PROGRAMME FOR INTEGRATED DEVELOPMENT OF ARTISANAL FISHERIES IN WEST AFRICA

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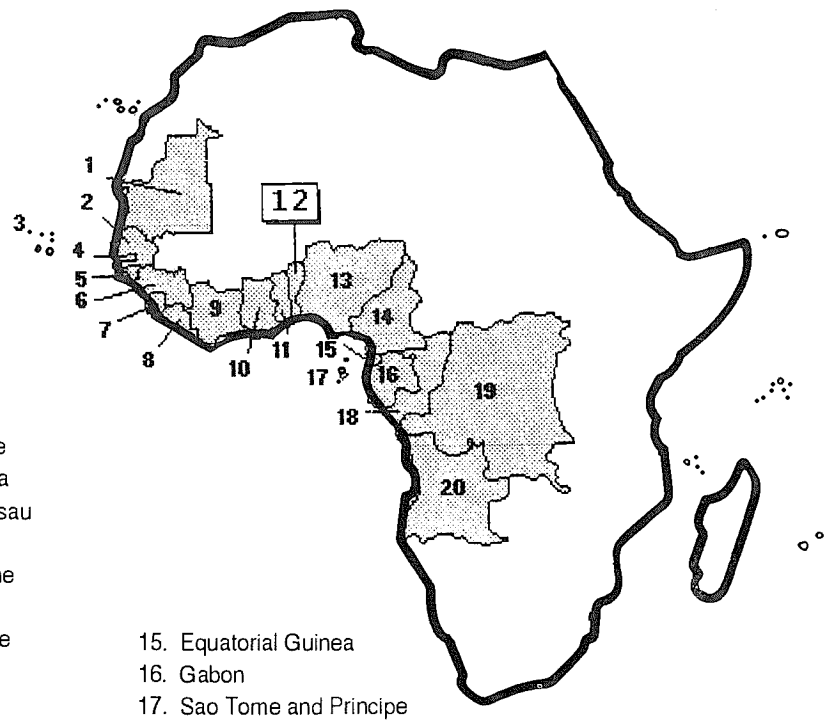
Technical Report N° 90

October 1996

Fiscal Policy and the Artisanal Fisheries Sector in Ghana and Senegal



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6. Guinea
7. Sierra Leone
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11. Togo
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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Technical Report N° 90 October 1996

Fiscal Policy and the Artisanal Fisheries Sector in Ghana and Senegal

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THE VISION FOR IDAF PHASE III

INTRODUCTION

Development strategy during the 1960 and 1970s was based on the philosophy that developing countries lacked improved technology and capital for speeding up their development. Industrialization was promoted in order to capitalize on the abundant fish resources. However, the anticipated expansion of the economy did not happen and the development approach shifted towards an integrated rural strategy where emphasis is put on the community as a whole to upgrade incomes and the quality of life through technical assistance and the active participation of fisherfolk and the community.

In this context, emphasis was initially placed on the Community Fishery Centre (CFC) concept as a means of promoting artisanal fishery development. But it became apparent that the presence of a complex of facilities and services tailored to meet local needs was no guarantee that the structures/facilities would be used or that development would occur. The active participation of fisherfolk and the mobilisation of local and community resources was imperative in order to assure sustainability of initiatives undertaken by development projects and/or the community.

So far and in general terms, the IDAF Programme has worked under the context of abundant or seemingly adequate fishery resources with moderate population pressure. The scenario is however changing (and very fast for that matter) and we would soon face the triple constraints of reduced or depleting fish stocks, degrading environment and increasing population pressure. Like in other sectors, it must be anticipated that just to survive, parts of the population surplus in the fishing communities will enter the artisanal fisheries, which will increase the competition for the resources among the small scale fisherfolk in addition to the prevailing competition between the artisanal and industrial fisheries, with their attendant effect on the environment.

This scenario calls for a continuation of the integrated participatory strategy which remains relevant to the development of artisanal fisheries in West Africa. However, the emphasis needs to be placed on the elements and mechanisms that favour the sustainability of initiatives: responsible fishing, the empowerment processes that ensure the devolution of major resource management and development decisions to the local community, the strengthening of national human and institutional capacities at all levels for a sustainable and equitable fisheries resources management and development, as well as in the follow-up and consolidation of past achievements.

DEVELOPMENT OBJECTIVE

Thus the development objective of the Programme in the present phase III which started on 1 July 1994 is to ensure twenty coastal West African countries a sustainable development and management of their artisanal fisheries for maximum social and economic benefit of their fishing communities in terms of employment, proteins and earnings. This will be done through an integrated and participatory approach in which emphasis will be laid on equity, gender issues, the transfer of technology for development, environment protection, as well as the strengthening of human and institutional capacities.

The immediate objectives are:

1. To identify, assess and disseminate strategies and mechanisms for sustainable management and development of the artisanal fisheries in fishing communities;

2. To improve the competence of national Fisheries Departments staff in development and management planning of artisanal fisheries;

3. To enhance regional technical competence in the fisheries disciplines, particularly in fishing and fish technology;

4. To improve information and experience exchange related to artisanal fisheries within the region;

5. To promote regional and sub-regional collaboration for the development and management of artisanal fisheries

In this context, IDAF will among other things tackle the following major aspects in it's work :

- assisting in the elaboration and implementation of a clear and coherent national development policy for the artisanal fishery sector;
- providing advice on management and allocation of resources between artisanal and industrial fishing fleets, both national and foreign;
- involving users in the design and management of on shore infrastructures;
- monitoring the sector's evolution by the setting up of an economic indicator system for the sector adapted to the financial and human availabilities;
- improving fishing technologies in accordance with the available resources;
- increasing the final product's value by improvement in processing and marketing;
- promoting community development in accordance with the lessons learned from Phase I and II and oriented towards the sustainability of actions undertaken;
- reinforce the Programme's information/communication system.

It is anticipated that by the end of the third phase of the Project, the region will have a nucleus of field oriented experts capable to respond to the challenges of the artisanal fisheries sector and to spur development in their individual countries in keeping with the aspirations and needs of fisherfolk.

SUMMARY

The two papers included in this Technical Report have been produced in the framework of the IDAF Working Group on Capital Needs and Availability in Artisanal Fisheries in West Africa. They describe the fiscal policy applied to the fisheries sector in Ghana and Senegal. They have also been conceived as examples of a methodology which can be used by Fisheries Administrations in other countries of the region. These papers have been prepared by two members of the Working Group.

The first paper describes the effects of the fiscal policy package contained in the Economic Recovery and the Structural Adjustment Programmes, which have been implemented in Ghana since 1983, on the fisheries sector, and the way the response of the fisheries sector has, in turn, impacted on the national economy.

The first section paints a picture of the collapsing national economy prior to 1983, and enumerates the policies under the Economic Recovery and the Structural Adjustment Programmes including the policies meant to revive the flagging fisheries sector. The second section describes the salient features of the structure of the fisheries sector. The third section analyses the general effects of the reform policies on the fishing industry, and the effects of changes in the fishing industry on the national economy. This section also evaluates the effects of the fuel subsidy and its removal on the profitability of the sardinella canoe fisheries.

The general effects of the fiscal policy package of the economic reforms that the country has been labouring under for the past decade have been :

i. huge increases in the prices of fishing inputs. The resulting increase in the cost of the fishing industry has adversely affected fish catches;

ii. inordinate increases in the price of fish. This has been due not only to the indifferent output of fish but also to the increased demand for fish;

iii. big reductions in the annual budget and manpower requirements of the Fisheries Department, resulting in the scaling down of the Department's fisheries development and management activities.

The fuel subsidy was introduced in February 1992 for artisanal fishermen The subsidies cost the government C14.6 billion in 1992 and C21 billion in 1993. These represented 3.4 % and 3.2 % respectively of total government expenditures. In addition, the government had to reimburse the Ghana Oil Company Limited to the tune of C5 billion for the engine oil used to prepare the premix.

The removal of fuel subsidy in January 1994 has affected the canoe fisheries very adversely. Artisanal fishermen were suddenly faced with general and huge increases in their cost of operations while the marine and lake waters seemed to be overfished and would not yield resources in consonance with the rise in the cost of fishing operations.

There is evidence that the subsidy was abused. However, the abuses could have been checked an the removal done in stages to minimise the near-traumatic effects of the sudden withdrawal.

The study on Senegal reviews the new Senegalese economic policy, based on a progressive redefinition of relationships between the State and civil society (liberalisation and privatisation). Then, it analyses the Senegalese marine fisheries development within the structural and monetary adjustment framework. Special emphasis is placed on the impact of the fiscal policy on marine artisanal fisheries to make recommendations on possible withdrawal of indirect public financial support.

There are really no subsidies for artisanal fisheries if one thinks in terms of direct financial transfers by the Government to the sector. However, fishing units enjoy a tax rebate on engines, nets and especially on fuel. On the whole, the Senegalese government's indirect financial contribution to artisanal marine fisheries is 8.5 billion FCFA per year (5.8 billion FCFA for fuel, 2.01 billion FCFA for outboard engines and 0.69 billion FCFA for nets).

The increase in the price of outboard engine fuel and high production costs following the devaluation of the FCFA, have seriously affected fishing units profitability. It is obvious that applying real price policy on the fuel, engines and nets will only accentuate the fishing units' profit reduction process. In the long run, if no other accompanying measure is envisaged, marine artisanal fisheries will disappear. Consequently, any suspension albeit partial, of these various benefits must be progressive and well examined beforehand while integrating all the elements to avoid unfortunate consequences.

The value added from the sub-sector (over 70 billion FCFA) is out of all proportion to the assumed amount of the indirect financial assistance granted by the government. Consequently, the substantial contribution of artisanal fisheries to employment reabsorption (250,000 generated direct or indirect jobs) and food security (over 200,000 tons of products discharged every year) is in favour of public financial assistance to the sub-sector. However, given the present level of the Senegalese EEZ fishery resources, some measures have to be taken to ensure sustainable development in artisanal fisheries. In particular, the redeployment of fishing effort in the south must be encouraged by giving indirect financial assistance primarily to artisanal fishing units which will accept to operate there. The use of inboard diesel engines could also be encouraged to reduce energy consumption.

TABLE OF CONTENTS

FISCAL POLICY UNDER THE REFORM PROGRAMMES AND THE FISHERIES SECTOR IN GHANA

by

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TABLE OF CONTENTS

1. INTRODUCTION

This paper describes the effects of the fiscal policy package contained in the Economic Recovery and the Structural Adjustment Programmes, which have been in the process of implementation in Ghana since 1983, on the fisheries sector, and the way the response of the fisheries sector has, in turn, impacted on the national economy.

The first section paints a picture of the collapsing national economy prior to 1983, and enumerates the policies under the Economic Recovery and the Structural Adjustment Programmes including the policies meant to revive the flagging fisheries sector under the medium-term agricultural development plan. The second section describes the salient features of the structure of the fisheries sector. The third section analyses the general effects of the reform policies on the fishing industry, and the effects of changes in the fishing industry on the national economy. This section also evaluates the effects of a specifically fisheries-related policy - the fuel subsidy and its removal - on the profitability of the sardinella canoe fisheries. The paper ends with some conclusions.

1.1. Problems of the Ghanaian Economy

When the current government took over the management of the economy at the end of 1981, and just before the introduction of the Economic Reform Programm in 1983, the economy of Ghana was said to be in imminent danger of total collapse. The Gross Domestic Product which had grown at an average annual rate of 2.1% in the 1960s, and 0.2% in the first half of the 1970s started declining in the latter half of the 1970s. The decline was 6.5% in 1976, 1.8% in 1980 and 8.2% in 1982. Between 1974 and 1983, the GDP in real terms declined by 21.5%.

The production of basic staples declined by similar margins between 1974 and 1983. Maize production fell by 64.6% ; cassava production by 52.1% ; plantain by 83.1% ; yam by 30.8% ; millet by 74.1% ; and cocoyam by 47.7% (ISSER , 1991, 1992, 1993).

The real value of exports in 1983 was only 46.4% of that of 1974. In this period the volume of cocoa exported fell by 58.6%. Such decline would affect a third of the farming households in the country. The export of gold decreased from 19.1 tonnes to 8.6 tonnes ; and that of timber from 0.79 million cubic metres to 0.07 million cubic metres. The value of imports in real terms in 1983 was also 39.7% of the 1974 level. However, in absolute terms they were always much higher in value terms than exports. One result was that the current account balance was always negative except for 1979. In US dollar terms, this negative balance was $101 million in 1976 , $104 million in 1978, $50 million in 1980, $504 million in 1981, $247 million in 1983. And the external debt rose from $567 million in 1970 to $2,226 million in 1985 and $4,680 million in 1993 (Ibid).

The decline in import expenditures decreased the availability of consumer goods and inputs for the industrial sector, especially the manufacturing sector. Since this sector depends so critically on imported inputs, capacity utilisation in manufacturing decreased until it was no more than 18% in 1984. The 1985 World Bank Report on industry estimated that US $600 million of imported inputs would be required annually to achieve full capacity production. In a list of 22 selected manufacturing items shown in the report, only one - a category of soap - had a production level in 1983 higher than in 1975.

The shortfall in industrial production coupled with the fall in the production of basic domestic staples and exports - and all this in the face of a 3.1% per annum rate of population growth - meant rampant and widespread shortages of food an other essential consumer goods. The shortages fuelled the inflationary pressures which had arisen from government attempts to finance the budget deficits.

The budget deficits arose from increased government spending for non-developmental as well as what were supposed to be developmental projects but which turned out to be a huge drain on government coffers. Supporting State owned enterprises, for instance, cost the government 0.2% of GDP in 1980 and 3.4% of GDP in 1982. Meanwhile, government revenues in real terms fell from 19% of GDP in 1970 to 7% in 1978.

The government persistently borrowed from the Central Bank to finance the deficits, and this led to a rapid rise in the rate of growth of money supply in the economy. Government borrowing from the Central Bank averaged 18.2% of the Gross Domestic Product between 1975 and 1983 ; and Leechor (1994) estimates that the monetary base expanded by an average annual rate of 40% between 1972 and 1982. The resulting annual rise in the price level averaged 66% from 1975 to 1979, and 77% from 1980 to 1983. Indeed, the annual rate for 1977 as for 198 was 116%. The inflationary spiral had several effects:

a. The real value of the minimum wage in 1979 represented only 25% of its already low 1970 figure.

b. Price controls were put into effect to protect the poor, but they ended up creating a parallel goods market, exacerbating the shortage situation feeding the inflationary pressures. Price controls included a fixed exchange rate which, in the face of continuing price rise discouraged exportation and encouraged importation, and led to a continuing overvaluation of the domestic currency vis-a-vis the trading currencies of the world. It is estimated that the overvaluation of the cedi exceeded 1,000% of the official exchange rate in 1982.

c. Investment was discouraged. The rate of investment which had been 22.5% in 1961 fell steadily until it was 11.9% in 1974, and 3.8% in 1983 (Tutu and Oduro, 1995). And the gross fixed capital formation, in 1975 prices, fell from C708.2 million in 1971 to C344.3 million in 1983 (Ewusi, 1990).

Thus, the economic picture that the new government inherited consisted of massive budget deficits, spiralling inflation, the lowest export earnings ever, exhausted foreign reserves, a greatly overvalued exchange rate, the lowest ratio of gross fixed capital formation to GDP ; in other words, an economy which had no prospect of reviving without massive infusions of funds from outside.

1.2. Elements of the Economic Recovery and Structural Adjustment Programmes

The Economic Recovery Programme introduced in the second half of 1983 sought to :

1. remove the distortions in the economy ;

2. rehabilitate the industrial, agricultural, and mining sectors ;

3. repair and restore the infrastructural base of the economy ;

4. use sound fiscal and monetary policies to achieve and sustain economic growth.

Phase 1, or the IMF phase, or the Stabilisation phase (1984-86) focused mainly on the rationalisation of prices, including the exchange rate, and public finances. The Programme included the following :

a. The introduction of a more realistic and flexible exchange rate. A multiple exchange rate system was introduced in 1986 ; two rates, window 1 and window 2, were operated. The rate for window 1 was fixed by government but with an eye on the demand for and supply of foreign exchange in the country. It was used for official transactions. The rate for window 2 was allowed to be completely determined by the actual demand and supply situation in the country. One objective of window 2 exchange rate determination was to divert foreign exchange from the parallel market into the official banking system. In 1987, the two rates merged and in 1988 the exchange rate was fully liberalised with the establishment of forex bureaux.

b. The adjustment of tariff rates for major utilities upward to reflect their cost structures at the new exchange rate.

c. Reform of trade and payments. This consisted of the removal of import quotas, reduction of import tariffs and abolition of import licence scheme.

d. The removal of price ceilings on a number of imported products. The prices were allowed to equal those of domestically produced equivalents.

e. Simplification and rationalisation of major taxes. Corporate tax was lowered from 55% to 45% in 1988 for businesses in manufacturing, farming, and exports. This was further reduced to 35% in 1991 for manufacturing, agriculture, real estate, construction and service sectors (ISSER, 1992). Investment allowance which was formerly granted on selective basis was made available to all enterprises.

f. Improvement of the tax administration - a restructuring of the Internal Revenue Service to make it more efficient at collecting taxes.

g. Adjustment of administered prices to remove the subsidy burden of higher import prices .

h. The setting of interest rates at more realistic levels partly to mobilise idle funds outside the banking system. In 1985, the formerly regulated interest rate was somewhat liberalised. Interest rate determination was now supposed to depend on the demand for and supply of credit weighted by government's evaluation of which sectors had priority status. Thus, those in manufacturing, agriculture and exporting borrowed at 14% rate of interest while other sectors obtained loans at 21%. The rates continue to be reviewed upward and now stand at 32%. In 1988,

the credit ceilings which were dictated by the Central Bank for all commercial bank lending were abolished.

i. Curtailment of the government's recourse to the banking system trough government expenditure cuts.

j. Rescheduling of debts to afford the economy some breathing space.

The second phase or the World Bank phase or the Structural Adjustment Programme (1986-88 and thereafter) focused on more structural problems, including:

a. The boosting of agricultural production through the efficient supply of inputs including credit, and a more efficient pricing system. In this regard, the producer price of cocoa was increased from 12,000 cedis per ton in April 1982 to 20,000 cedis in April 1983, to 30,000 cedis in May 1984, to 56,000 cedis for the 1985-86 crop season to 86,000 cedis for the 1986-87 season, to 224,000 cedis for the 1990-91 season; it currently stands at 308,000 cedis per ton. Similarly, the producer price for cotton was raised by 100% to 110,000 cedis in June 1985, and that for tobacco by 50% to 125,00 cedis per ton. The tobacco price was further raised to 142,00 cedis in 1986.

b. A programme to rehabilitate the export sector, especially the cocoa, mineral and timber sub-sectors.

In the cocoa sub-sector,

i. A rehabilitation programme was to provide funds for the construction of cocoa storage facilities, vehicle workshops, purchase of equipment, and disease control.

ii. More rural banks were established to provide financial services to cocoa farmers.

iii. A programme of subsidised replanting was also introduced.

iv. Cocoa marketing arrangements were reformed with the objective of reducing the distribution margins paid to the Cocoa Marketing Board so as to release a larger proportion of cocoa price to the farmers and also induce private participation in the marketing of cocoa.

Rehabilitation of the timber industry consisted of :

i. World Bank loans to purchase spare parts, felling and processing equipment and materials ; and

ii. timber exporters being allowed to retain 25% of export proceeds for importing essential inputs and spares.

c. The rehabilitation of physical infrastructure, especially the roads, railways, and harbours.

d. A major shift of industrial policy from import-substituting industrial strategy to an outward (i.e. export) oriented strategy. This has been accompanied by trade and payments liberalisation, i.e., permitting the value of the cedi in terms of the dollar to gravitate towards its market value, and removing exchange controls and trade barriers such as import licensing and tariffs on imports. In addition, export promotion measures have been introduced to enable the export sector, especially the manufacturing and no-traditional export sub-sectors, to take full advantage of the liberalised trade regime.

e. The introduction of new investment codes with very liberal terms for foreign investors, and guidelines for government assistance for local industry - to promote private investments. The 1985 Investment Code granted incentives such as :

- exemption from payment of duties on imported essential plant, equipment and accessories ;

- attractive depreciation and investment allowance as well as tax rebates ;

- permission to maintain offshore account for 25% of export earnings to facilitate importation of equipment and inputs, remittances abroad and dividend payments.

The code is being revised to make the incentives even more enticing.

f. The reform of State owned enterprises especially with respect to budgetary and management functions and operation. Some of the enterprises are slated for divesture to encourage private participation in these enterprises, and others for liquidation.

g. A 5% per annum target for the retrenchment of civil servants. By 1988, 12,000 staff had been removed from the payroll of the civil service. This policy was introduced together with guidelines limiting the civil service wage bill to a pre-specified percentage of the GDP.

1.2.1. Fisheries Sector Development Objectives

Within the medium-term agricultural development framework some emphasis has been put on the development of inland fisheries both on the Volta Lake and in aquaculture, and on a more sustainable exploitation of marine fisheries through wiser management of these fisheries and on the rehabilitation of facilities in support of the marine fisheries. The specific objectives were to

1. increase the production of fish for domestic consumption and for exports;

2. alleviate poverty in the fishing communities by providing employment opportunities outside of fishing ;

3. provide public services and infrastructures to support a predominantly private sector ;

4. strengthen the Fisheries Department to provide extension services, design and implement a monitoring, control and surveillance system for fleet operations in Ghana's EEZ and generally manage the fisheries resource ;

5. improve the outer and drydock facilities at Tema ;

6. strengthen the research facility at Tema to enable it improve its data collection and stock assessment and resource management activities ;

7. promote community-based fishery management in inshore areas ;

8. develop a resource management plan for inland capture fisheries including :

   i. a system for stock assessment surveys and collection of fisheries statistics, and

   ii. environmental and biological control of fish stocks ;

9. integrate fisheries into the farming systems through the promotion of aquaculture.

2. THE ROLE OF FISHERIES IN NATIONAL DEVELOPMENT

Over the last two decades, the fisheries sector has contributed between 0.5 and 3.0 percent of the nation's gross domestic product or between 2.0 and 6.0 percent of the agricultural gross domestic product. It has provided employment for 1.0 percent of the nation's total labour force. More importantly, perhaps, it has supplies about 60 percent of the daily animal protein intake of the average Ghanaian, and accounted for about 3.5 percent of total exports.

However, the importance of the fishery sector to the national economy is better appreciated if it is viewed from the perspective of the local rather than the national economy. Along the 550 kilometres of Ghana's coastline there are nearly 200 fishing villages with a total of 264 landing sites. The towns of Half Assini, Axim, Sekondi, Elmina, Biriwa, Anomabu, Kormantine, Apam, Winneba, Keta and Aflao and, indeed, all coastal towns depend on the fishing industry for a very significant portion of their sustenance. And the Volta Lake supports upwards of 100,000 fishermen, fish processors and traders scattered in 1,500 fishing villages and sites.

2.1. Structure of the Fisheries Sector

Fishing is carried on along the 550 kilometres of coastline between Aflao in the east and Cape Three Points in the west with a continental shelf area of 24,300 km² ; and in the Volta Lake which has a surface area of 8,400 km²; and in over 1,000 fish farms. There is thus a marine sector and an inland sector. The marine waters experience two upwelling seasons (major and minor). The major upwelling occurs between June/July and September/October. The minor upwelling rarely

lasts for more than there weeks in a year, and begin in December or early January. The fishing seasons coincide with the upwelling seasons.

2.2. Marine Fisheries

The marine fishing industry in Ghana consists of four main fishing fleets - the artisanal (canoes), inshore (semi-industrial), industrial and tuna fleets.

2.2.1. Artisanal/Canoe Fleet

In 1992 there were approximately 8,688 dugout canoes, 49 percent of which were fitted with outboard motors of up to 40 HP. There are about 150,000 fishermen in the sub-sector and they produce about 80% of total domestic catch. The sub-sector supports another 150,000 fish processors, traders, canoe builders and repairers.

Fishing is carried on along the coastline from nearly 300 landing sites. The most common gears and methods used include :

i. ali/poli/watsa which are used to catch small and medium sized pelagics (anchovy, sardinella, mackerel). This type of fisheries uses large dugout canoes, about 15 metres long, which carry up to 18 people;

ii. drifting gillnet: also uses large dugout canoes but concentrates on large pelagics (tunas, sharks, billfishes);

iii. hook and line for demersals. This is appropriate for rocky areas where valuable fish such as snappers and groupers are found. The canoes used here are smaller in size, six to eight metres long, and carry up to 12 people. Practitioners of this type of fisheries stay at sea for much longer hours than other fishermen;

iv. set-net for demersals. Canoes which use this gear range from seven metres to ten metres and concentrate on catching big fish from tuna to sharks and demersals;

v. beach seine fishery for pelagics and demersals. Beach seine is practised all over round from fishing villages and landing sites. Their range is about a mile out to sea.

2.2.2. The inshore (semi-industrial) fleet

The inshore fleet consists of locally built wooden vessels fitted with imported in-board engines. It is used for purse seining and trawling, and competes with the artisanal fleet for the same species of fish.

Both purse seining and trawling are done throughout the year, but the intensity of purse seining is highest during the three-month major upwelling season. The smaller vessels, 9-12 metres, are active in trawling. They are powered by 30-90 HP engines. The main mooring sites for these vessels are Mumford, Elmina and Sekondi.

In 1991, only 189 inshore vessels, or 47% of the total, operated. The rest were idle for lack of marine engines and equipment to replace the old ones, and lack of spare parts. Even in a relatively more liberalised economy with relatively greater access to foreign exchange the situation does not seem to have improved. Indeed, it has become worse over the last three years with less than 50% of the fleet being operational. The situation is reflected in the inshore fleet's contribution to total domestic catch. In the 1970s it was around 9%; currently it covers around 5 percent. The real reason, though, why there is so much idle capacity in the shore operations is that its successful development in the 1970s depended greatly on the trigger fish. The disappearance of the trigger fish from Ghanaians waters has thrown this type of fishery into disarray and saddled both fishermen and fish traders and mammies with unpayable debts.

2.2.3. The industrial fleet

These are imported distant water vessels, owned by private individuals and the State fishing corporation, and are used for trawling and shrimp capture. They are normally over 35 metres in length and carry engines of over 600 HP. Originally they fished off the west and the southwest coast of Africa particularly in the area from Sierra Leone to Mauritania and also in the Angola-Namibia area. The vessels have been forced out of these waters by the enforcement of the 200 nautical mile Exclusive Economic Zone by Western African countries. The smaller of these vessels have been forced to fish in the narrow continental shelf in competition with the inshore vessels and the canoe fleet.

2.2.4 The tuna fleet

The tuna fleet was developed in Ghanaian waters mainly for skipjack and yellowfin and bigeye. Steel vessels for this purpose were imported from Japan, Korea and the US. The vessels are usually over 30 metres long with engines of over 400 HP. They are bait boats and fish all the year round. In 1987 the tuna catch was 33,000 tons.

2.3. INLAND FISHERIES

Inland fisheries comprise fishery activities in

1. lakes;
2. lagoons and estuaries; and
3. aquaculture which, in turn, comprises aquaculture proper and culture-based fisheries.

However, since fishing in lagoons and estuaries has not become the object of national policy, and since culture-based fisheries are only just receiving official attention, we restrict the description of inland fisheries to the Volta Lake fisheries.

2.3.1 Fisheries in lakes

For the past two and a half decades the Volta Lake has been the centre of inland fishery activity. It is estimated that the Volta Lake supports over 80,000 fishermen, fish processors and traders. There are scattered in about 1,500 fishing villages.

Planked canoes used to be the main craft used, and the principal gear employed was gillnets which brought in 80% of the catch. Other gears were castnets, lines and traps. Since 1980, however, winch boats, transport boats and out-board motors have been introduced. Fishing methods now being employed include purse seines (winch), beach seines, drive-in-gear, bamboo pipe, and encircling traps. Gillnets are still in use but the mesh size has become so small that clupeids now appear in commercial catches.

The potential annual yield from the Volta Lake is estimated at around 65,000 tons. Actual production rose from 40,000 tons in 1967 to 62,000 tons in 1969 and then seemed to have stabilised at 40,000 tons. The catch from the lake constitutes about 16% of total domestic production, and over 90% of the inland catch.

3. ECONOMIC REFORMS, FISCAL POLICY AND GENERAL IMPACT ON THE FISHING INDUSTRY

Because the fisheries sector depends so significantly on imported inputs for its operations, the trade liberalisation and the decontrol of the foreign exchange rate, which has amounted to a huge and continuous depreciation of the domestic currency, led to dramatic increases in the prices of these inputs. Indeed, even the canoe which is made locally experienced huge price hikes not only because of the increasing scarcity of wawa (the timber used for the manufacture of canoes), but also because of the general price inflation much of which is due to the domestic currency devaluation. Table 1 gives a general view of that has happened to fish production, fish prices, and the prices of fishing inputs.

The effect of the reform policies on fisheries output does not show a clear picture. Between 1985, when the effects of the policies were expected to have been felt, and 1994, domestic fish catches achieved an annual growth rate of 3.9%. However, there is no clear upward trend. Out of the 10 years, output fell in 4 of them. The series is oscillatory and divergent.

Prices in the sub-sector showed a consistently upward trend. The price of prime fish such as red fish, snapper, mackerel, sole, small-sized tuna, rose from 31 cedis per kilo in 1985 to 1,102 cedis per kilo in 1994 - a 3,467.3 % increase. A 35 feet canoe which sold at 160,000 cedis in 1985 went for 3 million cedis in 1994 - a 1,775 % increase. The price of out-board motor jumped from 250,000 cedis in 1985 to 2,300,000 cedis in 1994 - an increase of 820 %. The price of the Perkins marine engine which is used by the semi-industrial fleet increased from C 3.5 million in 1985 to C 7.54 million in 1994 - an increase of 115.4 %. The price of a complete set of dragnet for beach seining jumped from C 5 million in 1987 to C 20 million in 1994 - a jump of 300 %.

Table 1 : Fish Production, Fish Prices and Input Prices

Year	Total domestic catch '000m..t	Canoe catch. ,000 m.t.	Price of prime fish per kg	Imports of fish. m.t.	Price of 35 ft. canoe. c'000	Price of outboard motor C'000
1980	222	182 (82.0)	6.4	495	60.0	100.0
1981	252	190 (75.4)	10.1	1,456		
1982	241	183 (75.9)	10.9	877	-	-
1983	248	180 (72.6)	15.2	3,000	-	-
1984	273	212 (77.7)	23.8	1,000	-	-
1985	277	203 (73.3)	30.9	1,000	160.0	-
1986	324	245 (75.6)	150.0	500	-	-
1987	385	317 (82.3)	189.9	4,672	-	-
1988	361	302 (83.7)	274.9	14,100	-	750.0
1989	347	281 (81.0)	324.0	23,500	-	-
1990	380	302 (77.6)	269.9	22,700	1,000.0	-
1991	350	276 (78.9)	416.0	26,600	-	-
1992	429	366 (85.3)	535.0	37,000	1,800.0	955.0
1993	370	301 (81.4)	929.5		-	-
1994	374	271 (72.5)	1,102.3		3,000.0	2,300.0

* Prime fish includes red fish, snapper, mackerel, tuna etc;

Source : 1. Ministry of Food and Agriculture, Policy Planning, Monitoring and Evaluation Department (Accra and Cape Coast offices)
2. Statistical Service, Accra.
3. Accra, Cape Coast and Elmina offices of the Ghana National Association of Farmers and Fishermen.
4. Agricultural Development Bank, Cedi House, Accra.

3.1. Effects of Budget Cuts on the Operations of the Fisheries Department

Table 2 : Fisheries Dept. - Annual Expenditure on Personal Emoluments as Percent of Proposed and Actual Budgetary Allocations

Year	Personal Emoluments Actual Cm.	As % of proposed budget	As % of actual expenditures	As % of actual recurrent expenditures
1988	59.1	36.7	52.3	68.0
1989	74.6	12.0	48.0	61.1
1990	93.9	9.8	35.1	66.3
1991	147.5	11.8	69.0	74.8
1992	202.0	32.4	47.3	76.9

Source : Fisheries Department, Ministry of Food Agriculture, Accra.

The Fisheries Department's budget proposals indicate a reasonable apportionment of funds to recurrent activities such as maintenance and repairs, acquisition of supplies and stores, trekking, and general expenditures; and to capital expenditure activities such as constructional works, acquisition of plant, equipment, vehicles, furniture, and other capital items.

Personal emoluments formed between 10 % and 37 % of the proposed departmental budget. The real situation on the ground was quite different. Personal emoluments took between 35.1 % and 69.% of the actual budgetary expenditures for the year; and between 61.1 % and 76.9 % of the total recurrent expenditure.

What this means is that the Department could not provide the training, extension and demonstration services to fishermen as planned. Even more disconcerting, they could not undertake much in the way of development projects such as assisting fish farmers to construct ponds.

There was also a shortage of professional personnel in the Fisheries Department. In 1994 there were 37 professionals, i. e. fisheries officers with a B.Sc. degree or better. And the Department calculated that they needed 81 such professionals to be able to do a good job of developing and managing the fisheries sub-sector.

Thus, it is clear that the principal effects of the economic reform policies that the nation has tried to implement in the last decade have been:

1. the steep rises in the prices of fishing inputs which have certainly increased the cost of fishing operations

2. insignificant increases in domestic fish catches. Domestic fish catch moved from the 200.000 metric ton level in the first half of the 1980s to the 300.000 metric ton level beginning 1986. Since then output changes have been erratic and have not

demonstrated any significant upward trend. It is not surprising then that the industry has not been able to satisfy the national demand for fish as evidenced by the increasing volume of fish imports. Fish imports increased from 1,000 metric tons (0.4 % of total domestic catch) in 1985 to 37,000 metric tons (8.6 % of total catch) in 1992.

3. reduced capacity of the Fisheries Department to develop and manage the fishery resource and fishing operations.

A policy which had a more specific effect on an important segment of the fishing industry was the introduction of the fuel subsidy for motorised canoe fishing in February 1992 and its abolition in January 1994. We analyse below the effect of the removal of the subsidy on the fishing operations of the canoe fishermen.

3.2. Effects of the Removal of Subsidies on the Fishing Operations of Artisanal Fishermen

3.2.1. The Rationale of the Subsidy

Even though the whole agricultural sector started enjoying subsidies on inputs and extension services as far back as 1967, the fisheries sub-sector knew of no such relief. Imported inputs, notably fishing gear and outboard motor were distributed to artisanal fishermen through the Agricultural Development Bank, some specially designated shops, and some of the outlets of fishermen's associations. These institutions sought to make profits and fishermen paid market prices for their inputs. It was not until February 1992 that the government introduced a subsidy on fuel for motorised canoe fishermen.

It is difficult to understand the rationale behind the introduction of the subsidy given the IMF/World Bank strictures that subsidies should be eliminated as a condition for continued assistance. Indeed, by 1988 virtually all subsidies on agricultural inputs had been removed. One is led, therefore, to sympathise with those who accuse the government of granting subsidies to fetch the votes of fishermen in the September 1992 national elections. However, in January 1994 the subsidy was abolished amid government accusation that it had been misused and abused, and the cries of the fishing community that the government had, by removing the subsidy, destroyed the fishing industry and marginalised the substantial population that depends on it.

We present a comparison of the profitability of the operations of the motorised sardinella canoes which formed over a third of the total canoe population in 1992 when the subsidy was introduced and in 1994 when the subsidy was no longer in operation.

3.2.2. Analysis of the Profitability of Motorised Sardinella Canoes With and Without Subsidy (Cedis)

1)	**Investment**	1992	1994
	Canoe	1,800,000	1,800,000
	Gear	5,500,000	5,500,000
	Motor (40 HP)	955,000	955,000
	Total	**8,255,000**	**8,255,000**
2)	Depreciation		
	Canoe (10%)	180,000	180,000
	Gear (20%)	1,100,000	1,100,000
	Motor (33%)	315,150	315,150
	Total	**1,595,150**	**1,595,150**
3)	Operational Costs		
a.	Repair and Maintenance		
	Canoe (5%)	90,000	90,000
	Gear (5%)	275,000	275,000
	Motor (20%)	191,000	191,000
	Sub-total	**556,000**	**556,000**
b.	Repayment of loan	1,238,000	1,238,000
c.	Fuel	2,700,000	4,628,328
	Total operational costs	4,494,250	6,422,578
4)	**Value of total catch:**	12,345,355	10,664,453
	less cost of fuel	-2,700,000	-4,628,328
	= revenue to be shared	9,645,355	6,036,125
5)	**Remuneration** to crew		
	50% of revenue	4,822,677	3,018,066
6)	**Net Profit (loss)** (4-2-3-5)		
		1,433,277	-371,341
7)	**Return on investment** (6/1)		
		17.4%	-4.5%

Notes

1. The lifespan is usually assumed to be 10 years for canoe, 5 years for gear, and 3 years for motor.

2. Under repayment of loan, the government mandated interest rate charged to fishermen in 1992 was 5 %, and fishermen were required to pay the principal plus interest in seven equal yearly instalments.

3. Fuel. The Fisheries Department estimated that in 1992, each motorised sardinella canoe consumed an average of 135 litres of pre-mixed fuel per trip to sea and made approximately 200 trips a year. Each canoe, therefore, consumed 27,000 litres per year at a subsidised rate of 100 cedis per litre. Fuel cost per canoe came to 2.7 million cedis. The market price of pre-mixed fuel was 335 cedis per litre; the subsidy was 225 cedis per litre.

   In 1994, following the removal of the subsidy, fishermen were expected to buy the fuel at a market price of 422.2 cedis per litre. Fishermen cut down their purchases of fuel and the Ministry of Mines and Energy estimated that all 4,262 motorised canoes used about 900,000 litres of fuel per week. There were 3,458 motorised sardinella canoes or 81 % of total and, accordingly, we assume that they consumed 81 % of the total fuel used. The cost of fuel per canoe rises to C 4,628,328 per year.

4. Total catch and prices. The total catch by the motorised sardinella canoes amounted to 237,168 metric tons, or 68.6 metric tons per canoe in 1992, and to 175,608 metric tons, or 59.8 metric tons per canoe in 1994. Farm-gate prices, i.e., fish prices paid directly to fishermen by fish mammies are quoted by the Elmina office of the Ghana National Association of Farmers and Fishermen as C 91, C 111, C 123, C 180, C 193 and C 210 per kilogram from 1988 to 1994 respectively.

5. Consumption costs. Fishermen in Accra, Cape Coast and Elmina were emphatic that each crew member is supposed to finance his own consumption during the trips to sea; it is not a separate item to be deducted as part of the operating cost.

6. Sharing system. The cost of fuel is first deducted from the value of the catch, and the remainder is shared equally among the crew and the owner (s) of the equipment.

The estimates show that under the subsidy scheme sardinella fishing was profitable; the net profit being an average of C1,433,277 per canoe. A crew of 15 shared C4,822,678, each crew member obtaining C321,512. The net return on capital came to 17.4 %.

When the subsidy was withdrawn, things seemed to have turned sour for the sardinella fisheries. Output decreased from 237,168 metric tons in 1992 to 175,608 metric tons in 1994. The rate of decrease in output outstripped the rate of increase in fish prices, and gross revenue from fish sales dropped from C12,345,355 in 1992 to C10,664,453 in 1994. The fisheries sustained a loss of C371,341 and registered a negative (-4,5 %) rate of return on capital for the year.

The executive members of the Ghana National Association of Farmers and Fishermen in Elmina estimate that about 25 % of their canoes are currently lying idle because of continued

losses in fisheries operations. Those in Accra affirm that the figure is more like one-third of all motorised canoes.

3.2.3. Why the Subsidy Was Removed

According to government sources, the subsidy was removed because it was misused and abused by the fishermen. Our investigation uncover these factors.

1. The subsidised fuel, premix, made up of a mixture of 50 litres of petrol to 1 litre of engine oil, was sold to canoe fishermen at 100 cedis per litre, while the ex-pump market price stood 355 cedis per litre, a subsidy of 255 cedis per litre.

2. The consumption levels of the subsidised fuel rose tremendously in 1992 and 1993 compared to 1991 when there was no subsidy.

Table 3 : Estimate of Average Weekly Consumption of Fuel by Canoe Fishermen

Year	Average weekly cons. (litres)	Canoe catch ('000 m.t)
1991	465,000	276
1992	1,100,000	366
1993	1,600,000	301
1994	900,000	271

Source : Ministry of Mines and Energy, Accra.

3. The figures in Table 3 are estimates of average fuel consumption per week for the over 4,000 motorised canoes. Clearly if the estimates by the Department of Fisheries of 135 litres of fuel per trip per canoe have any merit to them then the figures in the table are gross underestimates. However, to the extent that they are scalar multiples of what the real actuals are they give a clue of what was happening to the use of fuel during the subsidy period.

   When fuel was sold at market prices in 1991 fishermen consumed only one half of what they needed for fishing operations. However, when the subsidy was introduced fuel consumption jumped by 136.6 % in 1992. And in 1993 it increased by a further 45.5 % or by 244.1 % over the 1991 figure.

4. If the increase in fuel consumption over the estimated no-subsidy consumption of 900,000 litres per week was used in fishing operations we would expect big increases in canoe fish catches in 1992 and 1993. The 1992 figure was 32.6 % over the 1991 figure, but the volume of catch fell by 17.8 % in 1993. The conclusions seem to be :

   a. fishing effort did not increase; and the extra fuel ended up being used by people other than canoe fishermen;

b. the marine and lake waters of the country are fully fished and one does not expect increases in fishing effort to result in proportionate increases in catches.

3.2.3.1. Collusion in the Operation of the Subsidy

Concerning the first conclusion, our investigations reveal that a substantial portion of the subsidised fuel ended up in the hands of vehicle drivers, and this is the main reason the government withdrew the subsidy in January 1994. First of all, owners of petrol outlets in the fishing areas colluded with agents in the refineries; these agents did not convert all the quantities meant for the fishermen into premix, and so the consignment that reached the outlet owners from the depots consisted of part premix, part pure petrol and part engine oil. The petrol and engine oil were sold on the open market and the proceeds pocketed by these two groups of people. The fishermen themselves were not in a position to know how much had been allocated to them and could not therefore be fussy about what they were given.

Secondly, the chief fishermen or their representatives also sold a significant proportion of the premix to vehicle operators who diluted the contents by adding more petrol to it. In 1993, the premix was sold to fishermen at 450 cedis per gallon; they sold it to vehicle operators at 1,000 cedis per gallon; and the ex-pump price of petrol then was 1,600 cedis per gallon. It was a very common sight to see fumes coming out of the exhaust pipes of quite new taxis. We conclude that not all the extra fuel supposed to have been consumed by fishermen was actually used for fishing operations, though it is impossible to estimate the amount that found its way on the open market.

3.2.3.2. The State of the Fishery

To the extent that fishing effort increased in the 1991-94 period, this may have been due more to the activities of the non motorised canoe fleet, the semi-industrial fleet and the big trawlers. But the lack of appreciable increases in catch has been a source of worry for the fishermen, the fishing communities and the fishery policy makers.

There is growing evidence that the marine fishery and the Volta Lake are overexploited or, at any rate, fully exploited; and the following factors have contributed in no small measure to this state of affairs.

1. There are limited alternative opportunities for capital and labour in the fishing communities.

2. There is a high population growth in the fishing communities as in the rest of the country. The lack of alternative employment opportunities means an increase in fishing effort. The Volta Lake has seen a steady influx of fishermen in the last ten years due apparently to the gradually collapsing marine fisheries. This has put extreme pressure on the stocks with the result that most of the species appear to be overfished. A 1994 research team that inspected processed fish at the landing ports on the Lake and at the markets found that the catch consisted mostly of juveniles. The women processors confirmed that there had been a general decrease in both the size of fish and in total catch.

3. There are no effective management systems in place and the Fisheries Department does not have the resources to implement what little is already in place.

4. Thus, the use of destructive fishing techniques such as dynamite and small mesh sizes has become rampant. Small mesh sizes are used by canoe fishermen to maintain the volume of catch, but the effect of this is to remove the juvenile sardinella. The introduction of the winch (purse seine) which is an adaptation of the conventional gill-net (an active, efficient and non-selective gear) into the Volta Lake has been partly responsible for the increasing non-sustainability of the Lake fisheries. The big trawlers which were not designed to fish in the narrow and shallow continental shelf use large nets which scoop the juvenile demersals - thus reducing recruitment and endangering the long-term viability of the fisheries.

   The main fishery resources in Ghanaian waters are :

   a. the small pelagics - sardinella, anchovy and mackerel - exploited by the canoes and the semi-industrial fleet;

   b. the large pelagics - mainly tuna - fished by the tuna fleet; and

   c. the demersals - sea breams, mullets, snappers, cuttle-fish - harvested by the big trawlers.

It is estimated that the total (marine) biomass of the small pelagic resource ranges from 246,000 metric tons to 378,000 metric tons ; but landings reached a record of 279,202 metric tons in 1992 and fell to 227,199 tons in 1993 (Quaatey, 1994). The figures clearly indicate that the small pelagic resources are being overexploited.

The big pelagic resource - mainly tuna (skipjack, yellowfin, and bigeye) is not confined to Ghanaian waters only, it abounds in the Atlantic Ocean and is highly migratory. The International Commission for the Conservation of Atlantic Tunas (ICCAT) of which Ghana is a member was formed to conduct research and recommend management measures to the member States. Each year ICCAT meets to discuss and evaluate research results. The maximum potential yield of the skipjack tuna in the Eastern Atlantic has been estimated to be 200,000 metric tons. Catches of the species in the region is between 100,000 and 150,000 metric tons annually. The potential yield of the species in Ghanaian waters is about 80,000 tons annually, and the average landings of skipjack have been just around 25,000 tons annually. Skipjack is assessed to be so abundant in the Atlantic that every year ICCAT recommends and increase in fishing pressure.

The only problem with the exploitation of the large pelagics has to do with the sizes. ICCAT prohibits landing yellowfin which weighs less than 3.2 kilograms, and bigeye which weighs less than 6.4 kilograms.

The maximum potential yield of the demersal resources in Ghanaian waters is estimated at between 24,000 and 42,000 metric tons. However, this is for waters measuring up to 75 metres in depth. Since 1990, the average demersal fish production has been around 63,000 metric tons - a clear case of overexploitation. However, a recent survey conducted by the Spanish vessel, R/V "Lagoa Pesca" in Ghanaian waters indicates that demersal resources occur in commercial quantities between 75 and 100 metres in depth (Quaatey, 1994). This piece of information reveals that the demersals may not be in danger of overexploitation if they industrial trawlers will come up with the appropriate gear to fish under those depths.

The upshot of the discussion on the effect of the fuel subsidy is that though the total fishery of the nation cannot be said to be overexploited, the evidence is clear that the fishery that is exploited by artisanal (canoe) fishermen is overexploited and, therefore, any measure that increases fishing effort of canoe fishermen further endangers the sustainability of the fishery. Secondly, it could be the case that the canoe fishermen already knew about the overexploited nature of their fishery, and reckoned that diverting the subsidised fuel to other uses was far more profitable than actually using it for fishing operations. Certainly for the owners the sale of fuel to other people constituted a more certain source of income than using it to chase after a migratory resource. Those who may have been adversely affected by the misuse of the subsidy would be the crew members who obtained their income from actually going to sea.

3.2.4. Effect on Government Budget

The subsidies cost the government C14.6 billion in 1992 and C21 billion in 1993. These represented 3.4 % and 3.2 % respectively of total government expenditures. In addition, the government had to reimburse the Ghana Oil Company Limited (GOIL) to the tune of C5 billion for the engine oil used to prepare the premix (Ministry of Fuel and Power).

4. CONCLUSIONS

1. The general effects of the fiscal policy package of the economic reforms that the country has been labouring under for the past decade have been :

   i. huge increases in the prices of fishing inputs. The resulting increase in the cost of the fishing industry has adversely affected fish catches. The volume of catch fluctuates from year to year and fails to show an upward trend.

   ii. inordinate increases in the price of fish. This has been due not only to the indifferent output of fish but also to the increased demand for fish to satisfy a growing population.

   iii. big reductions in the annual budget and manpower requirements of the Fisheries Department, resulting in the scaling down of the Department's fisheries development and management activities. If one remembers that these activities were already at a low ebb before the introduction of the reforms, one gets an idea of the hard times into which the fishing industry, especially the canoe fisheries, has fallen.

2. The introduction of the fuel subsidy in February 1992 for artisanal (canoe) fishermen and its removal in January 1994 has affected the canoe fisheries very adversely. The removal coincided with general and huge increases in their cost of operations while the marine and lake waters seemed to be overfished and would not yield resources in consonance with the rise in the cost of fishing operations.

   There is evidence that the subsidy was abused. However, the abuses could have been checked an the removal done in stages to minimise the near-traumatic effects of the sudden withdrawal.

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FISCAL POLICY FOR THE FISHERIES SECTOR WITHIN THE CONTEXT OF ECONOMIC REFORMS IN SENEGAL

by

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. INTRODUCTION

The Senegalese economy has hitherto been based on groundnut and phosphate. With successive years of drought and world crisis related to the oil shock, fishing very quickly became the leading economic sector.

In the last two decades, this sector has experienced some growth, undoubtedly related to the existence of natural conditions conducive to these activities (upwelling phenomenon), a certain dynamism of the artisanal sub-sector, and also voluntary development policy.

Fishing, a high export activity, influences the balance of payment. Consequently, it holds a privileged place in the economic recovery of Senegal, especially with the medium and long term structural adjustment and the devaluation of the CFA franc in January 1994. Fisheries is considered a moving growth force essential to the restoration of macro-economic balances (Kebe, 1993b).

Moreover, artisanal fisheries always constitutes a priority for the authorities especially with regard to achieving the food security objective. This is why it has, to date, received substantial financial support from the Senegalese government.

First, the new Senegalese economic policy shall be reviewed, based on a progressive redefinition of relationships between the State and civil society (liberalisation and privatisation). Then, an analysis of the Senegalese marine fisheries development will be undertaken within the structural and monetary adjustment framework. Special emphasis will be placed on the impact of the fiscal policy on marine artisanal fisheries to make recommendations on possible withdrawal of indirect public financial support.

2. NEW ECONOMIC POLICY IN SENEGAL

2.1. Economic situation

The international environment has been shaken since the 1970s by the different oil shocks, fluctuations of the US dollar and the growing scarcity of capital. African Sahelian countries, hitherto affected by a decade of drought, have, in the 1980s, instituted new development strategies in order to correct macro-economic imbalances.

The concept of Welfare State prevailed for a long time in less advanced countries where development challenges favour interventionism. With the affirmation of a new liberal discourse supported by some international institutions, especially the International Monetary Fund (IMF) and the World Bank (WB), the concept of Police State became popular once again. In fact, the emergence of chronic deficits in public entities supports the reversal of the State's involvement.

The analysis of economic indicators confirms that 1979 was a turning point in the economic and financial history of Senegal. Following a period of four consecutive years marked by a substantial increase in export revenues, used to increase revenues restrained for too long, a new phase seems to have begun since the end of the 1970s.

An analysis of the economic situation revealed some fundamental problems:

- poor increase in production (2.1% per year from 1972 to 1980);
- substantial expansion of local demand (3.3% per year from 1972 to 1980);
- chronic deficit in the current balance of payments contributing to the continuous deterioration of foreign credits;
- growing imbalance of public finances;
- cumbersome domestic and foreign debt service.

2.2. Stabilisation and Structural Adjustment (1979 - 1993)

At the end of the 70s, Senegalese authorities began to be conscious of the deficiencies in the public sector development plans and its ambitious nationalisation programmes. Consequently, a new economic policy became imperative. The government opted for a planned adjustment so as to face the consequences of international economic crisis as well as of its own domestic policies. The objective envisaged was to minimise their negative impacts and pave the way for a sustainable and long-lasting economic growth.

It is difficult to establish a strict chronology in the history of the Senegalese economic policy. However, a three-phase development can be schematically noted as follows:

- application of the Economic and Financial Recovery Programme (1979-1984) with the establishment of domestic expenditure stabilisation programmes whose main objective is to reduce accounting imbalances by actions on the final demand;

- establishment of a medium and long term adjustment programme (1985-1992) which combines stabilisation rationale with structural adjustment actions aiming at modifying the effectiveness of the national economic organisational system;

- elaboration of an Emergency Plan (1993) for the restructuration of public finances (reduced expenditure and increased government revenues).

The "new" sectoral policies adopted attempted to respond to the production model crisis in agriculture in general, industry and the parastatal sector. Consequently, the liberal measures envisaged in the New Agricultural Policy (NAP) and the New Industrial Policy (NIP) defined respectively in 1984 and 1986, were meant to encourage private initiative and the empowerment of local producers. The NAP was based on 4 major factors:

1. Greater empowerment of the farmer by transferring tasks formerly assigned to public institutions with the help of the cooperative system reform and the revision of the monitoring system. Public authorities initiated Economic Interest Groups (EIG) to benefit from financial assistance from National Fund for Agricultural Credit of Senegal (CNCAS) established in April 1984.

2 Revision of input price policy based on (i) progressive withdrawal of fertilizer subsidies until 1990, (ii) transfer of distribution functions to the private sector; (iii) liberalisation of input importation.

3. A decrease in the role of public institutions and subventions granted to them.

4. Implementation of the cereal plan aimed at satisfying 80% of food requirements from domestic production in the year 2000.

In 1987, a new tax code was adopted to (i) eliminate various exemptions, (ii) simplify the fiscal system and (iii) set-up a decreasing depreciation scheme to encourage private industrial investment. Moreover, the new investment code, in force also since 1987, set-up, among other things, the organisation of small and medium enterprises. The agreement formalities to respect this investment code are facilitated by the "one-stop" processing, operational since 1988 with the aim of assisting investors in their relationship with the administration.

All these policies fall within an internal adjustment rationale. They have generally made possible the abolition of some major market malfunction, associated with a massive and ineffective government intervention. However, they did not ensure a substantial growth in the agricultural sector and an improvement in productivity. The comparison of the evolution of some key parameters during, on one hand, the period prior to stabilisation and structural adjustment (1967-1979) and, on the other hand, during the years of stabilisation and adjustment (1980-1992) makes it possible to assess the impact of the new policies (Table 1). The study of the annual average growth rate of GNP in the two periods clearly indicates that the net profit in terms of growth of stabilisation and adjustment is extremely limited (about half a point).

Faced with these poor results, the Senegalese government implemented an Emergency Plan in October 1993. This restructuration plan of public finances was characterised by a salary reduction (25% for civil servants and 4% for the private sector) and by measures aimed at reducing government expenditure and increasing revenues (Kebe 1993b).

Table 1: Evolution of some structural parameters in Senegal

Parameters	Pre-stabilisation and Adjustment Period (1967-1979)	Stabilisation and Adjustment Period (1980-199?)
GNP average annual growth rate	2.3%	2.9%
Savings rate (internal savings/GNP)	14.6%	4.7%
Investment rate (GFCF/GNP)	17.3%	11.7%
Current balance of payment/GNP (reference years 1981 and 1992)	18.6%	2.7%

(Source: Direction de la Prévision et de la Statistique)

2.3. Monetary Adjustment (from 1994)

The decision to devaluate the CFA franc, and consequently to adjust in monetary terms, was taken by the FCFA zone countries on 11 January 1994, on the recommendation of their major donors. This measure aims at reinforcing the structural adjustment policies of member countries, the effectiveness of which had been, until then, limited. This partial effectiveness was actually established in 1989 on one hand, by the IMF which had suspended all its loans, and on the other hand, by France which refused to continue to support the structural adjustment without an agreement between the FCFA zone countries and the Bretton Woods institutions.

The donors are aware of the great importance of the challenges of devaluation, namely the boost in exports and the restoration of the credibility of the FCFA zone, and the limitation of the negative effects on vulnerable classes. This is why they pledged to better sustain the FCFA zone countries in their effort to enhance the economic machine and to stamp out the perverse effects of devaluation. This involvement is shown in the adoption of various accompanying measures for these countries, either as a whole or separately (Kante et al, 1995).

In 1994, the Senegalese government fixed a 40% goal on inflation with a view to preserving the economy's competitivity. Consequently, it undertook an indirect and open fiscal system limiting commercial duties (entry fees) to a maximum rate of 45% (in addition to customs duties) and the VAT at a maximum rate of 20%. It also limited increases caused by devaluation on the cost of electricity, water, telecommunications and petroleum products between 20 and 30%.

The donors' assistance to Senegal focussed on price liberalisation programme for grain producers, boost to private initiatives, modernisation and intensification of the agricultural sector, modernisation of fisheries by adapting it to European norms with regard to the exportation of quality products, and trade liberalisation by eliminating monopolies.

3. IMPACT OF THE FISCAL POLICY ON THE FISHERIES SECTOR

3.1. Development of the sector

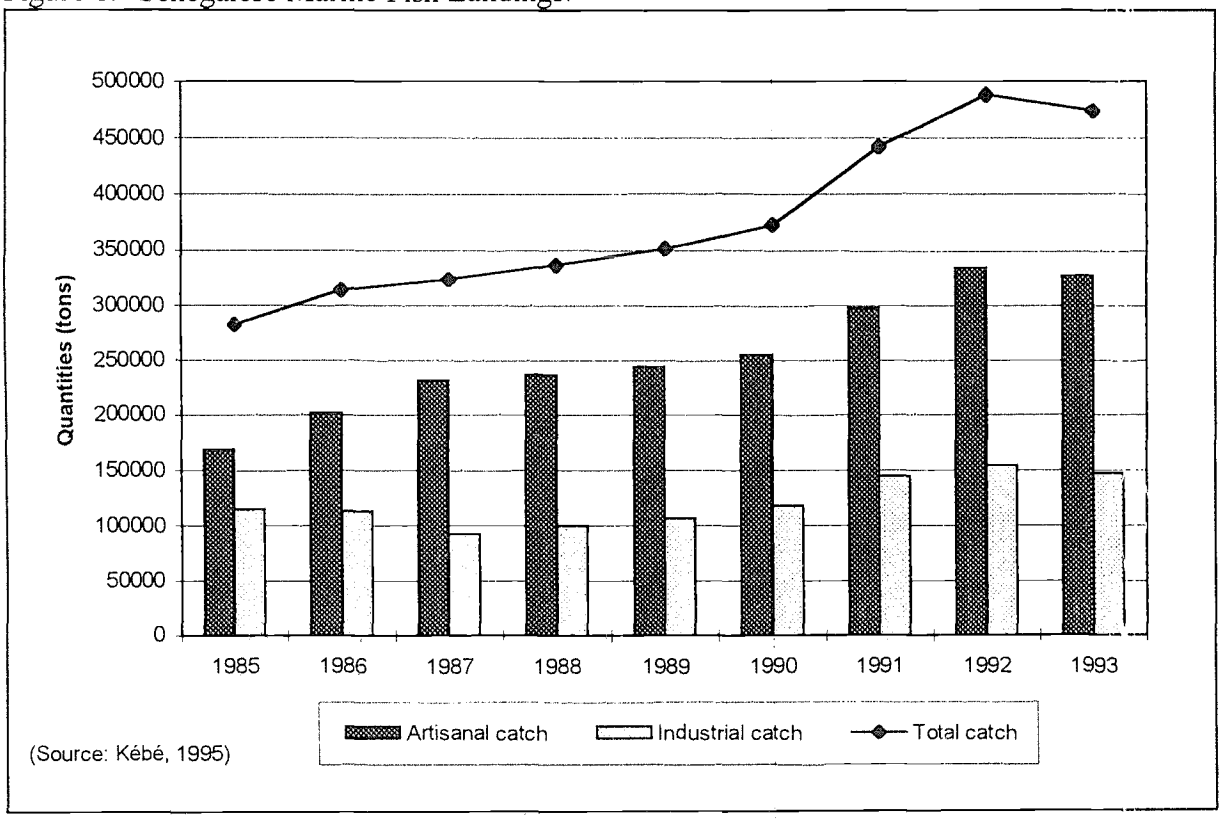
The general character of fisheries landings in Senegal shows a rapid upward trend in the last twenty years. This sector went from third position to first in the national economy.

Between 1981 and 1993, production went from 269,000 to 474,000 tons, i.e. 76% increase in 12 years (figure 1). The highest growth rate was recorded in 1986. Consequently, on average over 300,000 tons of fish were discharged each year for a turnover of about 60 billion FCFA. The sector's contribution to the Gross National Product (GNP) of the primary sector was estimated at 11% in 1988, i.e. 35 billion FCFA as against 12.7 billion FCFA in 1980. On the social level, 250,000 jobs were directly or indirectly created, i.e. over 10% of the Senegalese active population.

On average the artisanal fisheries sub-sector is responsible for two third of the overall landings. An 80% increase was recorded during this period while the industrial sub-sector recorded a 12% decrease. Production, essentially consisting of small pelagics (80%), was mainly meant for the local market to satisfy people's requirements in animal-based proteins. Artisanal fisheries mainly for exports (shrimp, cephalopods, seabreams) have also been developed for some years.

Fish product exports have witnessed a rapid growth due to a similar growth in landings, from 90,200 tons in 1981 to 125,000 tons in 1990 for 37.5 billion FCFA and 110.5 billion FCFA returns respectively. In fact, since 1986, fisheries represent over a quarter of Senegalese exports. It is more important than groundnut and phosphate products and contributes decisively to the recovery of trade balances.

Figure 1.- Senegalese Marine Fish Landings.



Up to 1985, the African market absorbed most of these exports (48 to 59%). Since 1986, the European market is occupying first place with over 50% of total exports.

The inferred added value for the sector was estimated at 115 billion FCFA for 1987 (Focault et al. 1993). The artisanal sub-sector (considering all the channels) is responsible for 60%. Since the 80s, industrial fisheries is facing many difficulties which worsened with the structural and monetary adjusment policy.

3.2. Public Involvement in the Sector

Despite exceptional natural circumstances (upwelling phenomenon), the dynamism of artisanal fisheries is the result of a deliberate assistance policy to the sub-sector. Furthermore, other factors are responsible for this important development (Kebe, 1993a):

- existence of experienced, dynamic, traditionally sea-oriented fisherfolks;
- a great capacity to adapt to changes in the environment;
- importance of the local market marked by a high demand for cheap fish with an annual consumption per capita of 27 kg;
- sustained foreign demand for certain species.

In the early 50s, the Senegalese government initiated canoe motorisation. Since 1973, the purse seine was introduced. These two main innovations have contributed largely to increase in catches. Their introduction into artisanal fisheries was accompanied by more general measures meant to provide an economic and social framework for their realisation.

The cooperatives of fishers, later EIG, implanted on the coast, have greatly helped in the spread of fishing engines and new gears.

The establishment of a tax withdrawal policy on outboard engines, fuel and purse seines facilitated the adoption of technological innovations under satisfactorily profitable conditions, at least at the level of artisanal fishermen.

The institution of a Centre for assistance on canoe motorisation (CAMP) in 1972, which became Centre for assistance, experimentation and extension of artisanal fisheries (CAEP) in 1994, accelerated the appropriation process of the new technology by the fisherfolks. The long engine and spare parts shortages which the project faced between 1983 and 1986 undoubtedly explains the counter-performance of the sub-sector during that period.

The Fifth Plan (1977 - 1981), with the CAPAS Project (Centre for assistance to the Senegalese Artisanal Fisheries), consolidated the intervensionist intention of public authorities in fish marketing. The government requested Canadian assistance for the construction of cooperative fish trade centres. Three centres were constructed in 1981 and 1982. The failure of the experience in 1986 (withdrawal of the main donor) led the authorities to choose more "liberal" options by privatising the centres and encouraging credit systems for economic operators through various development projects.

Three major projects were established on the Senegalese coast, namely: the Artisanal Fisheries Development Project on the Small Coast (PAPEC), started in 1988 and funded by the African Development Bank (ADB); the Marine Artisanal Fisheries Development Project in the Ziguinchor region (PAMEZ), instituted in 1987 with the assistance of the European Development Fund (EDF) and the Central Economic Cooperation Fund (CCCE), which became the Casamance Artisanal Fisheries Project (PROPAC) in 1992; the Assistance to Artisanal Fisheries Programme (PROPECHE) which benefitted from Canadian funding between 1989 and 1993. The credit lines of these projects based at the CNCAS facilitated the financing of over 500 EIGs (fisherfolks, fishmongers, fish processors) for a total of 1.2 billion FCFA. Some youth EIGs were thus able to benefit from new opportunities by grouping together to use loans, thereby enabling them to escape from social burdens (Kebe and Samba, 1993).

The increase in fish products exportation can be explained by the development of contributions to artisanal fisheries as well as the application of export bonus, a factor for penetrating foreign markets. The amount of the incentive bonus to exportation is determined by the application of a rate which went from 10% of the FOB value of the product in question in 1980 to 15% in 1983. Since 1986, the subsidy rose to 25% of the Domestic Industrial Added Value (DIAV) included in the finished product. This basic change in bonus calculation is shown in the substantial losses in fishing enterprises, due, undoubtedly, to the relatively low rate of the identified added value. Moreover, delays by the Public Treasury since 1989 to remit this subsidy to beneficiary enterprises only increased financial costs. The subsidy was withdrawn shortly after the devaluation.

The regulation of the sector was adapted to new economic policy options. An appropriate legal cover was elaborated with the new marine fisheries code (law 87-27 of 17 August 1987) for greater protection of fisheries resources. The zone reserved for artisanal fisheries was extended to 6 nautical miles. The "management" of the code which was recently revised, is ensured by the Fisheries Protection and Surveillance Project of Senegal (PSPS) instituted in 1982 with the help

of the Canadians. The project is responsible for the effective coverage of waters under the Senegalese jurisdiction (operational aspect) and the monitoring of resources (scientific aspect). The withdrawal of the Canadian partners in 1990 weighed heavily on the project's operation. Presently, funding is ensured through a subsidy from the Incentive Fund for fisheries and its subsidiary industries and a 10% deduction on vessel examination fees.

3.3. Impact of the fiscal policy on artisanal fisheries

Under this section, the impact of grants and financial incentives (taxes and duties) on the marine artisanal fisheries sub-sector will be evaluated. This will be limited to the major imported equipment and inputs (fuel, outboard engines and nets).

There are really no subsidies for artisanal fisheries if one thinks in terms of direct financial transfers by the Government to the sub-sector. However, fishing units enjoy a tax rebate on all engines and especially on fuel. In addition, the fuel is standardized at nearly 64% of its total price. The Price Standardization and Stabilization Centre (CPSP) redistributes 55.9 FCFA per litre of fuel. Consequently, transfers have an indirect form or are the responsibility of other agents. These are actually "indirect subsidies".

In calculating the Government's loss on fuel consumed by artisanal fishing units, we only considered VAT exemption. According to the figures recorded by the fisheries administration based on coupons supplied to fishermen, canoes consume an average of 24.6 million litres per year. Progress in the last five years shows a clear stagnation (figure 2). It should simply be noted that these recorded figures may not correspond to actual consumption by artisanal fisheries, since frauds on the fuel were regular. However, they give a good idea of the general status of the tax-free fuel available to artisanal fisheries.

The litre of fuel used by canoes was sold at 172 FCFA until October 1993 when the Emergency Plan was introduced. Then the price increased to 201 FCFA before getting to 265 FCFA at the beginning of 1994 after the FCFA devaluation. Presently, the full price without stabilizing mixed fuel is 500 FCFA/litre, thus providing indirect assistance of 5.8 billion FCFA.

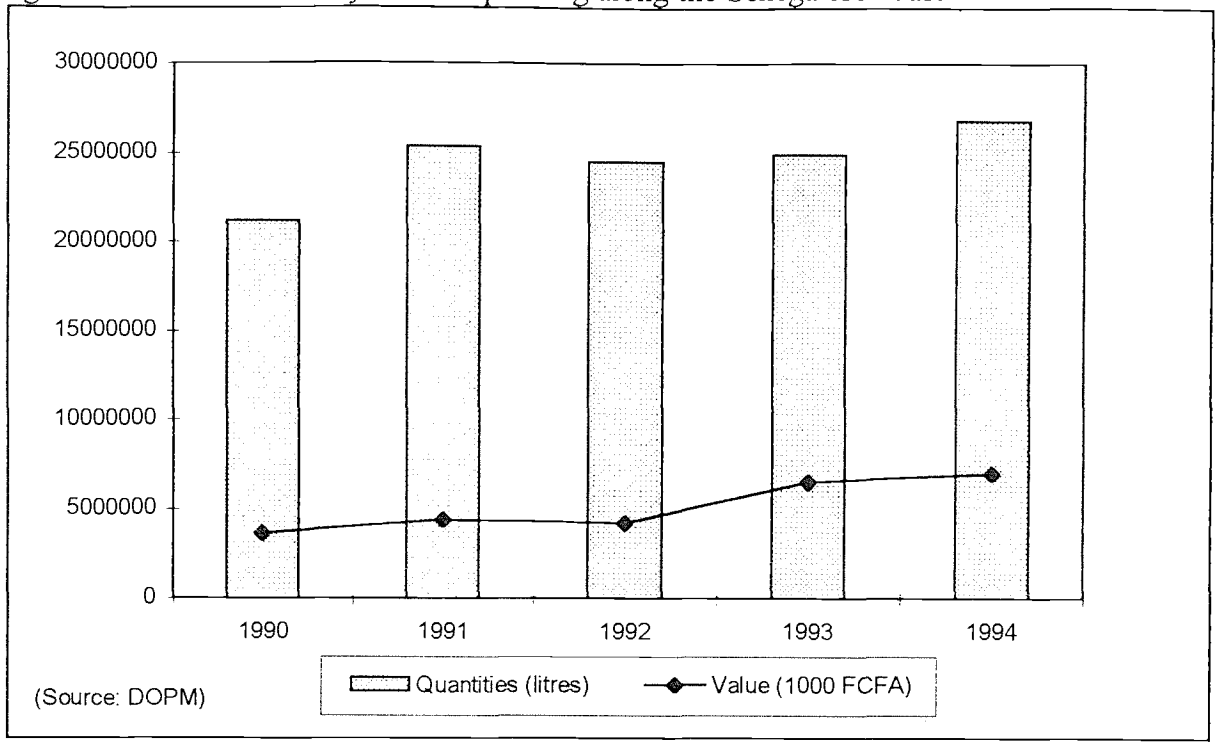
The estimate of indirect financial assistance for outboard engines is carried out from available data on canoe motorization (rate, engine power, renewal) and applicable tax rate.

The canoe fleet operating at sea is about 6,500 boats, motorized at 90%. An analysis of the engine power installed shows that the 8 HP engines clearly dominate (60%). With the devaluation of the FCFA, this phenomenon was accentuated. For energy management purposes, fishers use less and less high-powered engines (25 to 40 CV) representing only 25% of the fleet. In addition, the typical fishing unit with purse seine consists henceforth of a canoe (instead of two) and an engine (instead of three).

Given utilisation intensity, respect for maintenance norms and information from fishers, the average life-span of the outboard engine is two years.

Tax rate is 65%, i.e. 45% maximum rate applied for entry fees after the last fiscal reform (duties, import tax, and customs duty) and 20% VAT.

Figure 2.- Fuel consumed by canoes operating along the Senegalese coast



The fishers prefer the Japanese Yamaha outboard engine. Its price rose sharply by between 164 and 217% after the FCFA devaluation (Table 2).

Table 2: Trends in Outboard Engine Prices

ENGINE TYPE	PRICE (FCFA) BEFORE DEVALUATION	AFTER DEVALUATION	%
YAMAHA 8 HP	291 000	890 000	206
YAMAHA 15 HP	380 000	1 003 000	164
YAMAHA 25 HP	456 475	1 445 000	217
YAMAHA 40 HP	627 190	1 780 000	184

The State's indirect assistance in outboard engine acquisition, based on all these elements, is estimated at 2.01 billion FCFA.

With regard to nets, calculations were based on the canoe fleet and considering only the fishing units with purse seines (417), encircling gill nets (87) and set gill nets (1608). Fishing net prices rose from 13 to 44% after devaluation (Kebe et al, 1995).

Actual average investment to equip a fishing unit is 6,700,000FCFA, 1,700,000 FCFA and

800,000 FCFA respectively. Our assumption was based on the fact that nets represent 75% of the fishing gear's total cost; the remaining was used to buy other materials needed to make the net (lead, rope, floats) and to pay for the mounting. Given the fact that the net can last four years and the tax rate in force, a 0.69 billion deficit was recorded.

On the whole, the Senegalese government's indirect financial contribution to marine artisanal fisheries is 8.5 billion FCFA per year.

3.4. Effects of financial assistance withdrawal

It is evident that the substantial financial assistance granted by the Senegalese government to artisanal fisheries largely contributed to the dynamism observed in the sub-sector.

The consequences of the FCFA devaluation had been the increase in production and investment costs. This was the cause of the immediate decline in profitability of most of the artisanal fisheries units. Consequently, it would seem that partial or total withdrawal of public assistance is likely to seriously affect the profitability of canoes.

A simulation was conducted to measure the effects of such a decision on the sub-sector. To this end, we chose two typical fishing units:

- the purse seine which lands pelagics, a commercially low value species representing the main artisanal fisheries and the local market fish supply;
- ice carrying canoes fishing commercially high valued species meant primarily for exports.

The following three scenarios are possible:

- withdrawal of VAT exemption on outboard engine fuel;
- payment of duties and taxes on outboard engines and nets;
- combination of the two preceding scenarios (no indirect public financial assistance).

The results of the simulation are recapitulated in Table 3. Fuel by far constitutes the most important artisanal fisheries units operational costs. It represents between 66 and 90% of costs common to the two selected fishing units. Artisanal fishers are subject to VAT on fuel which is indicated in the reduction of over half of the Return on Investment (ROI) from 50 to 21% for purse seine and 32 to 10% for ice carrying canoes. The fishermen's earnings have also considerably decreased (32 to 34%). In all cases, it is difficult to recover the capital invested from generated incomes within a reasonable time: between 5 and 10 years. Even though profitability is low, the situation is relatively less critical in the case of withdrawal of duties and tax exemption on outboard engines and fishing nets. These two items represent between 47 and 68% of fishing units investment costs. Unit owners are the only victims of this decision. In fact, the consecutive increase on duties and tax payment is reflected in depreciation (+53%) and repairs (+22%) making up expenses borne by the owner.

Lack of financial assistance (combination of the two scenarios retained) is likely to make most fishing units disappear. Operational earnings are hardly sufficient to cover the risk of investing in artisanal fisheries. The ROI of the purse seine fell to 7% whilst the use of ice carrying canoes showed a deficit, making any possibility of benefitting from opportunities of the FCFA devaluation precarious.

Table 3.- Compared profitability of two artisanal fishing units according to different scenarios

	PRESENT SITUATION (Total indirect financial assistance)		SCENARIO 1 (VAT on fuel)		SCENARIO 2 (Duties and taxes on engines)		SCENARIO 3 (No indirect financial assistance)	
	Purse seine	Line + ice	Purse seine	Line + ice	Purse seine	Line + ice	Purse seine	Line + ice
Investment (FCFA)	15 090 000	3 812 000	15 090 000	3 812 000	18 990 500	4 969 000	18 990 500	4 969 000
- Canoe 12 to 14 m	1 800 000	1 800 000	1 800 000	1 800 000	1 800 000	1 800 000	1 800 000	1 800 000
- Canoe 15 to 18 m	2 400 000		2 400 000		2 400 000		2 400 000	
- Engine(s)	3 560 000	1 780 000	3 560 000	1 780 000	5 874 000	2 937 000	5 874 000	2 937 000
- Fishing gear	6 680 000	167 000	6 680 000	167 000	8 266 500	167 000	8 266 500	167 000
- Accessories	650 000	65 000	650 000	65 000	650 000	65 000	650 000	65 000
Sales (FCFA)	39 564 000	16 600 000	39 564 000	16 600 000	39 564 000	16 600 000	39 564 000	16 600 000
Common costs (FCFA)	12 056 000	5 854 745	21 456 000	9 270 443	12 056 000	5 854 745	21 456 000	9 270 443
- Fuel	10 600 000	3 851 745	20 000 000	7 267 443	10 600 000	3 851 745	20 000 000	7 267 443
- Food	1 300 000	650 000	1 300 000	650 000	1 300 000	650 000	1 300 000	650 000
- Maintenance	156 000	78 000	156 000	78 000	156 000	78 000	156 000	78 000
- Ice		1 000 000		1 000 000		1 000 000		1 000 000
- Bait		275 000		275 000		275 000		275 000
Remuneration (FCFA)	27 508 000	10 745 255	18 108 000	7 329 557	27 508 000	10 745 255	18 108 000	7 329 557
- Labour	14 670 933	8 058 941	9 657 600	5 497 167	14 670 933	8 058 941	9 657 600	5 497 167
- Capital	12 837 067	2 686 314	8 450 400	1 832 389	12 837 067	2 686 314	8 450 400	1 832 389
Repairs (FCFA)	2 866 000	317 250	2 866 000	317 250	3 494 025	432 950	3 494 025	432 950
- Fishing gear	1 670 000	41 750	1 670 000	41 750	2 066 625	41 750	2 066 625	41 750
- Engine(s)	356 000	178 000	356 000	178 000	587 400	293 700	587 400	293 700
- Canoe(s)	840 000	97 500	840 000	97 500	840 000	97 500	840 000	97 500
"Insurances" (FCFA)	195 000	65 000	195 000	65 000	195 000	65 000	195 000	65 000
Gross earnings (FCFA)	9 776 067	2 304 064	5 389 400	1 450 139	9 148 042	2 188 364	4 761 375	1 334 439
Depreciation (FCFA)	2 200 000	1 070 000	2 200 000	1 070 000	3 357 000	1 648 500	3 357 000	1 648 500
- Engine(s)	1 780 000	890 000	1 780 000	890 000	2 937 000	1 468 500	2 937 000	1 468 500
- Canoe(s)	420 000	180 000	420 000	180 000	420 000	180 000	420 000	180 000
Boat owner's net revenue (FCFA)	7 576 067	1 234 064	3 189 400	380 139	5 791 042	539 864	1 404 375	-314 061
Number of fishermen	20	9	20	9	20	9	20	9
Fisherman's net revenue (FCFA)	733547	895438	482880	610796	733547	895438	482880	610796
Return on Investment (%)	50	32	21	10	30	11	7	
Payback period (months)	24	37	57	120	39	110	162	

CONCLUSION - RECOMMENDATIONS

To date, marine fisheries have played an important role in the structural adjustment policy. Due mainly to the dynamism of the artisanal sub-sector, the participation of the fisheries sector in the general national economic policy objectives was laudable. The introduction of added value and employment, regular supply of proteins to the local people, foreign currency generation, are components helping to evaluate the sector's contribution to the restoration of macro-economic balance.

With the devaluation of the FCFA, the existence of measures aimed at reducing technical costs, port charges, customs duty (suspension of customs stamp, setting up of free zone,...) tax reduction and cheap labour should help restore the productivity and competitivity of fishing enterprises.

However, with the obvious lack of control on production prices formation mechanisms on the world market, the economic wealth drawn from the sector is greatly obtained from abroad. Consequently, budgetary restrictions related to structural and monetary policy did not allow the State and its specialised institutions (fisheries administration, activity and research structures) to have all the necessary elements for a real management of the sector. Substantial funds generated by fisheries especially those from reciprocal fishing agreements with the European Union have always benefitted other sectors of the national economy.

In such a situation, it is hardly possible for artisanal fisheries to continue to benefit from financial assistance from the government. The increase in the price of outboard engine fuel and high production costs following the devaluation of the FCFA, have seriously affected fishing units profitability. It is obvious that applying real price policy on the fuel, engines and nets will only accentuate the fishing units' profit reduction process. In the long run, if no other accompanying measure is envisaged, marine artisanal fisheries will disappear. Consequently, any suspension albeit partial, of these various benefits must be progressive and well examined beforehand while integrating all the elements to avoid unfortunate consequences.

The value added from the sub-sector (over 70 billion FCFA) is out of all proportion to the assumed amount of the indirect financial assistance granted by the government. Consequently, the substantial contribution of artisanal fisheries to employment reabsorption (250,000 generated direct or indirect jobs) and food security (over 200,000 tons of products discharged every year) is in favour of public financial assistance to the sub-sector. However, given the present level of the Senegalese EEZ fishery resources, some measures have to be taken to ensure sustainable development in artisanal fisheries.

In fact, the generalised assistance policy of tax reduction was manifested by an extension of fishing effort, especially that of purse seine. The findings of the Dakar-Thiaroye Centre for Oceanographic Research (CRODT) clearly show that coastal demersals are overexploited on the Small Coast where the main national fleet are concentrated. On the other hand, in the south (Casamance), it is possible to initiate a slight increase in sardinella production (Sardinella maderensis and S. aurita) and the bigeye grunt (Brachydeuterus auritus), a species just exploited. Consequently, the redeployment of fishing effort in this zone must be encouraged by giving indirect financial assistance primarily to artisanal fishing units which will accept to operate there. It is presumed that there will be reliable chances for a better valorization of catches.

The use of inboard diesel engines could also be encouraged to reduce energy consumption. Some fisherfolk in Saint-Louis have adopted this strategy while waiting for its generalization throughout the coast. To this end, a real credit policy must be established to guarantee easy access to this indispensable equipment by the fisherfolk.

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