

Present Status of Fisheries Wealth in Angola

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Abstract Angola has a coastline of about 1,650 km long. Two diverging current namely, the Angola current with its warm water from the north and the cold Benguella Current in the south create a strong up-welling with a high productive ecosystem for marine resources. The area from Lobito to the mouth of the Cunene River, also known as the Southern fishing zone is by far the most productive of Angola's fishing zones. In 1977, the total potential of its marine fisheries sector was estimated at more than 700,000 tonnes per annum. In 2003, the Total Allowable Catch (TAC) established for demersal species was 57,600 tonnes and 160,000 tonnes for pelagic species. The most important resources are various marine demersal and pelagic fish including pilchard and the Cape and Cunene horse Mackerel (*Trachurus capensis* and *T. trecae*). Sardinellas (*Sardinella aurita* and *S. maderensis*) are fished in parallel with horse mackerel. The rest of the catches are mainly demersal spp. and some deep water crustaceans. The demersal species consist of Hake (*Merluccius polli* and *M. capensis*) and the large eye dentex spp. Tunas are caught at certain times of the year whilst some marine shrimp are also harvested from the Angolan waters. Angola also has several high value freshwater fish species, exploited by about 255 fishers. *Tilapia* sp. is among the most important and abundant fresh water fish found in Angola. Other species include the catfish (*Clarias gariepinus*) and fresh water prawns (*Macrobrachium rosebergii*). Some aquaculture ponds have been established in the country side, but due to lack of investment, proper training and the impact of civil war have seriously limited developments in the sub sector.

Key words : Angola, aquaculture, fisheries, mariculture

Introduction

Angola, located on the west coast of Africa between latitudes 5 and 17 degrees south, is a large country with a land area of 1,246,700 km² and an estimated population of 15 million people. Its coastline is approximately 1,650 km in extent and the Economic Exclusive Zone (EEZ) covers an area of 330,000 km². The country is richly endowed with natural resources, including a variety of mineral deposits in particular oil and diamonds, fertile soils and a highly productive marine ecosystem. Although the fishing industry produces only 3% of Angola's GDP and employs approximately 4% of its labour force, it produces an important share of the staple foodstuffs of the country [1]. Furthermore, it contributes to the livelihoods and food security needs

of several thousand coastal dwellers. Angola's economy has undergone a period of transformation in recent years, moving from the disarray caused by a quarter century of war to being the second fastest growing economy in Africa and one of the fastest in the world [3].

As a result of 27 years long civil war foreign investment and expertise, the Angolan fishing fleet and the entire fisheries industry in general, declined very rapidly. Following the changes in economic policy in the mid-1980, the government began rehabilitating the fishing industry. At the beginning of the 1990s, efforts were made to stimulate the fishing sector, by attracting private investment orientated towards the recovery of industrial production units, by supporting the formation of partnerships, and by creating favourable conditions for the strengthening of artisanal fisheries.

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Artisanal fishing has a long tradition in Angola, both along the coast as well as in the inland water bodies of the country. Its fundamental significance resides in its contribution in terms of job creation, livelihoods and food security of the population. The fish capture by the artisanal fisheries sector represents about 20% of the total weight of fish captured in 2001 and about 39% in 2003, and it is estimated that its annual contribution towards the national economy is about USD 70 million [1]. The new fisheries law in Angola “Lei dos Recursos Biológicos Aquáticos” (Law of Aquatic Biological Resources) promulgated in 2004 defines artisanal fishing activities as those fishing activities carried out within four nautical miles (nm) of the shore by boats up to 14 metres in length (including boats propelled by oars, sails, outboard or inboard engines), with little capacity for processing or freezing the catch. Industrial fishing vessels may not fish inside the 4 nm limit. Artisanal fishing methods typically include hand lines, beach seine, long-lines and gillnets and more recently lift nets.

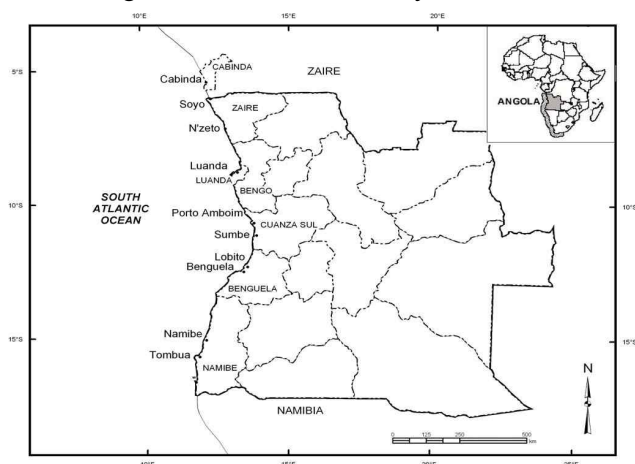


Fig. 1. Map of Angola showing the location of the major cities and provinces.

Structure of fisheries sector

Angola's fisheries resources are divided into two major sectors; namely, marine fisheries and inland fisheries. The overall fisheries data are given to the following Table 1 & Table 2 [1].

Marine fisheries

Angola has a coastline of about 1,650 km long. In 1977, the total potential of its marine fisheries sector was estimated at more than 700,000 tonnes per annum. In 2003, the Total Allowable Catch (TAC) established for demersal species was 57,600 tonnes and 160,000 tonnes for pelagic species. The marine capture fisheries are divided into industrial and artisanal sectors.

The industrial sector targets the commercial fish species comprising of the horse mackerel, sardinella, tunas, shrimps, deep sea red crab, lobsters and other demersal fishes. The sector lands some 170,000 MT from some 200 fishing vessels. Resources assessment in 2002 showed that a major portion of the small pelagic species, namely the sardinellas were under utilized while horse mackerel stocks had reached a critical stage of over exploitation.

There is a large artisanal fishing fleet in Angola. In 2005, some 31,528 people earned their living from the fisheries sector out of which 22,521 operated in the artisanal sector, using 3,000 to 4,500 boats (mainly without any engine). According to IPA (Institute for the Development of Artisanal Fisheries) survey data, artisanal catches in 2002 exceeded 100,000 tonnes, almost double the reported catch of 2001. Artisanal fishers also exploit the high value demersal species such as groupers, Snappers, sea breams, croakers and the spiny lobster. The country's total fish production is shown in the following graph (Fig. 2).

Table 1. Main fisheries resources of Angola [1].

2003	Production Imports		Exports	Total supply	Per caput supply
	Tonnes live weight				
Fish direct for human consumption	211,539	19,093	6,793	213,199	15.7
Fish for animal feed and other purposes	10,640	-	-	-	-
Estimated employment (2004)				31,000	
Industrial sector				11000	
Artisanal sector				20000	
Trade					
Estimated value of fish exports (2005)				US\$ 213,948,000	
Estimated value of fish exports (2006)				US\$ 61,500,000	

Table 2. Total fisheries production in Angola (in tonnes) [2].

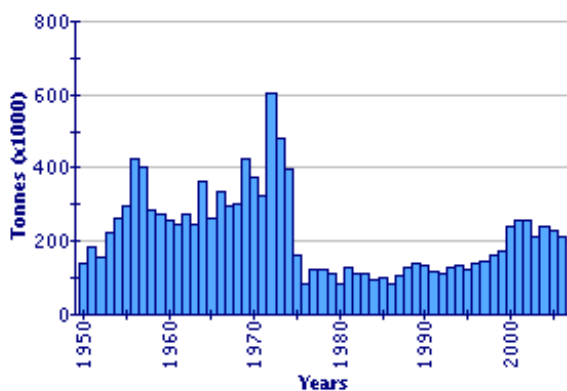
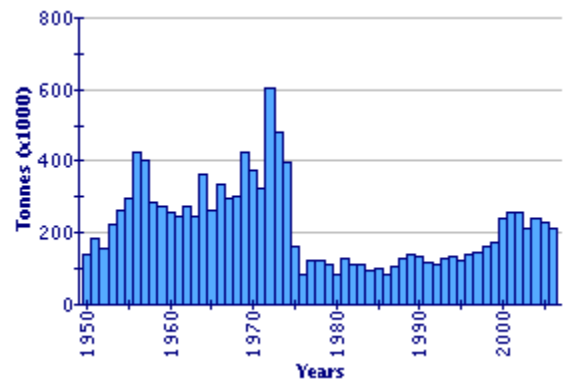
Species	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Cephalopods	191	122	42	-	390	508	442	293	2500	1891
Crustacean	194	1220	2181	1718	2776	2523	3554	4758	6153	4399
Demersal marine fish	921	10590	11276	6940	25080	28540	33678	58812	86393	88310
Freshwater & diadromous fish	700	6000	6000	6000	6000	6000	7000	8000	9000	10000
Marine fish Others	64541	44922	80633	74578	43038	32185	30788	80741	78416	20302
Pelagic marine fish	49524	59927	37683	57068	85865	106043	163889	101916	72345	86637
Total	132413	122781	137815	146304	163149	175799	239351	254519	254807	211,539

Inland fisheries

Angola has no big lakes but some rivers flowing through its territory with several high value fresh water species. *Tilapia* sp. is the most important and abundant freshwater fish. Other species include catfish (*Clarias gariepinus*) and the fresh water prawn (*Macrobrachium rosenbergii*). Inland fisheries are mainly for subsistence, however it has great potential for increase production and presently accounts for 6,000 tonnes annually.

This sector is the largest contributor to employment in rural area as it involves about 7,000 full time fishers. The production for capture fisheries is represented in the following graph (Fig. 3).

The development of aquaculture in Angola is a strategy adopted by the Angolan Government through the Ministry of Fisheries for the alleviation of poverty. In this context, some aquaculture ponds have been established in the country. Furthermore, in 2004, the National Fishery Research Institute in collaboration with the Artisanal Institute carried out an assessment to de-

**Fig. 2.** Fish production of Angola (1950-2006) [2].**Fig. 3.** Capture fisheries production in Angola (1950-2006) [2].

termine new potential areas for aquaculture. In 2005, the Council of Ministers approved by decree n° 39/05/6 of June, the development of aquaculture in Angola and decree n° 9/06 refers to the Plano de Ordenamento das Pescas e da Aquacultura. Aquaculture in Angola is still in its infancy with focus mainly on the small scale inland fresh water aquaculture practiced by both fishing communities and the private sector. Rural fish farming with native species has been developed in some provinces. A commercial private enterprise started operations in 2002 on the Kifangondo River in the Bengo province, using the tilapia (*Oreochromis niloticus*) from Brazil. A second aquaculture farm was started on the Kwanza River in 2005 but is still at development stage.

Utilization, marketing and distribution of catch

Fish utilization

About 70% of the total marine landings (200,000 MT in year 2000) are distributed in fresh or frozen form

on the domestic markets [1]. Only 20% undergoes further transformation, mainly in salting and drying plants situated in the southern provinces (Luanda, Namibe, Benguela and Kwanza sul). Some 41,000 tonnes (25%) are deep frozen, mainly in Luanda; 6,000 tonnes are dried or salted (Benguela, Luanda and Namibe) and less than 1,000 tonnes are canned in the Namibe province. A small part of the landings is converted to fishmeal and fish oil, even though the processing capacity is much higher.

Domestic marketing

Fish is part of the traditional diet in Angola and consumption has reached 15 kg annually per caput. Landings from the artisanal fishery are usually sold on the beach to the small number of traders (mainly women) who transport it to the markets or processing plants. There are a number of larger markets near the cities and towns where fish is also sold to the population. The main local markets for fish products in Angola are located in Luanda, Benguela and Namibe provinces. Most of the fish are sold fresh, dried or salted.

International market

Only 5% of the national production is exported to foreign markets. The main species for export is the deep-water shrimp exported to the Spanish market and the high value white fish to the EU, mainly Spain. Other major market includes France and Asia (Japan, Korea, Hong Kong) in recent years. A large proportion of dried and smoked fish are also exported to neighbouring countries in the region especially the Democratic Republic of Congo, Zambia and Namibia however the quantities are unknown because of the informal trade involved. In 2004, the Ministry of Fisheries introduced new management measures for the preservation of horse mackerel. In this context, about 26,806 tonnes of frozen mackerel was imported from South Africa, Namibia, Mauritania, and Chile in 2006.

Economic role of fisheries in the national economy

The contribution of fisheries and agriculture products to Gross Domestic Product (GDP) was estimated at 15.6% in 2005 and 21.1% in 2006, second only to the oil industry which contributed 50% to GDP. Furthermore, the role of fisheries in providing employment and in-

come to the population and its contribution to the socio-economic well being of many Angolans cannot be underestimated.

Demand and supply

The current consumption of fish is estimated at around 15 kg per head per year, well above the recommended 14 kg by World Health Organization. There is considerable potential to increase local sales for fresh, dried or otherwise processed fish. Nearly one third of the required animal protein for the population comes from fish. The fish-animal protein ratio for Angola was at 29% in 2003 [1].

Food security

The fishing industry contributes significantly to food security in the country. Presently, around half of the population is dependent on the fishing industry for their livelihood, specially in the artisanal fishery. Therefore the Angolan fisheries are viewed as a significant economic tool to alleviate poverty and marginalization of poor people. In 2003, the government adopted a strategic programme for poverty reduction. One of the underpinning points of the programme relates to food security and adequate access to food.

The fisheries industry needs to introduce the HACCP programme for all processing of fishery products. The implementation of the National System of Inspection for fishery products and other work programmes are planned in collaboration with the industries, artisanal fishery and fishery communities in order to improve fish processing conditions and the quality of the final product. All these efforts aims at reducing post harvest losses and increase fish availability for human consumption.

Employment

Fishing activities depend on the season. In maritime fishing the greatest number of jobs, (more than 60%), are provided by enterprises based in the provinces of Luanda and Benguela. In the other provinces employment is mainly confined to small scale local fishing, with artisanal fishing being the main employer. If the fishers that help to operate beach seines are included, the total number of people that engage in coastal fishing activities amounts to between 130,000 and 140,000,

without taking into account those who work in the areas of distribution and commerce. There are about 50,000 inland fishers.

Rural development

The artisanal fisheries have traditionally been a subsistence activity developed by the population living along the coast and has been transmitted from generation to generation. In order to escape the ravages of the war, many people moved from the interior zones of the country to the coastal zones for safety reason (Luanda, Namibe, Benguela and Kwanza Sul). The main activities in these cities were related to fishing operations and processing of salted, dried and smoked fish.

Development prospects/strategies

The strategies adopted by the Angolan Government for the development of fishery sector relates to the:

- Organisation and modernisation of the semi-industrial and industrial fishing fleet and fish processing industries;
- Support for the sustainable exploitation of the continental and maritime artisanal fishery;
- Development of the marine and inland aquaculture;
- Creation of infrastructure for fish landings and conservation;
- Improvement of the fish distribution chain for frozen, salted and dried fish;
- Improvement of fish quality assurance and inspection system;
- Construction of ports infrastructures; and
- Capacity building and valorisation of human resources

Main constraints to development

Major constraints affecting the sector are:

- Lack of inputs such as basic infrastructures (ports, electricity, water, telecommunications and financial services);
- Lack of modern fish processing plants for canning and fish meal and other infrastructures for cod storage, salting and drying of fish;
- Insufficient equipment for salt extraction;
- Lack of training and capacity building for the private and government sectors; and

- Poor implementation of the project relating to the Fish Academy in the Namibe Province.

Research

The Marine Research Institute was set up to cater for technical and scientific support for the development of the fisheries and aquaculture sectors. Some of the projects undertaken relates to:

- Gear Selectivity
- Assessment of migratory stocks
- Marine environmental assessment
- Fish Stock assessments
- Improvement of traditional technologies
- Processing and new product development

Education

The long term vision of the Ministry of Fisheries is the promotion of sustainable and responsible fisheries. Investments are planned for the renovation of Angola's small and obsolete fishing fleet. Training in Angola is insufficient, with only a medium-level school in the Namibe Province and Luanda, CEFOPESCAS. The Ministry is planning to build basic-level schools in Cabinda, Zaire, Benguela and Kuanza Sul; medium-level schools in Luanda and in the Benguela Province. A Fishery Academy in Namibe Province has also been planned. The Fisheries and Aquaculture Master Plan establishes a program of capacity building for high, medium and at basic levels for the public and private sectors in subjects relating to the fishing industry.

Foreign aid

The Angolan Fishery Sector has benefited from technical assistance from several countries and International Organizations, including the European Union (EU), Norway (through NORAD) and from United Nations agencies such as FAO, UNDP, The African Development Bank and IFAD.

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