

## **2. THE FISHERIES SECTOR AND ITS ENVIRONMENT**

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The economic bad health of most of the region's countries has a negative effect on the fisheries sector. This contributes - especially in the non CFA area countries - to a situation of shortage: shortage of credits, currencies and inputs. In this context, we however observe a regular growth of the artisanal production whose investments and working costs are relatively low compared to industrial fisheries. But it is likely that, because of the high increase of costs and the low purchasing power of consumers, the average income of fisher men is presently falling. It is also observed that due to the limited nature of the resource, of the population growth - more than 3% a year - and of the economic crisis which doesn't permit to states to increase their imports, the available resource in sea products per capita trends to decrease.

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### **2. 1. Recent general trends**

The region's population which has 169 million inhabitants in 1980 reached 231 million in 1990.

The most populated countries are Nigeria (108 million) and Zaïre (35 million). Five small countries have less than one million inhabitants. They are: Cape Verde, Gambia, Guinea Bissau, Equatorial Guinea and Sao Tome Principe. (See Table 1). With population growth rates superior to 3% a year for most of them, the region's countries are among those which have the highest growth in the world.

At that rate, the population doubles in 25 years and the fore casts for the year 2000 do not give the hope of a Sudden inversion in this trend. It can also be observed.

That the population growth is unbalanced to the benefit of urban areas. Thus, the rural population which represented 71% of the region's inhabitants in 1980 was only 64% in 1990. The most urbanized countries are Mauritania (47%), Liberia (46%), Gabon (46%), Sao Tome and Principe (42%) and Cameroon (41%).

The urban population growth varies between 5 and 7% a year. Naturally, this rural exodus has consequences on food production and also on the main target group of national policies.

**Table 1 - Baseline indicators**

	Life expectancy at birth (years, 1990)	Illiteracy (adults, %)	Schooling rate (%)	Population 1990 (in thousands)	Population growth rate (%)	
					1980-90	1989-2000
Mauritania	47	66	16	2024	2.4	2.8
Senegal	47	62	16	7327	2.9	3.1
Cape Verde	66	34	20	370	n.a.	n.a.
The Gambia	44	73	16	861	n.a.	n.a.
Guinea Bissau	39	64	7	964	2.3	n.a.
Guinea	43	76	9	5755	2.5	2.8
Sierra Leone	42	79	18	4151	2.4	2.6
Liberia	54	61	n.a.	2575	3.1	3.0
Côte d'Ivoire	55	46	20	11997	3.8	3.5
Ghana	55	40	39	15028	3.4	3.0
Togo	54	57	22	3531	3.5	3.2
Benin	50	77	n.a.	4630	3.2	2.9
Nigeria	52	49	19	108542	3.2	2.8
Cameroon	57	46	26	11833	3.0	5.9
Equatorial Guinea	47	50	n.a.	352	n.a.	n.a.
Gabon	53	39	n.a.	1172	3.6	2.8
Sao Tome & Principe	67	33	n.a.	121	n.a.	n.a.
Congo	53	39	n.a.	2271	3.4	3.3
Zaire	52	28	24	35568	3.2	3.0
Angola	48	58	11	10020	2.6	3.0

Source: World Bank, 1992 and LeMonde, 1993

Concerning baseline indicators such as life expectancy, schooling rate and illiteracy (see Table 1) they clearly show a worrying situation. In 18 out of 20 countries life expectancy at birth doesn't exceed 55 years. In 8 countries, it is under 50 years. In half of the countries, adults illiteracy doesn't exceed 50%. As for schooling rate, it is very low and generally under 20%.

**Table 2-** Gross National Product per Capita (in US \$)

	1980	1991	Annual average growth rate 1965-90	Annual average growth rate 1980-91
Mauritania	440	510	-0.60%	-1.80%
Senegal	510	720	-0.60%	0.00%
Cape Verde	530	750	-	2.20%
The Gambia	350	360	0.70%	-3.01%
Guinea Bissau	130	190	-	1.30%
Guinea	310	450	-	3.45%
Sierra Leone	320	210	0.00%	-1.30%
Liberia	580	400	-	-
Côte d'Ivoire	1180	690	0.50%	-3.40%
Ghana	410	400	-1.40%	-0.30%
Togo	410	410	-0.10%	-1.70%
Benin	390	380	-0.10%	-1.10%
Nigeria	930	290	0.10%	1.70%
Cameroon	760	940	3.00%	-0.90%
Equatorial Guinea	-	330	-	3.40%
Gabon	3830	3780	-0.90%	-4.20%
Sao Tome & Principe	-	350	-	-3.50%
Congo	850	1120	-0.900%	-0.20%
Zaire	590	210	-2.20%	-1.60%
Angola	-	830	-	-

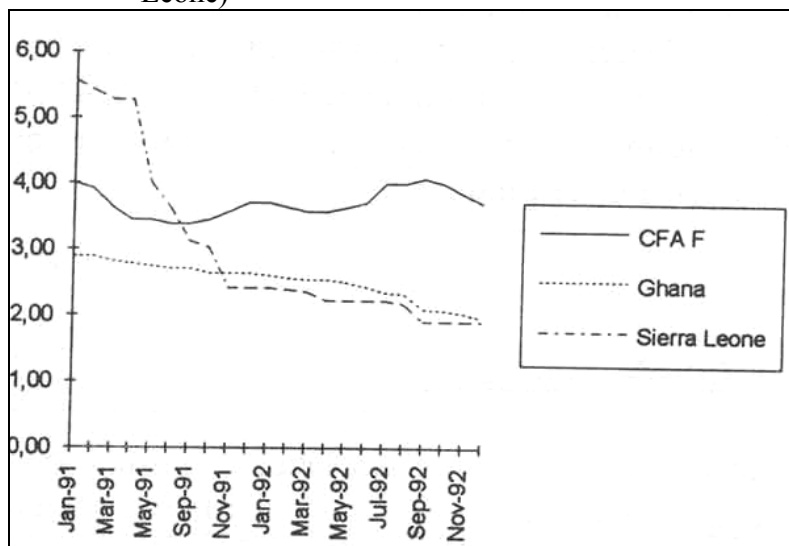
Source: World Bank, 1992 and LeMonde, 1993

The economic situation of the region's countries is precarious and the short term perspectives do not authorise optimism. The Gross National Product (GNP) which had increased in the 70s, decreased markedly in most of the region's countries during the 80s (see Table 2). In 16 countries of the region the GNP per Capita under 750\$ US a year. The results are better in countries which have oil resource (Angola, Cameroon, Congo, Gabon). However, it is not the case of Nigeria whose oil resources are not enough to compensate for the burden of demography.

This situation of crisis explains largely the great decrease in savings and also the fact that the financing of investments is increasingly artisanal ensured from outside. In fisheries, and especially artisanal fisheries, it can be observed that the region's governments have difficulties in even ensuring the maintenance of existing infrastructures or administration vehicles, and the regular payment of the civil service salaries which are yet very modest most of the time.

In many countries of the region tax subsidies and exemptions in favour of artisanal fisheries are still applies. However, it is to be feared that, under the pressure of international financial institutions and within the framework of Structural Adjustment Programmes (SAP) governments feel soon obliged to give up those subsidies and exemptions that the sector's operators enjoy.

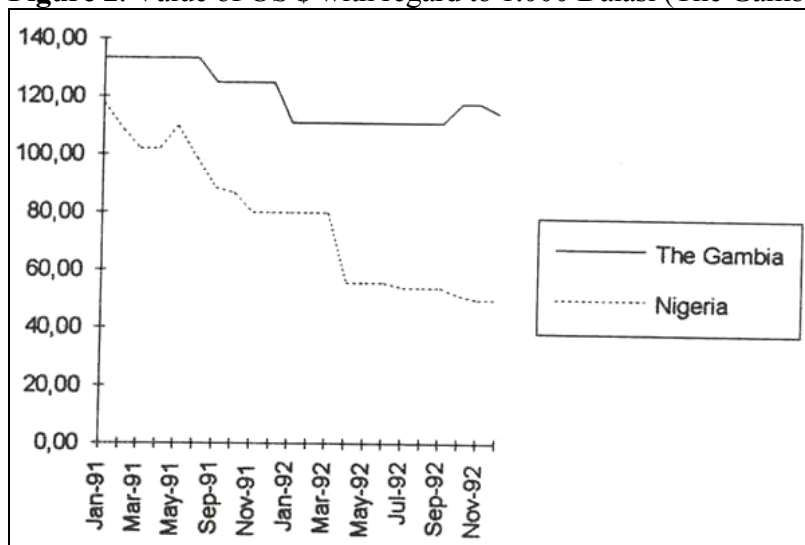
**Figure 1.** Value of US \$ with regard to 1.000 CFAF, Cedi (Ghana) and Leone (Sierra Leone)



As far as the monetary situation is concerned, it has continued deteriorating for a number of the sub-region's countries, except for the CFA zone which includes, among the countries of IDAF region, Senegal, Cote d'Ivoire, Togo, Benin, Gabon, Cameroon, Congo and Equatoriale Guinea.

As it appears in Diagram 1, the parity of franc CFA with regard to dollar has remained unchanged between the beginning and the end of the year 1992.

**Figure 2.** Value of US \$ with regard to 1.000 Dalasi (The Gambia) and Naïra (Nigeria)



The currencies of Gambia and Cape Verde have slightly devaluated by 9% and 7% respectively. In November, dobra, Sao Tome and Principe's currency, had lost 80% of its value compared to the beginning of the year, and in October, Ouguiya, Mauritania's national currency, has devaluated by 40%. All the other currencies have also seriously devaluated: in Sierra Leone by 20% after a devaluation of 56% in 1991, in Ghana by 25%, in Nigeria by 37% after devaluation of 32% in 1991, and in Angola by 67%. As for Zaïre which was exchanged at 66,000 for 1 dollar US at the beginning of the year, it was exchanged at about 2 million for 1 dollar in December. This fall of the value of the national currency has greatly increased the cost of imports.

Political disturbances, continued in 1992 in Zaïre, Togo, Liberia and Angola. This situation has greatly perturbed national production and prevented the gathering of statistical data.

The precarious status of migrant fishermen is always a topical subject <sup>6</sup>. In 1992, many Nigerian fishermen were expelled from Gabon. Before their expulsion, foreign fishermen represented more than 90% of sea fishermen. According to a census by the fisheries Department, Nigerian fishermen, before their expulsion, represented 72% of the fishermen of the Estuacy province. In Mauritania, Senegalese artisanal fishermen represented 60% of the country's artisanal fishermen before the 1989 disturbances. Their departure had provoked a fall in the production from 23,000 to about 10,000 tons. However, they are returning progressively. In Liberia, Ghanean fishermen ran away, as early as 1991 from the hostilities which still continue.

The information presented in this section do not only aim at giving a global view of the socio-economic situation prevailing in West Africa. As we will see later, these indicators are elements which explain the evolution of the fisheries sector and especially artisanal fisheries. As a matter of fact, macro-economic factors have an essential influencia both in the field of production - the supply of products - and in the one of consumption - the demand of products.

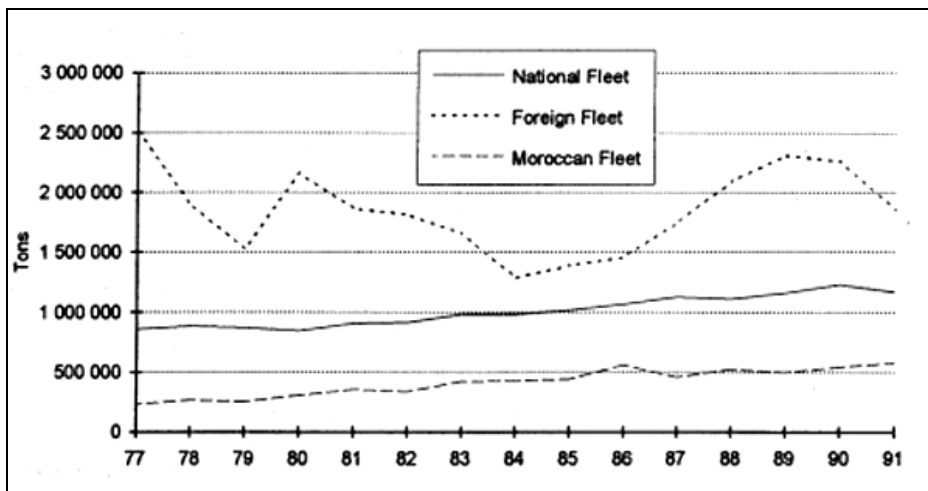
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<sup>6</sup> Haakonsen and Diaw, 1991

## 2.2. Trends in fisheries production

The catches in the CECAF <sup>7</sup> area have reached 3,6 million tons in 1991 thus coming back to the 1977 level of catches which had continued decreasing. In this total, 1,85 million tons (51,5%) were caught by non African fleets (Figure 3) and 580,000 tons (16%) by the Moroccan fleets <sup>8</sup>. After an important decrease these last years, the landings of non African fleet have finally reached a level comparable to the one of 1980

**Figure 3.** Fisheries production breakdown in the CECAF area (1977-1991)



The fall observed in the total catches between 1989-90 and 1991 in the CECAF area is the result of an important fall in the catches of foreign fleet. It should be observed that between 1977 and 1991 the catches by USSR have increased from 45% to 68% of foreign fleets' total catches in the CECAF area. At the same moment Spain was maintaining itself at 18% and Poland which represented 8% of foreign fleets' catches in 1977 has stopped its activities in the area since 1982.

<sup>7</sup> The fishery Committee for Eastern Central Atlantic region includes the coastal countries from Morocco to Zaire and 10 non African countries

<sup>8</sup> FAO, 1991 : 2

**Table 3** - Artisanal fisheries production (1992 estimates)

Mauritania	10.000
Senegal	250.000
Cape Verde	5.000
The Gambia	20.000
Guinea Bissau	1.500
Guinea	50.000
Sierra Leone	46.000
Liberia	6.500
Côte d'Ivoire	48.000
Ghana	220.000
Togo	7.000
Benin	7.200
Nigeria	170.000
Cameroon	40.000
Equatorial Guinea	4.000
Gabon	14.000
Sao Tome & Principe	3.000
Congo	8.000
Zaire	2.000
Angola	20.000
<b>Total</b>	<b>932.200</b>

Source: IDAF Liaison Officers

The gross value of catches at the landing of artisanal and industrial national fleets was estimated at 800 million US \$ in 1989.

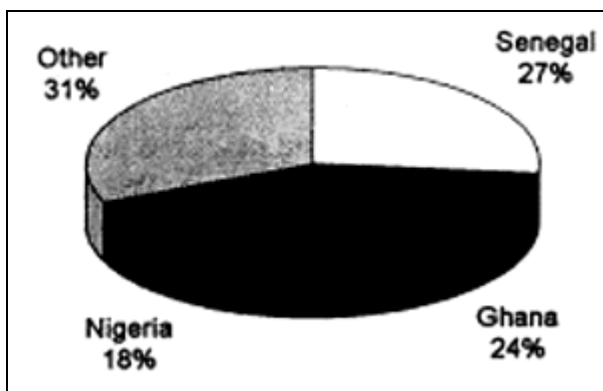
As far as artisanal fisheries fleet in IDAF region is concerned, its landing is estimated at about 930,000 tons in 1992 (see table 3). In this sector, producing countries are Senegal (250,000 t) Ghana (220,000 t) and Nigeria (170,000 t). 69% of the catches by IDAF region's artisanal fleets are landed in these three countries (see Diagram 4).

To facilitate the analysis, it is appropriate to subdivide the region into three areas. Each has a certain homogeneity in terms of fisheries resource, research and training institutions' development state, nature of fisheries development problems.

The Northern area (from Mauritania to Sierra Leone) is Characterised by important resource, important catches by foreign fleets and a real need of fisheries management due to the intense exploitation of certain stocks.

In the central area which lies from Liberia to Nigeria, the resources are less abundant and the sector plays a less essential role in the national economy although fish is an important element in food habits. The southern area from Cameroon to Angola has more important resources than the central area but much less than the northern ones. Fisheries and national capacities in administration and research are also less developed there than in the northern area.

**Figure 4** – Major artisanal fisheries producers, 1992



Exploitation in IDAF area has reached a level close to the maximum allowable production (MAP). Indeed, the potential of marine waters is globally estimated at 2,5 million tons a year for the countries of the area. Artisanal fisheries catches being 900,000 tons, those of industrial fleets in the area 300 to 400,000 tons and those of foreign fleets about 1,200,000t, the exploitation rate would be about 95% .

This however hides the fact that certain fisheries are already over exploited (see 3.7)

### **2.3. Means of production**

The number of artisanal fishermen working in the area is commonly estimated at 600,000 among whom 200,000 are full time.

Fishing operations are performed with canoes the type of which varies from one area to another, traditionnally these canoes were built however limited in length and volume if we consider available trunks. But with the necessity of extending their field of action and /or due to the adoption of new fishing methods they have progressively evolved. Thus we have Senegalese canoes built with planks and using revolving seine, which measure between 14 and 20 meters and have a loading capacity of 20 tons. In many countries of the region there are either monoxyle canoes(equatorial Guinea, Sao Tome and Principe, Congo,.....) or planks canoes (Guinea, Sierra Leone, ....) of more modest dimension adapted to a less intensive fishing.



However, Ghanaian type canoes used on a large part of the coast are always monoxyle canoes which can measure 14 meters in length. They use heavy and sophisticated engines such as revolving and purse seines, or large mesh nets. But a problem already appears which will be acute in the future is the wood availability for the construction of those canoes<sup>9</sup>.

The most commonly used seines, gillnets, longlines and handlines. Choosing this or that year depends, not only on the shipowner's financial means but also on the target species.

These last years the cost of production factors has increased, but the repercussion on the price of fish was seriously far from being integral. In Sao Tome and Principe for example, the price of outboard motors and other fishing material has increased by more than 400% since 1986 while

the increase in the price of fish was limited at 150%. In Gabon, the price of a 40 horse power outboard motor has increased between 1988 and 1992, from 400,000 to more than 800,000 FCFA and the price of canoe from 200,000 to 450,000 FCFA (+125%). At the same time, the price of a fish of value like the bass, increased from 750 to 800 FCFA only. In Nigeria, between April 1988 and April 1992, the cost of a 15 horse power outboard motor increased from 20,500 to 34,500 nairas (+68%), the one of a 25 horse power from 25,000 to 40,000 nairas (+60%) while the price of one kilogram of medium size fish increased from 16,5 to 19 nairas only (+15%).

Moreover, in some countries, there is a lack of inputs. thus, in Congo for example, migrant fishermen essentially from Benin and Ghana bring in almost all their inputs- canoes, motors and nets - from their native country. In Guinea Bissau or in Sao Tome and Principe There is a regular shortage of fuel.

Despite its relatively high cost, canoes motorization continues in all the countries of the region. It has reached 85 to 90% in Gabon, Mauritania, gambia and Senegal, 66% in Togo, about 50% in Cape Verde, Cameroon and Sao Tome and Principe, one third in Guinea, but only 20% in Guinea Bissau and 10% in Sierra Leone. In spite of many attempts, the interior diesel motor wasn't successful as expected.

On the other hand, the use of yanmar outboard diesel motors is spreading in the region and it is likely that the trend will continue in the coming years. As for echo sounders, they are little used for lack of efficient protection of the equipment on canoes...

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<sup>9</sup> Everett and Sheves, 1991

## 2.4. Utilization and Valorization of Fishery products

The number of persons working in the fields of fish processing, distribution and marketing in the region is estimated at 1,800,000. These activities are principally carried out by women.

The catches of West-Africa artisanal fisheries include mainly little pelagics (sardinella, ethmaloses, anchovies, sardines, etc...) -The lack of the cold storage unit, the perishable nature of the product, the difficulties of transportation between the landing sites and the markets have led operators to process a large part of their production.

**Table 4.** Sea products balance of trade (1990)

	Fish products imports (million \$, 1990)	Fish products exports (million \$, 1990)	Fish products balance of trade (million \$, 1990)
Mauritania	0.5	149.0	148.5
Senegal	37.4	339.2	301.8
Cape Verde	0.3	3.9	3.6
The Gambia	5.3	2.9	-2.4
Guinea Bissau	0.5	1.5	1.0
Guinea	4.9	0	-4.9
Sierra Leone	1.1	16.3	15.2
<b>Sub-total</b>	<b>50.0</b>	<b>512.8</b>	<b>462.8</b>
Liberia	7.8	1.8	-6.0
Côte d'Ivoire	136.7	174.7	38.0
Ghana	30.0	22.8	-7.5
Togo	14.5	0.6	-13.9
Benin	2.0	0.8	-1.2
Nigeria	155.8	14.6	-141.2
<b>Sub-total</b>	<b>347.1</b>	<b>215.3</b>	<b>-131.8</b>
Cameroon	46.7	8.2	-38.5
Equatorial Guinea	1.7	0.2	-1.5
Gabon	12.1	3.9	-8.2
Sao Tome & Principe	1.2	0	-1.2
Congo	19.2	3	-16.2
Zaire	61.4	0	-61.4
Angola	53.4	3.5	-49.9
<b>Sub-total</b>	<b>195.7</b>	<b>18.8</b>	<b>-176.9</b>
<b>Total</b>	<b>292.4</b>	<b>539.8</b>	<b>247.7</b>

Source: FAO

Processing techniques have remained traditional: smoking, salting and drying. Fish smoking in chorkor ovens especially is the speciality of women. This can be observed in the Southern coastal countries (Côte d'Ivoire, Ghana, Togo, Benin and Nigeria). It is the same for fish drying in the sun, especially in northern coastal countries (Mauritania, Senegal, Cape Verde, Gambia, Guinea Bissau, Guinea, Sierra Leone and Liberia)<sup>10</sup>.

Another product which is consumed in the region is frozen fish. It is consumed in big importing countries such as Nigeria, Côte d'Ivoire, Cameroon, Zaïre and Angola, Guinea Bissau represents a specific case where frozen fish - mainly chinchards and sardinella - is landed by the Russian fleet following fishing agreements and sold on the local market.

The main exporting countries are Mauritania, Senegal and Côte d'Ivoire. In percentage of the total value of exports, sea products represent 40% in Senegal, 30 to 35% in Mauritania, between 60 and 70 % in Cape Verde, but less than 10% in Côte d'Ivoire. To this should be added the currencies brought in by the transfer of fishing licences to foreign fleets. In Mauritania for example, this sector contributes 60% of its currencies to the national economy.

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<sup>10</sup> Bonga, April 1992

**Table 5.** Fish Consumption and its share in proteins (1990)

	Fish consumption (kg/per caput/year 1990)	Share of fish (%) in total proteins (1990)	Average index of food production per capita (1979-81 = 100) (1988-90)
Mauritania	10.6	4.7	85
Senegal	25.1	12.2	102
Cape Verde	10.6	4.5	n.a.
The Gambia	20.4	10.9	n.a.
Guinea Bissau	6	4.2	n.a.
Guinea	7.1	4.3	87
Sierra Leone	12.1	9.8	89
Liberia	12.9	9.5	84
Côte d'Ivoire	13.8	8.4	101
Ghana	27.1	21.1	97
Togo	14.4	8.2	88
Benin	9.7	5	112
Nigeria	8.4	5.1	106
Cameroon	12.6	6.5	89
Equatorial Guinea	19.1	21.1	n.a.
Gabon	28.2	13.3	84
Sao Tome & Principe	35.1	23.3	n.a.
Congo	33.4	22.3	94
Zaire	7.8	6.8	97
Angola	19.8	15.9	81

Source: FAO, 1991, and World Bank 1992

In 1989<sup>11</sup>, the major importers of sea products per capita were Gambia (8,36 kgs), Togo (10,540kgs), Gabon (11,70kgs), Angola (13,20kgs), Congo (16,68 kgs) and Côte d'Ivoire (18,18 kgs). These imports represent important outflows of currencies that are less and less bearable within the context of structural adjustment programmes.

Only Mauritania, Senegal, Cape Verde, Guinea Bissau, Sierra Leone and Cote d'Ivoire (despite massive importation - 150,000 tons - of frozen fish) are net exporters (see table 4).

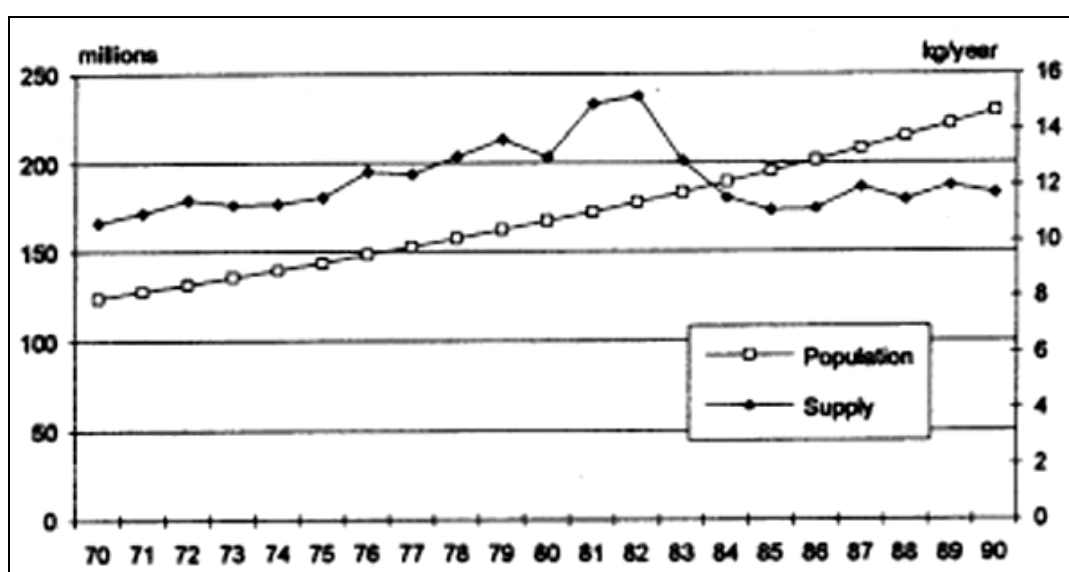
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<sup>11</sup> FIPPDAT

As it has already been mentioned, population is growing rapidly in the region's countries. It follows, for most of them, that the demand in sea products increases quicker than the supply.

It is also observed that due to the low purchasing power of consumers, producers find it difficult to increase appreciably the price of fish. It is thus likely that a large number of potential customers cannot afford the price presently prevailing in most of the countries. When we compare fish consumption and GNP per capita we notice that the seemingly lower consumption in low income countries is probably an indication of an unsatisfied demand because of the price.

**Figure 5.** - Population growth and fish supply of the per capita (1970-1990)



This seems true especially for Guinea Bissau, Guinea, Benin, Nigeria and Zaire where fish consumption per capita and per year is inferior to 10 kgs.

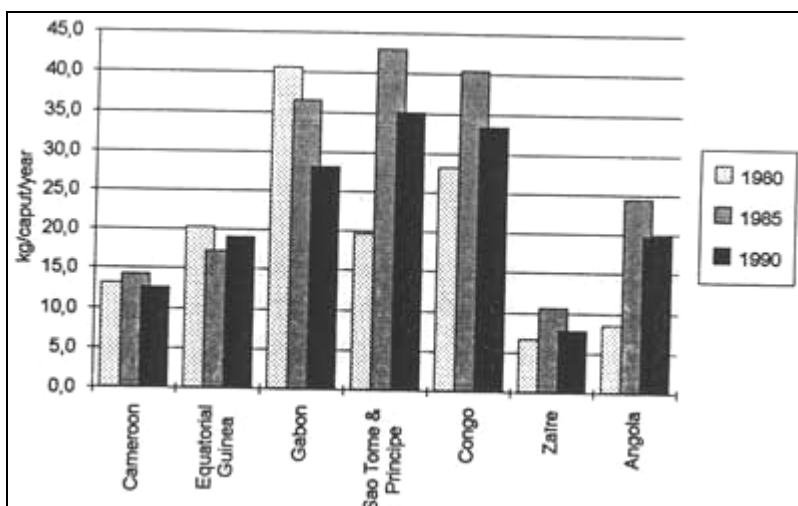
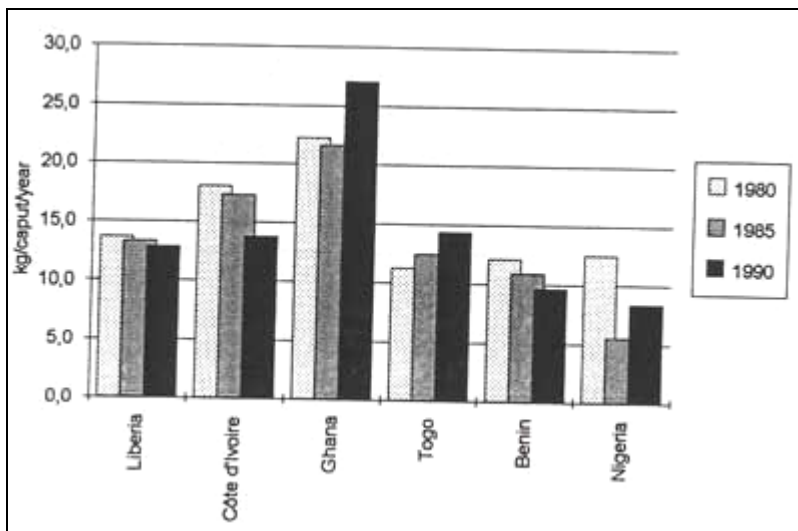
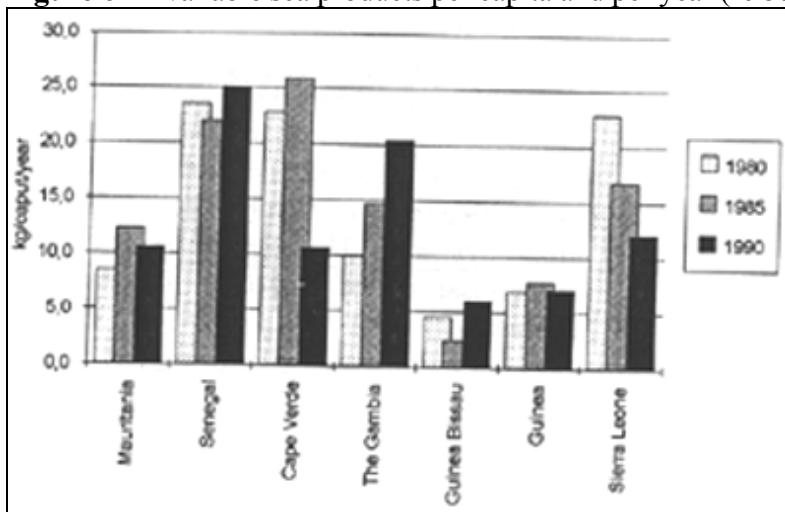
The fish supply<sup>12</sup> per capita which was higher than 14 kgs per capita per year in West Africa in 1980-81 was lower than 12 kgs in 1990, and this essentially because of the population growth estimated at more than 3% a year-now, this occurs in a situation of fall in food production per capita. Indeed, the average food production indication per capita used by the world Bank gives the average annual quantity of foodstuffs (including meat but not fish) produced per capita during the period 1988-90 compared to the annual average of the period 1979-1981. The importance of fish in the populations' food habits is obvious since in half of the countries concerned, it represents more than 40% of animal proteins (see table 5.) This can be explained, not only by the fact that it is largely available but also by the fact that the price of fish is largely below the price of meat and poultry (up to 10 times in Kinshasa, Zaire).

<sup>12</sup> The available sea products is determined as follows:  
national production + imports - exports

The countries which continue since 1980 to increase the available sea products per capita are Senegal, Gambia, Guinea Bissau, Ghana, Togo and Nigeria (Figure 6).

In addition to the factors of supply and demand which determine the price of processed fish, there is another factor, the exchange rate, which also determines the price in the sub-region.

**Figure 6 - Available sea products per capita and per year (1980-85-90)**



Source: FIPDAT, FAO

This is especially true for anglophone countries while in francophone countries of the CFA zone there is a certain stability considering the fixed parity of CFA with regard to french franc (50:1). The devaluation of the Ghanaian and Nigerian currencies for example if it is a good thing for those in these countries who export to CFA zone countries is rather a bad thing for CFA zone exporters. Such an inversion of exchanges between benin and Nigeria occurred during the devaluation of April 1992<sup>13</sup>.

It is important to note the relative integration between production, processing and marketing of artisanal fisheries products. Women often absorb fisheries surplus and participate in the financing of fishing thanks to a “fish - processing”. Credit system This should be kept in mind to avoid that a modernisation of existing channels excludes traditional operators.

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<sup>13</sup> Bonga, January 1993