

African Fisheries : Major Trends and Diagnostic of the 20th Century

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Abstract :

The marine fisheries production from African coastal countries, combined with that of freshwater production of the continent is estimated to be 6 millions metric tons, corresponding only 5 % of the total world production. Africa's contribution to fisheries products (1,5 %) is insignificant compared to that of world commerce which is around 44 millions tons. This deplorable situation is due to a certain number of problems which include s among others, the relative biogenic poverty of African waters, the exploitation of African waters by foreign vessels, the total lack of catches effected by the African vessels out of their regional boundaries, the lack of knowledge on the mastering of commercialisation and on veritable commercial politics of fisheries products, including quality assurance. In addition to this, the almost inexistence of the aquaculture in the sub-Saharan countries. This paper analyses the African fisheries in the whole continent and presents the general characters, notably its evolution, fisheries resources, valorisation and consumption of fisheries products. The global analysis made here accords a priority to markets as well as to the framework of contribution of these products and tries, at the end of the 20th century, to present some trends. Facing the globalisation phenomena, how will African fisheries producers be challenged in the new millennium? This continental level analysis brings out field application and some different development perspectives for both small scale and industrial fisheries sub-sectors.

Key words : Africa, Fisheries, major trends, Production, Exports, Aquaculture.

Introduction

The African continent is surrounded by marine areas identified by the FAO statistical divisions : Eastern Central Atlantic (division 34), South Eastern Atlantic (division 47), South Western Indian Ocean (division 51), the Mediterranean and Black Sea (division 37). Within these are both artisanal and industrial fisheries activities. The African inland fisheries also play an important role for the landlocked states as well as in coastal countries, with production estimated at 2 millions metric tons in 1997 (10 % world production). The Great Lake states (East Africa), Egypt and Nigeria have an important inland fish landings. Aquaculture is practically non existent in Africa, with the low production of 75,000 metric tons of fish in 1997.

Several studies have been carried out within the fisheries sector in Africa. It has been emphasised that the products which are limited to the local markets constitute however an important factor in the economy of certain countries. Within the continent, fisheries products are an important source of animal protein depending on dietary habit, geographical location and accessibility by the population. Amongst the important fish producing states in Africa, many also import fish to cover the deficit between supply and consumer demand. According to the FAO reports in 1995, the African continent produces 5.3 millions metric tons (m.t.) per year, imports 1.7 million m.t. and exports approximately 0.7 millions m.t. of fisheries products. Marine fisheries contribute 64 %, inland fisheries 35 % and aquaculture 1 % of the total production. This paper analyses the fisheries sector at the end of the 20th century and presents a diagnostic account of its evolution.

I. The African fisheries activities

Coastal African fisheries have for a long time consisted of localised activities with the aimed at providing animal protein to the coastal populations. This can be explained by the low level technology of fishing gears (dugout canoes using paddles and/or less developed sails), and less developed preservation techniques (salting, sun and smoke drying).

The main characteristics of the African waters are :

- the existence of the high fisheries potentials, notably within the upwelling zones of the continental shelf or where the waters have been enriched by land based sources through the rivers;
- the good natural conditions of the coasts (moderate tidal dynamics);
- the existence of creative economic activities establishing good collaboration between neighbouring coastal states and citizen within the continent.

It should also be noted that as in the domains of agriculture and animal breeding, the fisheries sector has also been more developed within the savannah than the deserts whose adjacent areas are rich in fisheries resources. Typical examples are seen within the Western Sahara, Mauritania and Namibia.

The initial stage of the African fisheries was characterised by two significant dynamic activities which have been established progressively up to the present date :

- the commercialisation of fisheries products; the majority of the West African countries have been importers of transformed fisheries products since the second half of the 20th century.

- The inter-regional migration of fishermen from countries with a long tradition in fisheries to countries with a high potential in fisheries resources which are less exploited; this phenomena is highly accelerated with the impact of the demography as it is seeing in high rate of emigration and neglect of agricultural activities within low production seasons. One can cite as examples the migration of fishermen from Senegal to Mauritania and Guinea, from Ghana to Ivory Coast, Guinea or Cameroon, or from Nigeria and Benin to Congo, Gabon, Cameroon etc..

1.1. Installation of European industrial fishing fleet

The arrival of European fishing economic units took place during colonialization, within the framework of the liberty incurred from the past law of the sea, which gave colonial sovereign rights over fisheries resources within the territorial waters (3 nautical miles from the coastline). Free access to fisheries resources was allowed to who ever had the ability to exploit. The Spanish, Portuguese, Italians and French then exploited Africa's coastal zones in order to carry the products to Europe or caning them within foreign industries installed in some African cities. In the 1950's, with the respect of the progressive development of the ice conservation facilities, certain owners of fishing vessels, with the aim of benefiting from their trawlers, moved to Senegal, Guinea, Equatorial Guinea, Angola, Mozambique, Mauritania, Ivory Coast, Benin etc., following the local market opportunity of the iced and frozen products. Tuna fisheries were installed in 1995 within the Eastern Atlantic by the French and Portuguese for the market demands of the caning industries in Europe. In the 1970's, new regulations

concerning the hygienic conditions of fisheries products resulted in the installation of tuna canneries in Dakar and Abidjan.

1.2. Africa and the new Law of the Sea

For several years, the Law of the Sea provided a significant market advantage. It was a law drawn up by powerful European marine authorities, with common concepts, ideologies and interests. This had as an aim to express the dominance of the free access to the international waters. A part from the limited territorial waters, marine resources have common access and property to all states, much more to states with high fishing capacity. It was from the 1950's that, under the pressure of some South American countries (Pacific marine states), the principle for the definition of an Exclusive Economic Zone (EEZ) was adopted. Each country could then express its legal authorities on the exploitation of its fisheries resources.

This significant evolution resulted in many consultations that finally end to the signature by more than 140 countries (including Africans) of the document known as the United Nation Convention of the Law of the Sea (7-12 December 1982 at Montego Bay, Jamaica). However because of certain migratory pelagic fish populations and demersals exhibiting long and seasonal longitudinal and transverse migrations (through many EEZs), the authorities of coastal states, within the context of a national management of these resources went contrary to the ideologies of the United Nations. As a result, the new Law of the Sea made very little progress in the rational management of fisheries resources. The practical consequence of this new Convention was the development of a new and separate legal status. The Law of the Sea is considered scattered (Luchimi and Voeckel, 1978), being contradictory to legislation within fishing zones of adjacent states. The single

account of interest within states is evidenced in the application of the Law of the Sea.

An attempt to reduce these contradictions was shown in the resolutions of the Summit held in Rio de Janeiro in 1992 which resulted in new discussion on the migratory fish stocks within and out of the EEZ

This series of discussion ended in 1995 with the result of putting to an end, the free access of the international water with the benefit of their co-management by regional commissions that brought together coastal and fishing states. Membership to these commissions was opened to all, and was a condition for access to the resources. This Convention which complete that of the Law of the Sea will be ratified by several African countries.

The most recent of this initiative by the United Nations Organisation consisted to have amended FAO to the formulation of the Code of Conduct for the Responsible Fishing. Without any obligatory status, this Code defines the principles and norms applicable to the preservation, management and evaluation of fisheries resources with the view of their sustainable exploitation and with the respect to the environment. The Code was unanimously adopted on the 31 of October 1995 by the FAO Conference. As of now several projects have been initiated in Africa to explain the Code to different states for effective implementation. For that, activities are geared towards sensitisation of countries on the non-obligatory character of activities within the Code and translation of the Code into local languages after its adaptation to the local context. This is the case with the Sustainable Fisheries Livelihoods Programme (SFL/DFID) which aims to fight against poverty within 25 African countries through the fisheries sector.

1.3. Evolution of African Fisheries

The development of cities and wage-earning which provide monetary resources including stocking and cold store transportation, has resulted in the development of national markets and regional exchanges. The diversity in catches has resulted in development of great economic importance to certain fish, crustacean and mollusc species with exploitable markets in industrial European states.

Parallel to the artisanal fisheries which is more or less modernised, has been the development of a semi-industrial and sometimes industrial (with foreign capital) fisheries. As a result, one finds within the African fisheries a traditional artisanal and the national industrial sectors. Bilateral fisheries accords or individual fishing licences given to foreigners, have maintained the exploitation of African waters by non-coastal states (developed countries), who in exchange make financial contributions to the host countries. This contribution generally constitutes a small part of the value of resources removed, thanks to poorly negotiated accords, always at the profit of others.

While the new Law of the Sea is gradually implemented, African fisheries is evolving but in a different manner from that of industrialised countries.

The nature of the local dugout canoe has resulted in its limited evolution, the peak of which is demonstrated by the big Ghanaian and Senegalese canoes known as Awasha canoes (Njifonjou et al, 1995). These are up to 23 m long and make use of 40 to 80 Hp engine with an ice compartment for fish preservation. They can spend several days offshore and travel more than 50 nautical miles. In addition they are designed to cross the surf and land on the beach without any port infrastructure. This type of canoe does however still have areas that need to be developed, such as comfort, the precarious

hygienic and security conditions, and the non utilisation of gas oil inboard engine. One understand the difficulties to work with these canoes event when called modernised, and the difference with the small diesel boat of the European artisanal fisheries.

In Europe or in other developed part of the world, a master fisherman can, within his carrier, take up with a boat of 6 m long and end up with one or several trawlers of 25 m, while progressively modifying his working methods. On the contrary, within the inter-tropical Africa, industrial fisheries is rarely the result of artisanal fisheries efforts.

II. The African fisheries within the world context

World fisheries production has progressed so much since the 1950's. Marine fish captures have almost multiplied by 5, from 18.5 millions m.t. in 1950 to 85 millions m.t. in 1995. Within the same period, continental captures have multiplied by 7, from 2.2 million tons to 16 millions m.t. tons, giving a total world production of about 101 millions m.t. in 1995. On the other hand, significant assistance has been given to aquaculture. Production within this sector has increased from 7 millions m.t. in 1994 to more than 17 millions m.t. in 1997, representing 16 % production of the total fisheries products.

Even though the available statistics could be considered underestimated, fish captures by African states, comprising those from fresh water seem to have attain the peak from present value, when compared to world fisheries. There has been progress of 18 % in 12 years, which seems very insufficient when compared to those of other developing countries, Asia and South America in particular as shown in Figure 1.

Figure 2 and Table I show the evolution of the total capture of offshore African coast. One notices that, after the maximum

capture of 6.5 millions tons recorded in 1987, captures have been randomly distributed around 5 millions m.t. from 1991. Some studies (Henry and Moal, 1998) show that this significant fall of 27 % within 4 years is due to the absence of new resources, but also and mainly to a fall of the fishing fleet of eastern European states.

If in general this limited progression can in part be due to the less productivity of African waters, it is mainly due to :

- the total absence of captures from African fishing fleet out of their region,
- the exploitation of the African waters by foreign vessels,
- the landings of African fisheries products out of their member states of origin,
- the non-existence of Aquaculture within the continent.

Figure 3 shows the evolution of the total exports of the African fisheries products for the main countries. The 700,000 tons exported in 1995 seemed insignificant when compared to 44 millions tons of the world trade or to 3.4 millions tons exported by Thailand only.

2.1. Valorization of fisheries products

In the continent, fisheries products are extremely fragile and the type of physico-chemical techniques used in processing and conservation have a large part to play in targeting the markets and the prices. The artisanal fishing techniques include preparation by smoke drying, salting and sun drying, which do not give a guarantee to products of the quality required for international markets. The type of the refrigeration when in existence does not permit the preservation of all the organoleptic quality of the fish and hygienic conditions, and the care given to different manipulations does not always respect international standards for exported

products. The African products destinations are :

- the local markets for low value or traditionally prepared products;
- the export to Europe and Japan requiring regular supply, consistent quantity and quality, better logistics for collection, stocking and conditioning, port infrastructure facilities for refrigerated products, international airport etc.;
- export of transformed and refrigerated products to other African countries on board European and eastern European vessels;
- canneries and flour-milling of small pelagic and main tuna species from industrial fishing landings, or industrial wastes (for example canneries and unsold products).

Fishing within an EEZ is often made by foreign vessels that do not land the catch in the country of the EEZ. This deplorable situation causes economic loss to African states. This is generally associated with industrial small pelagic, shrimp from deep waters caught by the Spanish, cephalopods, tropical tuna fishes, red and white tuna, as well as other species caught by Asian vessels.

2.2. African consumption of fishery products

Close to 12 % of world population live in the African continent, as compared to 59 % in Asia, 13.5 % in the Americans, 15 % in Western and Eastern Europe, and 0,5 % in Oceania. America, Oceania and Eastern Europe are exporters of fisheries products, whereas Asia, Western Europe and Africa consume more fish than they can produce and are therefore importing continents. Africa and Asia have the lowest annual consumption per inhabitant. The average world consumption of the fisheries products is estimated at 13.3 kg/inhab/y), the highest rates recorded

being in the Maldives (132 kg/inhab/y), St Helena (99.3 kg/inhab/y), Island (92 kg/inhab/y). The potential catch, as well as possibilities of importation for each country give a consumption of Africa fish products a very contrasting allegation, no doubt also due to dietary habits (tradition, cultural or geographical location, availability etc.). Generally in Africa, individual consumption of fisheries products is low, averaging 8.9 kg/inhab/y. Significant records for consumption of fisheries products in Africa are: Seychelles (71.3 kg/inhab/y) followed by Gabon (37.1 kg/inhab/y), Congo (32.2 kg/inhab/y) and Senegal (27.1 kg/inhab/y). For many African countries the rate of consumption is below the world average. One notices a significant contrast in the level of consumption between Atlantic and Indian Ocean coasts of Africa : 11.4 kg/inhab/y for the Atlantic side as against 6 kg/inhab/y for the Indian ocean side. This figure is around 4.3 kg/inhab/y and falls to 0.3 kg/inhab/y for the horn of Africa (0.1 kg/inhab/y for Ethiopia).

Imports show an increase, from 1.06 millions m.t. (1982-1984) to 1.57 millions m.t. in 1990, being an increase of 57 % greater than that of exports. The dependence of African states on imports has also increased. Figure 4 shows the main importers of fisheries products and allows the identification of the most dependant states. The later are effectively located on the Atlantic side from Guinea to the Democratic Republic of Congo (ex Zaire), Nigeria being the greatest importer. Imported fish in Africa are almost exclusively limited to small pelagic. These are made up of horse mackerels and sardines, coming from marine waters between Morocco - Guinea and Angola - Namibia. Another part is made up of products (cods, herrings) from Northern Europe.

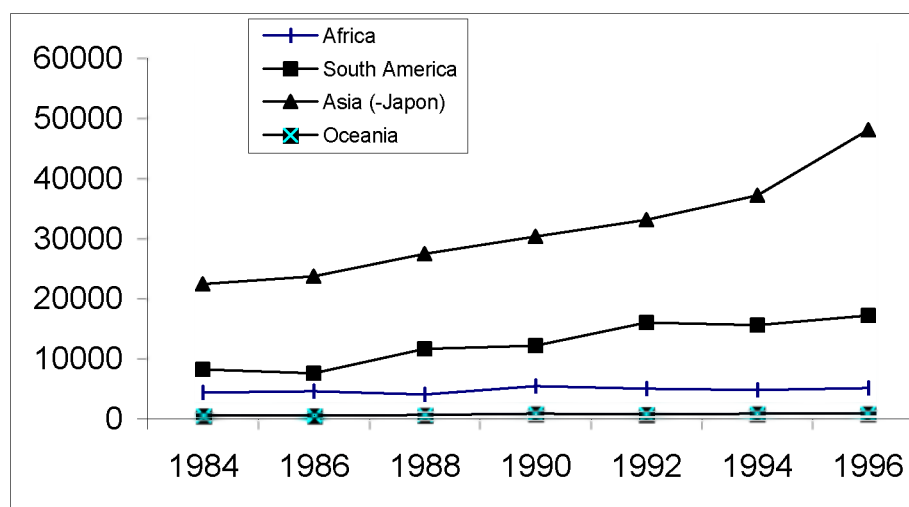
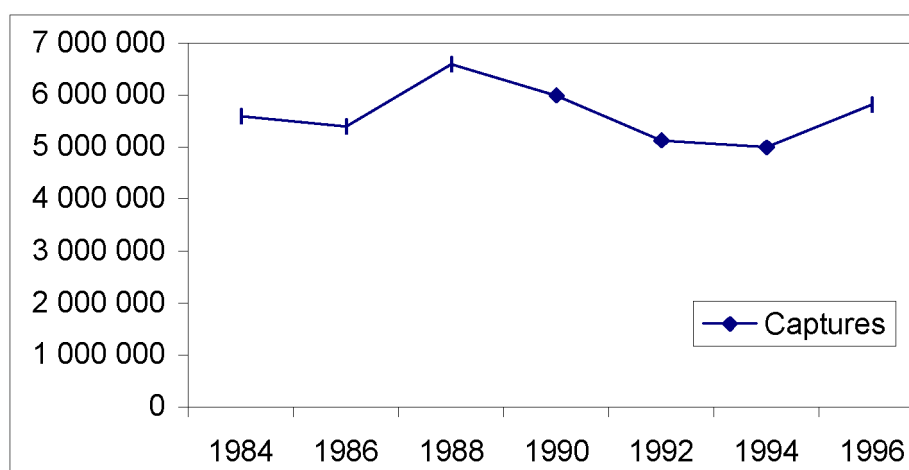
; Lagos. *FAO Fish. Rep. N°454*, 80p.

COPACE, 1990. Rapport du groupe de travail sur l'évaluation des ressources. 10^e session ; Accra. *FAO Fish. Rep. N°511*. 95p.

CRODT, 1993. Recueil de documents scientifiques (1986-1993) publiés par le programme de recherches du CRODT, *Dakar (3vol.)*, 921p.

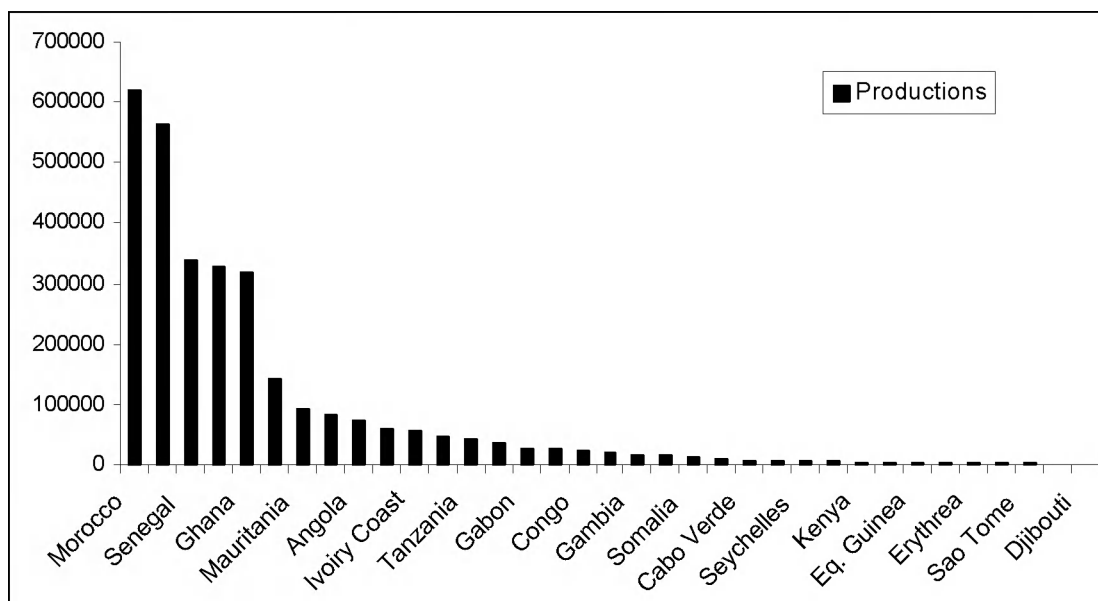
Eisemann (P.M.), 1983. La convention des Nations Unies sur le droit de la mer (10décembre 1982). *La*

- Documentaion Française, Paris.* 204p.
- EUROSTAT, 1995.** Echanges commerciaux intra et extra communautaires.
- FAO, 1987.** Examen de l'état des ressources ichtyologiques marines mondiales. *Circ. Pêches n°710. Division des Ressources Halieutiques et de l'Environnement.* 73p.
- FAO, 1994.** Examen de l'état des ressources ichtyologiques marines mondiales. *Doc. Tech. Pêches n°335. Division des Ressources Halieutiques et de l'Environnement.* 143p.
- FAO, 1995.** Impact de l'acte final de l'Uruguay Round sur les pêches de l'Afrique Subsaharienne. *FAO. Circ. Pêches FIPP/C897.*
- FAO.** Annuaire statistiques des pêches, Rome. *Vol. 54 à 78.*
- GLOBEFISH, 1995.** Reseach Programme. Trade regulations and trends in the fish trade in the USA, the European Union and japan. *Vol. 32. 75p.*
- GLOBEFISH, 1995.** Reseach Programme. World production and trade in small pelagics. Statistical survey. *Vol. 39. 94p.*
- Henry (F.), Moal (R.A.), 1998.** Compétitivité de la pêche maritime en Afrique. Mission d'étude, d'évaluation et de prospective. *Secrétariat d'Etat à la Coopération et à la Francophonie. 360p.*
- Luchini (L.), Voeckel (M.), 1978.** Les Etats de la Mer ? Le nationalisme maritime. *La Documentation Française, Paris.* 264p.
- Njifonjou (O.), 1998.** Dynamique de l'exploitation dans la pêche artisanale des régions de Limbe et de Kribi au Cameroun. *Thèse de doctorat, Université de Bretagne Occidentale, Brest, France ; 347p.*
- Njifonjou (O.), Folack (J.), Bondja (M.), Njamen (D.), Njock (J.C.), 1995.** Enquête-cadre et Etude socio-économique de la pêche artisanale maritime au Cameroun. *Document Technique*
- Njock (J.C.), 1990.** Les ressources démersales côtières du Cameroun : Biologie et exploitation des principales espèces ichtyologiques. *Thèse de Doctorat; Université Aix Marseille II : 187 p.*
- OCDE, 1993.** Annuaire statistique des échanges commerciaux.
- SCET INTERNATIONAL.** Etude de développement de la pêche industrielle (*3 Vol.*) 648p.
- SEAFOOD INTERNATIONAL, 1996.** Markets supplies, prices and trend.
- SEPIA INTERNATIONAL, 1984.** Etude des conditions de production, de stockage, de traitement et de commercialisation des produits de la pêche dans les pays côtiers de l'Afrique de l'Ouest, de la Mauritanie au Congo. *Ministère de la Coopération, Paris. 296p.*
- Troadec (J.P.), Garcia (S), 1979.** Les ressources halieutiques de l'Atlantiques Centre Est. *FAO Doc. Tech. Pêches, 167p.*

Figure 1: Fish Catch Evolution in Developing Countries (tons)**Figure 2: Fish Catch Evolution of the African Waters (all fleet concerned) in tons****TABLE I : Total fish Production of the African Countries by sectors (tons)**

Sectors	1992	1993	1994	1995	1996	1997
Northern Africa	724011	745237	760371	731916	808099	972053
Western Africa	1420815	1451895	1398425	1565145	1449598	1437929
Central Africa	499497	489079	458630	498564	515393	499655
Eastern Africa & I.O.	1093329	1240540	1147696	1129911	1121688	1137802
Southern Africa	902180	802437	709598	993410	895671	824614
Africa Middle East	331738	353439	341313	331257	351829	358475
Total Africa Production	4971570	5083627	4816033	5250203	5142278	5230528
%Africa /World Prod.	4,95	5,2	4,93	5,28	5,03	4,77
Total World production	100517800	97854400	97764000	99349300	102184100	109585200

Source: FAO

Figure 3 : Total Fish products exported by the main African countries exporters in 1993 (tons)**Figure 4 : Imports for the main African Countries in 1990 and 1994 (x1000 tons)**