benefits to man through direct consumption, fish produce can enhance profit through processing. An interesting example is the processing of cod, pollock, haddock etc. to produce stock-fish a favourite of many Nigerians. The value added to the initial selling price of the original fresh fish can be quite considerable. In addition, the shelf life of the fish is prolonged for a very long time. I have information that our deep sea fisheries can provide fish species suitable for producing local stockfish. We can save a huge amount of money if we can conscientiously tap and process this resource. The potential is there for the establishment of processing facilities to produce canned fish, fish oil, fish meal, fish fingers, fish silage etc. All these have their respective benefits - fish meal is indispensable in the poultry industry while fish oil are invaluable to cosmetics and Pharmaceutical Industries. It can be rightly argued that we don't have enough fish to eat and therefore there is no surplus to process. We need not have surplus before we process. It is an economic decision and potential investors should know the market before making the leap.

## FISH MARKETING

Fish, whether fresh or processed is aimed at the consumer and it must get there in an acceptable form. Fish is highly perishable and its rapid deterioration is aided by the high temperatures of our environment. Fish must therefore be marketed within a few hours of being caught. Premium price is always obtainable for good quality fresh fish. A good marketing strategy must be such that it gets the fish to the consumers in an excellent condition. The procedures for maintaining good quality are varied and need not to be discussed further. The prime aim of a fish marketer is to offer good quality product to the customer. A simple marketing plan is shown in fig 2. As shown the fish must be landed - It can be immediately processed for export or sold to local consumers. the landed fish can be sold in bulk to wholesalers who can market within the vicinity of the landing port or have it moved to distant urban centres for processing or direct sale to consumers.

Fish marketing especially at the consumer end is dominated by women. These women fish mongers can either market the product fresh or processed by smoking. Fish marketing is a profitable venture and our young graduates should look into this area of providing self employment with little capital.

## SUMMARY, CONCLUSION AND RECOMMENDATIONS

Fish production is dependent on the nutrient status and water quality.

The statistics we have do not accurately reflect our fish production. We import about 50% of the total fish consumed in Nigeria. Artisanal fishermen also produce about 40% of all the fish consumed in Nigeria. Trawling operations contribute about 10%, fish culture production is less than 0.5%.

Fine tuning of our fisheries production can only result in only slight marginal increase unless we discover new fishing grounds. This is due to the fact that production is finite in the aquatic environment.

Having due regard to the information provided in this address I seek your indulgence to make the following recommendations:

There must be an improvement in the statistic of our fisheries. There should be a 3-5 years embargo on the licensing of new trawlers except deep sea ones.

The Fisheries Society of Nigeria should produce a blue print of fisheries production in Nigeria through aquaculture. This blue print will emphasize the need for immediate development of all forms and facets of fin and shell fish culture - pond, cages, raceways etc. This must be effectively supported by provision of brooders, fingerlings and feed for the species to be cultured either through mono or polyculture.

Table 1: A comparison of quantity of fish produced in the country with that imported  
(Unit: metric tonnes)

SECTORS	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
i. Coastal & Brackish Water/Inland Rivers & Lakes	462,567	481,783	497,210	523,251	359,003	201,383	267,136	248,987	297,264	303,454
ii. Fish and Shrimps	13,631	9,611	19,861	19,245	25,650	26,142	25,042	24,900	35,608	33,645
iii. Fishfarm: (Aquaculture)				20,476	22,012	15,000	14,881	15,221	15,764	25,607
iv. Eez									911	
(Imports)	121,144	168,769	404,413	131,308	147,261	61,704	65,704	209,042	113,603	313,987
TOTAL	597,342	660,163	920,484	694,280	553,926	304,229	372,301	498,150	463,540	676,693

Source: Federal Department of Fisheries: Fisheries Statistics of Nigeria

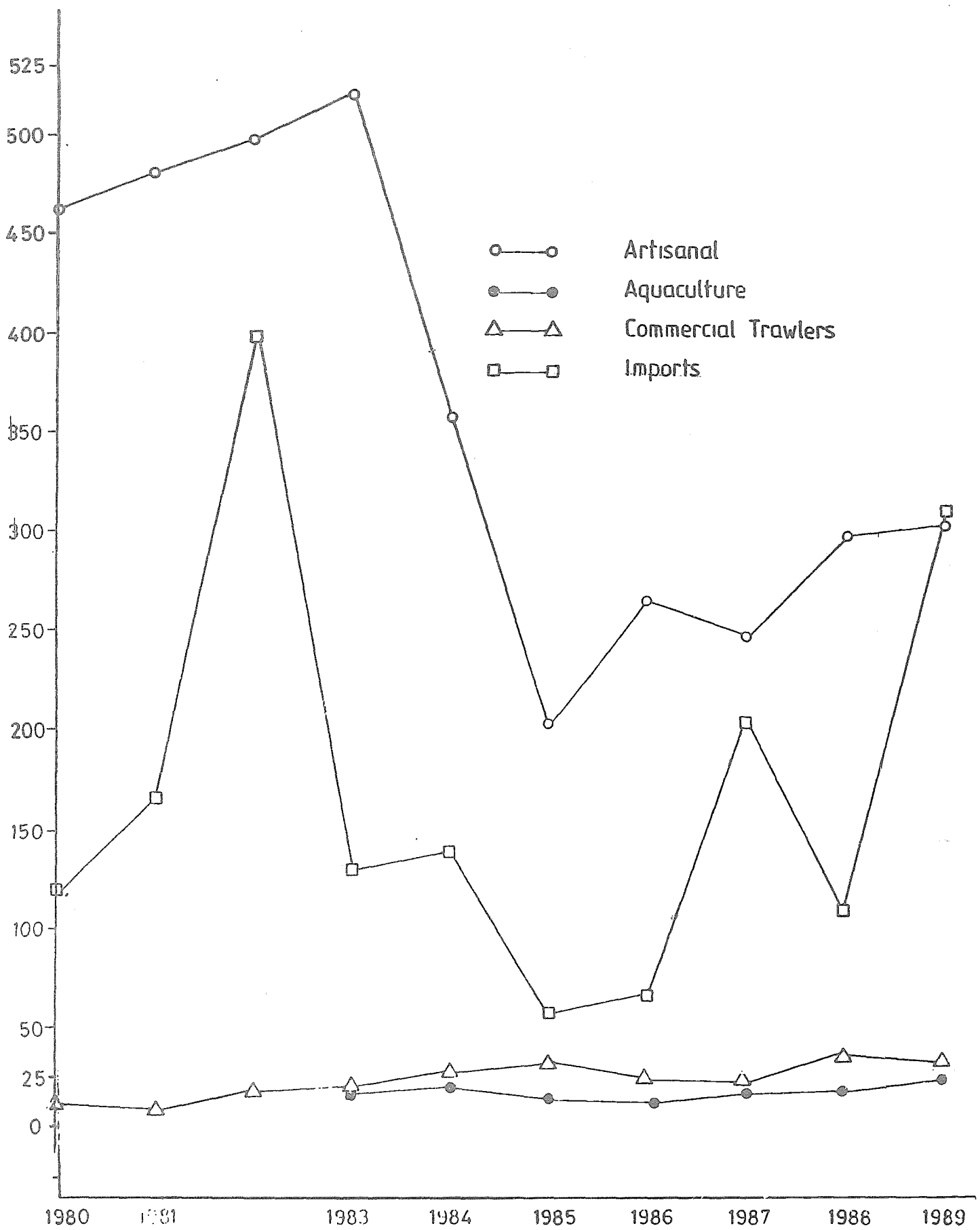
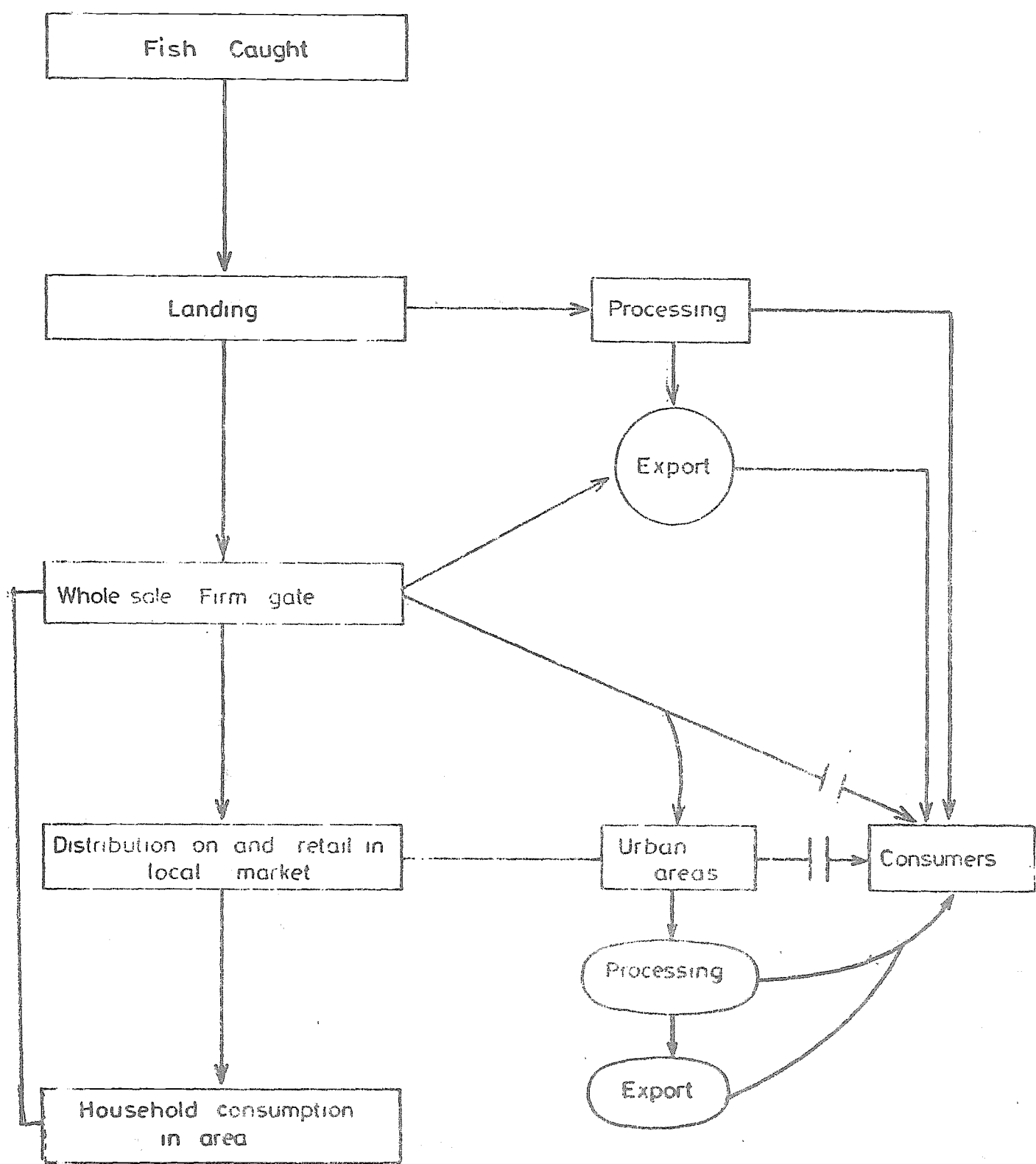
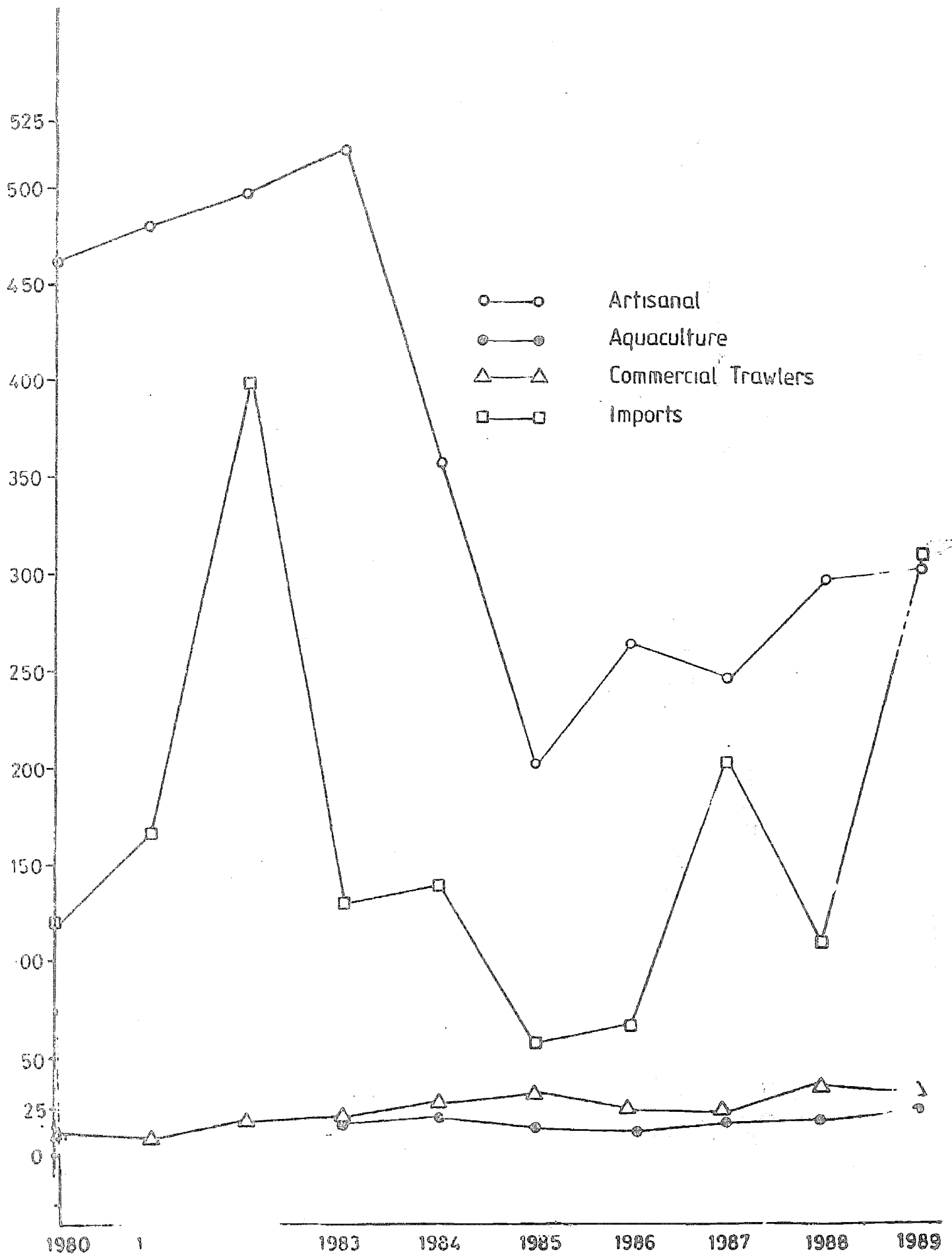


FIG. 1. Quantity of fish supply to Nigeria.

FIG 2 - FISH MARKETING PLAN







# FISH MARKETING

