



An Overview of The Gambia Fisheries Sector

Prepared by: *Asberr Natoumbi Mendy*
Principal Fisheries Officer (Research)

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1. Introduction

The Gambia, officially the Republic of The Gambia, is between 13°N and 14°N latitude on the west coast of Africa, bordering the Republic of Senegal and the Atlantic Ocean (Figure 1; The World Factbook, 2008). It is a sub-tropical country in West Africa with a total land area of approximately 10,689 km², a population of about 1,400,000 people and a population growth rate of 4.2% per annum. The country has a total area of approximately 11,000 square kilometers. Its coastline extends from the mouth of Allaha River (San Pedro River) in the South at 13° 4' N, to Buniadu Point and Karenti Bolong in the north at 13°31'56"N.

The Coast line of the Gambia is about 80 km long, and 25 km of this lies in the bay-shaped mouth of the Gambia River and the rest facing the Atlantic Ocean. It has territorial sea extending to 12 nautical miles with an Exclusive Economic Zone (EEZ) of 200 nautical miles from the geographical baseline. The continental shelf area of The Gambia is approximately 4000 square kilometres and an EEZ of nearly 10,500 square kilometres. The fisheries waters of the Republic of The Gambia are characterized by marine waters, brackish waters and freshwater regimes which correspond with the three (3) Fishery Administrative Areas of the country namely: The Atlantic/Marine Coast Stratum, the Lower River Stratum and the Upper River Stratum. The estuarine areas have a dense mangrove forest of 67,000 hectares (FAO/UNEP, 1996), stretching up to 200 km inland from the mouth of the River Gambia, which provides breeding and nursery grounds for commercial marine fish species, shrimps and other valuable aquatic organisms. The coastal environment, living reefs offshore environments and coastal associated habitats are believed to have high biodiversity quality.

Fisheries are an element of major economic and social importance in that they provide sustainable livelihoods, fish-protein supplies and revenues for fishing communities and the nation as a whole.



Figure 1: The map of the Republic of The Gambia

2. Fisheries Policy Objectives

The responsibility for the management, development and conservation of the marine and inland fisheries resources currently rests with the Ministry responsible for Fisheries and the Fisheries Department, its technical institution.

The first fisheries development policies that led to the creation of the Fisheries Department in the late 1960's intended to facilitate the development of a fisheries sector evolved over the course of two national 5 year development plans (1975 to 1980 and 1980 to 1985). The broad objectives were reviewed as part of the Economic Recovery Programmes (ERP) of (1985–1989) and the successor Programme for Sustained Development (PSD) of the 1990's. Those objectives were revised again in 1994 following the formulation of a Strategic Plan for the Fisheries Sector of The Gambia for the period 1994/1995 - 2004. The Strategic Plan was based on the knowledge that the fisheries sector has enormous potential and could make a significant contribution to the socio-economic development of The Gambia, as long as there is judicious management, rational and sustainable production methods and efficient utilization of existing, perceived to be abundant, fish stocks.

The recently adopted sector policy objectives as contained in the only ever written fisheries policy document (2008) are as follows:

- To effect a rational and long-term utilization of the marine and inland fisheries resources;
- To use fish as a means of improving nutritional standards of the population;
- To increase employment opportunities in the sector;
- To increase the net foreign exchange earnings;
- To increase and expand the participation of Gambians in the fisheries sector ;
- To develop aquaculture; and,
- To improve the institutional capacity and legal framework for the management of the fisheries sector.

While adopting the Fisheries Sector Policy, the Government recognizes that responsible fisheries management is essential for the sustained development of the fisheries sector and its economic benefits as well as the welfare of its stakeholders. To achieve these goals the following should be addressed:

1. National Fisheries Planning for economic development to be based on principles of responsible fisheries and sustainable livelihoods.
2. Maintenance and enhancement of fisheries ecosystem, to conserve the variety and richness of the marine and fresh water resources.
3. Conservation and enhancement of the quality of natural heritage of the country including wildlife, wetlands, biotic diversity, river, estuary, and beaches.
4. Cooperating with international organizations for global protection of the marine and fresh water ecosystems.
5. Training facilities and research in fisheries matters including studies pertaining to socio-economic, cultural and legal aspects to provide adequately trained professionals and technical capacity.

6. Improvement of access to financial resources by promoting the review of financial and micro-finance policies/regulations to take into account the special characteristics of fisheries.

The fisheries sector objectives are in line with the Gambia's Vision 2020 goal:

"To transform The Gambia into a financial centre, a tourist paradise, a trading, export-oriented agricultural and manufacturing nation, thriving on free market policies and a vibrant private sector, sustained by a well-educated, trained, skilled, healthy, self-reliant and enterprising population and guaranteeing a well-balanced eco- system and a decent standard of living for one and all under a system of government based on the consent of the citizenry."

3. Fisheries sector potentials

Endowed with abundant and diverse fish species, the fisheries sector has great potential to make substantial contribution to the socio-economic development of the Gambia in terms of employment generation, food security and poverty reduction particularly in the rural areas, improve nutritional standards by providing affordable animal protein to the population, revenue generation and foreign exchange earnings through regional and international fish trade. The realization of these objectives and the sustenance of a healthy ecosystem depend on a judicious management, rational and sustainable production methods and efficient utilization of existing, perceived to be abundant, fish stocks. This is re-enforced in the national development programme (Vision 2020 Incorporated) which, among other things, seeks to promote the rational exploitation and utilization of the country's natural resources in a manner consistent with the overall goal of sustainable development.

4. Fisheries Sector Management

The fundamentals of Fisheries Legislation in the Gambia were laid down in the early 1970s when it was decided that the fisheries sector should form one of the sinews in socio-economic development. Several amendments were made since then, and to date, the Fisheries Act 2007 and Fisheries Regulations 2008 which are comprehensive documents with provisions covering both artisanal, industrial and aquaculture sub-sectors are serving as the legal basis for management of the resources. Numerous issues have emerged over the years in the artisanal and industrial fisheries sub-sectors warranting the formulation of new legislation reflecting current realities to address the needs and demands of long-term conservation and optimum utilization of the resources.

In these instruments, The Secretary of State entrusted with the Fisheries portfolio is responsible for administration of the Act and the Fisheries Department is the main government agency responsible for fisheries conservation, management and development. The Act confers a wide range of powers and functions upon the Director of Fisheries who may - in writing - delegate the exercise of any or all his powers and functions to any fisheries officer. The Fisheries Regulations 2008 specifies a number of conservation measures including area restrictions, gear restrictions and fish size limitations among others. Full details of fisheries conservation and management measures can be found in the Fisheries Act 2007 and Fisheries Regulations 2008.

The enforcement of the Act and the Regulations is entrusted to “authorized officers” - fisheries officers, police officers, officers of the Gambia Navy, customs officers, health officers (in relation to safety and quality of fish and fishery products) or any other person authorized by the Director of Fisheries to execute any of the provisions of the Act. The Act provides for the establishment of a Fishery Advisory Committee (FAC), although in practice this Committee is yet to be constituted.

Fisheries resources within the region are extensively shared. It is in recognition of this that the six countries, namely; The Gambia, Senegal, Mauritania, Guinea (Bissau), Guinea and

Cape Verde decided to set up a regional body whose objectives are to reinforce cooperation and coordination of member states in among others:

- Harmonization of common policies on preservation, conservation and exploitation of their marine resources;
- Adoption of common strategies vis-à-vis international situations;
- Encourage the creation of joint institutions and conclusion of fishery agreements between states in the sub-region ;
- Development of sub-regional cooperation with regard to surveillance;
- Development of capacity of states to carry out fishery research at sub-regional level.

5. The Resources Base

The Northwest Africa region of the Canary Current Large Marine Ecosystem has exceptional natural conditions which support a diverse fisheries resource base. This system is strongly influenced by the Canary current that flows along the Northwest African coast from North to South between 30°N and offshore to 20°W. The productivity of this region is further enhanced by influxes of nutrients from the adjoining rivers/estuaries in the sub-region which are transported throughout the water column due to the very active upwelling system prevailing in the area. The Gambia lies within this fisheries resources rich region. The marine fisheries waters of the Gambia are nourished by vast influxes of nutrients from the river thus offering one of the richest fishing grounds in the world.

The first survey of fisheries resource potential conducted with the assistance of the FAO and UNDP in 1964 and 1965 had indicated that the Gambia has abundant and diverse fish

resources. In 2004, the French Institute for Research and Development (IRD) in collaboration with the Fisheries Department revealed in a study on fish populations in the Gambia River that the brackish and estuarine portions of the river are very rich in terms of species diversity and abundance. In fact, the study had identified about 70 fish species within the river system and several of them, especially those belonging to Carangidae, Drepaneidae, Clupidae, Haemulidae, Polynemidae, Cichlidae, Scianidae, Cynoglossidae, etc, are of commercial significance. It is strongly believed that the fish resources of the River Gambia are still under exploited and improvements in fishing technology and techniques will allow for increased fish landings in the inland artisanal fishery.

In the Gambia, fish species are classed as demersals and pelagics. The demersal fish class has a wide and diverse range of species and this includes: cephalopods (cuttlefish and octopus), Crustaceans (shrimps and lobsters) and finfish. The pelagics fish category includes large and small pelagic fishes.

5.1. Demersal fish stocks

The demersal finfish of commercial importance include (as examples) the main species of the following families *Pseudotolithus* spp. (Scianidae), *Arius* spp. (Ariidae), *Cynoglossus* spp (Cynoglossidae), *Epinephelus* spp (Serranidae), *Caranx* spp. (Carangidae), *Pomadasys* spp. (Haemulidae), threadfin (Polynemidae), *Dentex* spp., *Pagellus belottii* (Sparidae), etc. Most of these species are found both in the marine and the Gambia estuary and most are trans-boundary in nature.

5.2. Cephalopods (Molluscs) and Crustaceans

The Common octopus (*Octopus vulgaris*), Cuttlefish (*Sepia officinalis*) and Squid (*Loligo vulgaris*) are the main species in this group they formed an important fishery in the Gambia. These species are shared with some member countries of the Sub-Regional Fisheries Commission (SRFC) especially Senegal. Lobsters and shrimps, mainly : the

royal spiny lobster (*Palinurus regius*), pink shrimp (*Penaeus notialis*), *Parapenaeus longistrostris* are important commercial species shared between Senegal and the Gambia.

5.3. Small pelagic fish stocks

According to resources surveys conducted regularly within the framework of the Nansen Programme since 1992, the small pelagics are the most abundant fish stocks in waters of the Gambia. The main small pelagic species of importance in the country are Bonga Shad (*Ethmalosa fimbriata*), flat sardinella (*S. maderensis*), round sardinella (*Sardinella aurita*), chub mackerel (*Scomber japonicus*) and horse mackerel (*Trachurus trecae*). These species are highly migratory and are shared between Morocco, Mauritania, Senegal and The Gambia.

5.4. Large pelagic fish stocks

The large pelagics are mainly tuna and tuna like species and sharks. Four tuna species are of commercial value; bigeye tuna (*Thunus obesus*), yellow-fin tuna (*Thunus albacares*), skipjack (*Katsuwonus pelamis*) and sword-fish (*Xiphias gladius*). Coastal shark species, particularly the *Sphyrnidea*, *Carchharhinidae*, and *Rhinobatidae* are targeted by the artisanal fishermen (mainly Ghanaians) for their meat and fins in the Gambia. The large pelagics are straddling stocks shared by many coastal states.

6. Aquaculture Potentials

The River Gambia has enormous freshwater resources that can sustain huge extraction for various irrigation schemes (Rice, aquaculture and horticulture). The freshwater zone of the river overflows its banks twice every month during spring tides (Wame) with tidal amplitude reaching one (1.0) or more in some places. This characteristic of the river has rendered the adjacent flood plains gravitationally irrigable, particularly in the Central

River Division. This is quite a positive attribute for development of aquaculture along its banks.

6.1. Aquaculture Development

The Gambia is endowed with culturable fish species. The prevailing warm temperatures, suitable sites for pond construction and abundance of agricultural by-products (Ingredients for fish feed) accorded aquaculture development in rural Gambia huge potentials. Aquaculture is the aquatic counterpart of agriculture with equal potentials for growth but unlike Agriculture, This involved the farming of aquatic organisms such as fish, crustaceans, etc. It is Government's objective to develop aquaculture to enhance the production of food fish, improve livelihood of its populace and as well as generate foreign exchange.

7. Evaluation of the state of the main stocks

Demersal fisheries resources surveys conducted in the Gambia are limited, the most comprehensive being the 1986 one. Unlike demersal fish stocks, surveys of small pelagic stocks have since 1995 been on a regular basis (Table 1) up to end 2007 when the Nansen Programme phased out. Fisheries independent evaluation of demersal fish stocks were constrained by lack of trawl survey data. It is imperative that implementation of the provisions calling for collaboration between Senegal and the Gambia in areas of research and surveys as contained in the Protocol for the implementation of Senegalo-Gambia Maritime Fishing Agreement should be realized, to avoid creating a data gap with serious consequences on evaluation of small pelagic fish stocks.

Table 1: Biomass estimate of marine fish stocks

Year	Biomass	
	Biomass MT	MT
	Demersal	Pelagics
1986	43,645	
1992	30,000	160,000
1995	22,000	156,000
1996	-	122,000
1997	-	113,000
1998	-	173,000
1999		510,000
2000		213,000
2001Jun		217,000
2001Nov		165,000
2002Jun		470,000
2002Nov		242,000
2003Jun		62,000
2003Nov		285,000
2004Nov		212,000
2005Nov		284,000
2006Nov		153,000

The Gambia has been benefiting from information provided by the FAO Working Group (FAO WG) on the assessment of small pelagic fish stocks off Northwest Africa and the CECAF Working Group (North) on the assessment of demersal fish since their inception. The FAO WG conducted assessment of the main small pelagic stocks in 2007 based on 2006 data while demersal North Working Group met in 2007 to assess the status of the demersal fish stocks in the Northwest region of CECAF. The results of these assessments were used for the evaluation of the main fish stocks in the Gambia (Appendix 1). The Scientific Committee on Research & Statistics (SCRS) of ICCAT annual assessment of

the status of tuna was also used in the evaluation of tuna stocks. Where assessments were absent, other indicators used were changes in catch rates over a period of ten years to evaluate the state of stocks.

While the Gambia depends largely on the activities of the above institutions/organizations and working groups for status of its fish stocks, it has put in place mechanisms for catch, effort and biological parameters data collection for analysis despite prevalent institutional, budgetary and logistical constraints.

7.1. State of the main small pelagics

In general, all small pelagic fish stocks are fully or overexploited. The FAO WG (2007) concluded that round sardinella, *S. aurita* was overexploited while horse mackerel, *T. trecae* fully exploited. Although the flat sardinella (*S. maderensis*) was not conclusively assessed, it was recommended that effort exerted on the Sardinella spp (*S. aurita* and *S. maderensis*) be reduced by half for sustainability. Bonga/shad was not assessed by the FAO WG due mainly to data problem but the stable catch rate over the past years prompted the WG to recommend as a precautionary management measure that catch rate be maintained at the 2006 level pending new information.

7.2. State of large pelagic stocks

Apart from the yellow-fin tuna, the assessment of bigeye tuna, skipjack and sword-fish were not conclusive. The Scientific Committee on Research & Statistics concluded that yellow-fin tuna (*Thunus albacares*) was fully exploited (ICCAT 2007). No pronouncement on the status of the bigeye tuna (*Thunus obesus*), skipjack (*Katsuwonus pelamis*) and sword-fish (*Xiphias gladius*) could be made due to uncertainty on the status of these stocks. As a management measure, effort exerted on yellow-fin tuna should not exceed that of 1992. Other management recommendations will be found in Appendix 1.

7.3. State of demersal finfish stocks

From the 2007 assessment report of the CECAF WG-North (in press) on demersal fish stocks, it would be observed that most species are fully or overexploited. The WG concluded that the white grouper (*Epinephelus aenus*) risk extinction while *Pseudolithus* spp. and *Pagellus bellottii* are fully exploited and overexploited respectively. As some of the selected species or group of species were not assessed by WG, a ten year (1997 – 2006) catch rate average for these species or group of species was estimated and used as indicator (Table 1) in evaluating their status. Except for *Pomadasys jubilini* and *Plectorhynchus meditaraneus* whose status was unclear; threadfins, Sharks, *Cynoglossus* spp., *Phyraena* spp., *Dentex* spp and *Mugil* spp. are fully exploited or overexploited.

With exception of the white grouper (*Epinephelus aenus*) whose status warrants closure of the fishery, it is recommended that fishing effort on the demersal be reduced to ensure sustainability.

As the deepsea fishing industry is not very developed coupled with the fact that no or very limited work has been conducted on these resources, the status of the deepsea finfish and shrimps are not known.

7.4. State of cephalopods and crustaceans

The shrimp fishery is an important industry in the Gambia. Both the industrial and artisanal fisheries target the coastal pink shrimps. The evaluation of the pink shrimp, *Penaeus notialis* stock indicated overexploitation and it is recommended that the fishing effort on this stock should be reduced (CECAF, in press).

The common octopus, *Octopus vulgaris* and the cuttlefish *Sepia* spp. are overexploited. They are high value commercial species sought by both industrial and artisanal fisheries.

Due to their current status and the rate of harvest, it is recommended that fishing effort on them be reduced.

Although constrained by lack of research vessel, the Gambia benefits from regional surveys of its small pelagic fish resources and assessment by the R/V DR. FRIDTJOF NANSEN and the FAO Working Group on Small Pelagic fish off Northwest Africa respectively. Unfortunately, unlike small pelagics survey, the last survey of its demersal fish stocks was in 1986 but a regular assessment is being carried out by the CECAF/FAO Demersal Working Group. The results of the surveys and the assessments over recent years have all indicated that the major fish stocks are over-fished or fully exploited (Table 2).

Table 2: Status of main stocks

Species/Stock	Status	Year of assessment	Reference
Small Pelagic Fish			
<i>Sardinella aurita</i> /NW Africa	O	2008	FAO SPWG NWA (2008)
<i>Sardinella maderensis</i>	N A	2008	FAO SPWG NWA (2008)
<i>Ethmalosa fimbriata</i>	N A	2008	FAO SPWG NWA (2008)
<i>Scomber japonicas</i>	O	2008	FAO SPWG NWA (2008)
<i>Trachurus trecae</i>	F	2008	FAO SPWG NWA (2008)
<i>Caranx rhoncus</i>	O	2008	FAO SPWG NWA (2008)
Demersal Fish			
<i>Pagellus belottii</i>	O	2007	FAO/CECAF DEM_WG (FAO, 2008)

<i>Arius spp</i>	O	2007	FAO/CECAF (FAO, 2008)	DEM_WG
<i>Pseudotolithus spp</i>	F	2007	FAO/CECAF (FAO, 2008)	DEM_WG
<i>Epinephelus aeneus</i>	O	2007	FAO/CECAF (FAO, 2008)	DEM_WG
<i>Penaeus notialis</i>	F	2007	FAO/CECAF (FAO, 2008)	DEM_WG
<i>Octopus vulgaris</i>	O	2007	FAO/CECAF (FAO, 2008)	DEM_WG

Nb. O – over-exploited ; F – fully exploited and NA – inconclusive assessment

As indicated above most commercially important demersal species are enduring heavy fishing pressure. The most abundant small pelagic fish species are mainly targeted by artisanal (local) fishermen. No industrial fishing vessel is targeting the pelagic fish species. There is a need to redeploy effort to these resources.

The fish catch potential for the inland fishery is not known because no research work to estimate fish stock biomass has been undertaken in and along the River Gambia. However, studies on fish populations conducted by IRD have identified 70 fish species within the river system and several of them are of commercial significance. It is strongly believed that the fish resources of the River Gambia are still under exploited and improvements in fishing technology and techniques will allow for increased fish catch landings in the inland artisanal fishery.

The lower portion of the River Gambia has a brackish water regime and attracts certain marine fish species that use the river for feeding and spawning purposes.

8. Entry into The Gambia Fisheries Sector

Commercial fishing in the region started in the 1950s in Senegal and Guinea and in the early 1960s in The Gambia. Prior to gaining independence, foreign fishing fleets accessed coastal waters and offshore fishing grounds. Artisanal fishermen, though on subsistence basis were also accessing coastal fish resources. The requirement by that UNCLOS for distant water states to be given access to “surplus” resources of coastal states paved the way for the operation of distant waters fishing fleets in coastal fishing grounds. The declaration of EEZs has enabled countries to enter into fishing agreements with foreign countries to derive the potential benefits from fisheries sector. This resulted in an intensive exploitation of fisheries resources by Distant Water Fleets (DWF) coming through Fishing Agreements (eg. the EU and coastal states), joint ventures with national entrepreneurs, etc.

Recently, fisheries has become a market driven, dynamically developing sector for the food industry and coastal states have striven to seize their new opportunities by investing in modern fishing fleets and processing plants in response to the growing demand for fish and fisheries products. The investment on modern fleets and the influx of DWFs have brought in radical changes in fisheries, resulting in fishing fleets of all kinds – artisanal and industrial (national and foreign). The fishing fleets have grown rapidly and are equipped with technology which increased their catching power and efficiency enormously.

The benefits that can accrue from fish trade and its potential to contribute to the improvement of living standards of Gambians had caused Government of The Gambia to participate in the global trading of fish thus opening up its fisheries resources for exploitation by national and foreign operators. Foreign fishing fleets come in through the EC/Gambian Fishing Agreements (1987 – 1996), bilateral agreements (Japanese), Reciprocal Maritime Fishing Agreement (Senegalo-Gambia Maritime Fishing Agreement) and through joint ventures with Gambian nationals. Below bullet points give detailed description of the Agreements the Gambia has entered into:

- The EEC- the Gambia fishing agreement was a compensatory agreement whereby the Gambia allowed access to EEC fishing vessels to fish in Gambia waters. The EEC paid financial compensation to the Gambia; provided funding for the training of staff of the Fisheries Department in fisheries institutions of higher learning and also provided funding for scientific research programs. EEC fishing vessels also paid agreed fishing license fees. The agreement started in 1987 and ended in June 1996, it has not been renewed.

- The Gambia entered into a Tuna fishing agreement with the Federation of Japan Tuna Associations. Upon payment of agreed fees, Japan Tuna long liners are allowed to catch Tuna in Gambian waters during the annual migration of Tuna usually from November to March. Although the agreement is not reciprocal in nature, the Government of Japan has been providing funding for artisanal fisheries development projects (Bakau, Tanji, Gunjur) and has also been providing Technical Assistance through the Japan Grant Aid scheme. The Tuna fishing agreement started in 1992 but Japanese tuna vessel last obtained license in 2003.

- The Gambia-Senegal fishing agreement is a reciprocal fishing agreement whereby each country allows fishing vessels of the other country to fish in its waters based on agreed tonnage and agreed fishing license fees. This agreement is reviewed annually and can be terminated by either party upon giving 3 months notice. The agreement was entered into in 1982 and renewed regularly since then. The last renewal was in 2008.

8.1. Licensing and Fees

The Licensing Authority is the Fisheries Department but approval for licensing are to be sought from and granted by the Department of State responsible for Fisheries. A pre-licensing exercise for conformity with national and international regulations precedes issue of a fishing license. Fishing vessels are charged according to the flags they fly and fish species they target, below are rates of licensing fees by flag type.

FEES FOR LOCAL FISHING VESSEL LICENCES

- | | |
|---|---|
| 1. Trawlers (for fish & Cephalopods) | D1228.50 Per GRT \per annum |
| 2. Shrimp trawlers | D1560 Per GRT Per Annum |
| 3. Seiners/Pelagics | |
| Trawlers (for small pelagics) | D715 Per GRT Per annum |
| 4. Processing vessels | D1950 Per GRT Per annum |
| 5. Tuna vessels | D1170 Per tones of Tuna
Caught in the Fisheries Waters. |
| (a) For Purse Seiners | A lump sum of D52,000 Per
annum (equivalent to catch of 100
tones of Tuna per year) prior to the
licensing of the vessel. |
| (b) For long liners and pole and line vessels | A lump sum of D19,500 Per
annum (equivalent to a catch of 50
tones of Tuna per year prior to
the licensing of the vessel. |
| 6. Sport fishing vessels | D3250 Per vessel per annum |

FEES FOR FOREIGN FISHING VESSEL LICENCES

- | | |
|--------------------------------------|--|
| 1 Trawlers (for fish & Cephalopodes) | D3250 Per GRT Per annum |
| 2. Shrimp trawlers | D4062.50 Per GRT Per annum |
| 3. Seiners/Pelagic | |
| Trawlers (for small pelagics) | D1625 Per GRT Per annum |
| 4. Processing Vessel | D1950 Per GRT Per annum |
| 5. Tuna Vessel | D1560 Per Ton of Tuna caught
in the Fisheries waters |

(a) For Purse Seiners	A lump sum of D273,000 per Annum (equivalent to catch of 100 Tons of Tuna per year) prior to the Licensing of the vessel.
(b) For long liners and pole and Line vessels	A lump sum of D136,500 per Annum (equivalent to catch 50 tons of Tuna per year prior to the licensing of the vessel
6. Sport fishing vessels	D3250 Per vessel per annum

9. Artisanal and industrial fishing industries

Artisanal Fishing Industry

Fishing is a multipurpose activity with a host of ancillary socio-economic activities. These activities range from boatbuilding, fish processing, fish retailing to market vending. If, in the strictest term, fishing in the Gambia is carried out by men but fish processing is dominated by women. As the processing sector is very profitable, women manage to own fishing canoes and therefore become owners of a complete fishing unit. They also participate in fish wholesale. Women therefore play an important role in the region's fishing community.

Artisanal fisheries revolve around the use of small fishing craft, consisting mainly of a fleet of 1 785 canoes (2006) operating in both the marine and the River Gambia. The number of canoes and fishermen operating in the artisanal fisheries sub-sector steadily increased from 1299 and 1399 respectively in 1983 to 1785 and 1969 but a decreasing trend was observed in 2006 for both parameters. The artisanal fisheries operators employ diverse fishing gears, methods and techniques such as: entangling/ surround gill nets (surface and bottom gill nets), hand and long lines, cast nets and traps. Table 3. gives the

evolution of number of canoes and fishermen operating in the artisanal fisheries sub-sector.

The artisanal fishery sub-sector is highly diverse incorporating marine, estuarine and freshwater fishing operations. The majority of communities located along the Atlantic coastline and along the River Gambia and tributaries are engaged in fishing activities ranging from subsistence to those capable of generating significant economic exchanges such as shrimping and catching of sole and cuttlefish. The most important artisanal fishing sites are located along the productive Atlantic coast in Kartong, Gunjur, Sanyang, Tanji, Brufut, Jeshwang, Bakau and Banjul. The major fishing sites along the River Gambia are Barra, Albreda, Bintang, Tendaba and Jarreng.

The fisheries sector plays a significant role from a nutritional standpoint, being the main supplier of animal protein in the diets of most Gambians who cannot afford to buy meat. The artisanal sector is the major supplier of both food fish for the Gambian populace and raw material fish for industrial processing establishments. The sub-sector provides direct employment to 1 410 head fishermen and 4 694 assistant fishermen. Of the 1 410 head fishermen, 805 were Gambians and 605 foreigners. In the coastal area, foreign nationals, mainly Senegalese form the majority with 249 head fishermen compared to 167 Gambians. There are an estimated 11 000 people as members of the head fishermen households. Fisheries operators spans beyond fishermen to include its ancillary workers such as boat builders, fish processors, fish retailers, etc. According to Mendy (2003), over 200 000 people are directly or indirectly dependent on artisanal fisheries and its related activities for their livelihoods.

9.1. Production Trends

Artisanal fisheries catches (tonnes) are given in figure 2 below. It is interesting to note that the apparent trend is of an upward one with the *Ethmalosa fimbriata* (bonga) constituting the bulk of the catches. This sub-sector as explained earlier has witnessed an increased in new entrants and the use of highly effective fish capturing technologies.

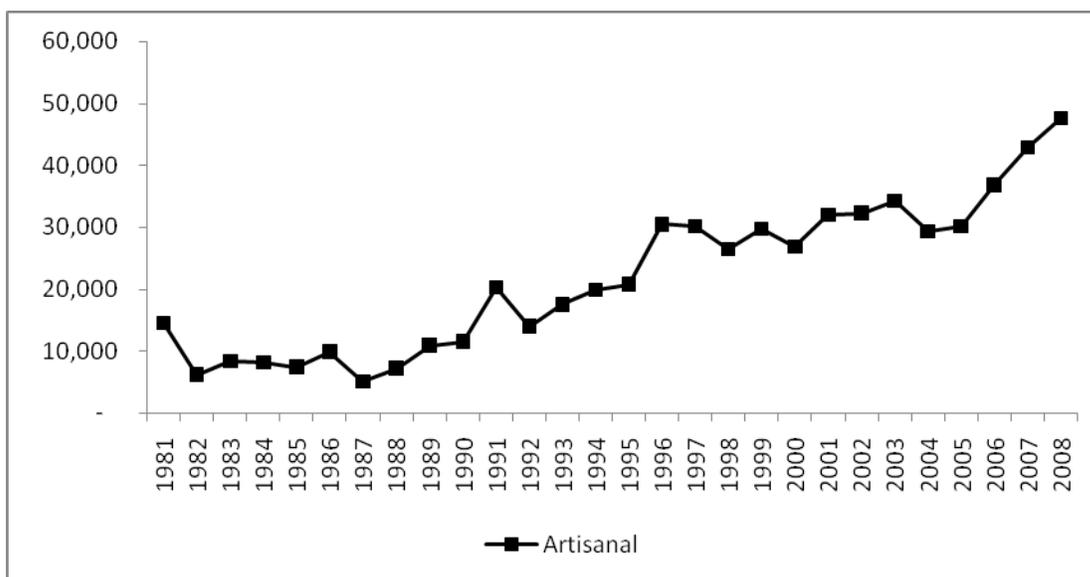


Figure 2. Annual artisanal fisheries catches (1981 – 2008)

Table 3. Number of fishing canoes and fishermen

Year	No canoes	No fishermen
1983	1299	1319
1986	1302	1334
1990	1452	1448
1992	1501	1568
1994	1583	1649
1997	1785	1969
2006	1702	1410

Source: Fisheries Department

9.2. The Industrial Fisheries

The development of industrial fisheries has been relatively limited in the Gambia. It is interesting to note that, presently, all fishing vessels operating in Gambian waters are foreign owned. These vessels land their catches in foreign ports where the fish is processed, packaged and labelled as products originating from those foreign ports.

It is also estimated that less than 2 000 people are employed in the industrial sub-sector the majority of who are factory workers (mainly women). It is government policy that 20 per cent of crew of fishing vessels licensed to operate in the country must be Gambians. There are nine (9) fish processing factories but most of them operate intermittently due to insufficient supplies of raw fish materials, high energy cost and lack of working capital. As a result, the impact of their operations on the economy in terms of employment and foreign exchange earnings has been minimal.

9.3. Production trends

The trend of the industrial catches (tonnes) had been fluctuating sharply between the period 1985 and 1993 when it gradually stabilised around 8,000 metric tonnes for five years and almost stable from 1999 to present, figure 3. The sharp decline observed in figure 3 is attributed to the cessation of operations by the Ghanaian-Gambian joint venture fishing company (Seagull Coldstore Ltd) which was targeting small pelagic fish in late 1980s to early 1990s. Another factors contributing to low catches are: this fishery target high value demersal fish resources which are fully or overexploited; less and less vessels are being licensed in recent years.

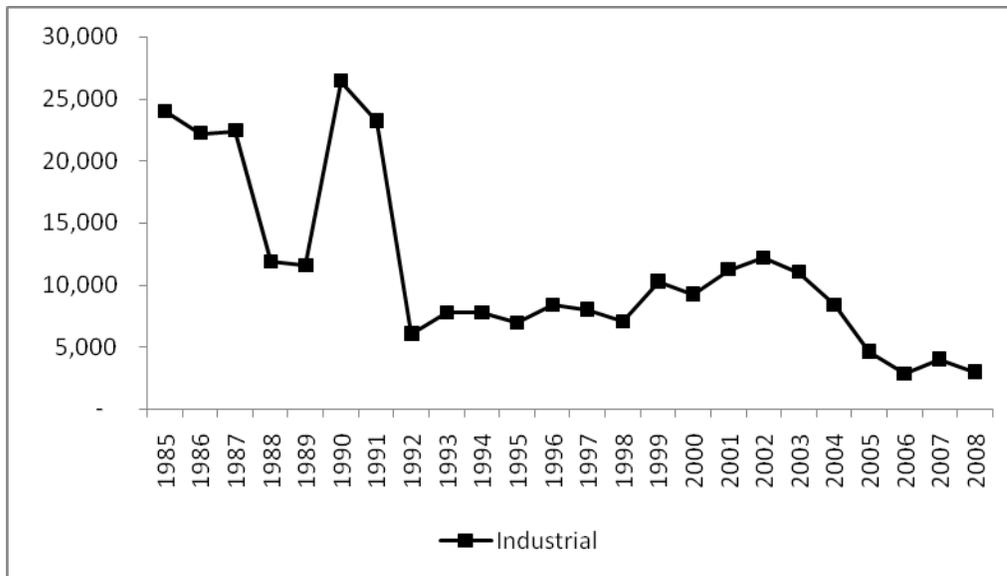


Figure 3. Annual industrial fisheries landings (1985 – 2008)

10. Fish Processing and Marketing

Artisanal fish processing is still traditional in nature and practice and products are usually dried or smoked. The artisanal fish catch, apart from being processed (dried and/or smoked) is transported fresh to the city, town and village level markets within the coastal areas and in some of the major growth centers in the rural areas. Some of the processed fishery products (smoked or dried) are marketed within the country especially in the inland markets; some are exported to neighbouring West African countries where demand for fish is very high. The artisanal fish catch of high value fish species (shrimps, sole fish, seabreams, lobsters and cephalopods) are purchased by industrial fish processing companies for factory processing and export abroad, mainly to European Union countries.

According to records of licensed vessels, over 95% of industrial fishing vessels legally operating in the marine waters of the Gambia are foreign vessels. These foreign operators usually make contractual arrangements with Gambian companies, in order to satisfy licensing conditions or operate by virtue of fishing access agreements with the Gambia such as the Senegalo-Gambian Reciprocal Fishing Agreement, the expired EU/Gambia

Fishing Agreement, etc. The fact that The Gambia does not have a port dedicated to industrial fishing operations, is used to justify the landing and further processing of fish caught in Gambian territorial waters by the foreign industrial vessels in destinations outside The Gambia. These are then subsequently exported not as products of The Gambia but as products of these countries. This deprives the Gambia of the much needed foreign exchange, employment and the availability of fish for local consumption. The major foreign players in the industrial fisheries sub-sector are the Greeks, Senegalese, Spanish, Koreans, Chinese and Italians.

10.1. Contribution of fisheries to the national economics

The economy of the Gambia is agrarian depending heavily on rain-fed agriculture. The serious drought spells of the mid 1970's and 1980's had resulted in the decline in agricultural production and animal husbandry prompting the Government of The Gambia to turn to other economic sectors for redress. Endowed with abundant and diverse fish species, the fisheries sector has great potential to make substantial contribution to the socio-economic development of the Gambia in terms of employment generation, food security and poverty reduction particularly in the rural areas, improve nutritional standards by providing affordable animal protein to the population, revenue generation and foreign exchange earnings through regional and international fish trade.

10.2. Turnover

The fishing industry in the Gambia comprises artisanal and industrial operations. The artisanal catches are landed and sold in the country for direct consumption, processing and sale regionally or internationally. Industrial catches are landed elsewhere in foreign ports, processed and sold. For the purpose of this study, local average prices for fish were applied in the estimation of the turnover of both fishing industries. Value added was the total variable cost of inputs necessary for the production by the fishery segments.

Over 33 000 tonnes of the selected species were landed in 2007 fetching an estimated D1,013,539,000 (U\$46,069,955) in value. The estimated value added in the same year was D212,843,190 (U\$9,674,690). The fisheries contribution to the GDP is about 4.2. The bonga/shad was the single most important contributor to the turnover in 2007.

10.3. Employment

Creating employment opportunities in the fisheries sector, especially for its densely populated coastal areas, is one of the priorities of the Gambia Government. Over 6 000 (FD Stat. 2006) fishermen are directly employed in the artisanal fishing industry. Artisanal fishing is a multifaceted activity involving a myriad of players (boat builders, fishermen, fishing assistants, fish processors, offloaders, distributors, etc.). The number of people and the amount of activities undertaken depends on the fishery segment. Artisanal surround gill net fishery segment normally attracts more activities and people than the bottom gill net segment. As stated elsewhere in the preceding sections, industrial fishing vessels are mainly foreign owned requiring to take Gambian Deckhands onboard representing 20 percent of the total crew members in each vessel.

10.4. Export

Fishing is an element of commerce and one of the policy objectives of the Government of the Gambia is to trade fish and fisheries product for hard currency in the international markets. The volume of export of fish from the country is as low as 2 percent of total artisanal production. This excludes most of the industrial production which is exported directly from the fishing grounds and do not reflect in the country's export figures.

Over 90% of the raw fish material processed and exported from the Gambia originated from the artisanal fishery segments. Exports have been on the decline since 2000 and then picking up sharply in 2007 (Figure 4 & 5). The sharp increase was mainly due to the volume of fish exported by women entrepreneurs who are now venturing into fish trading/exporting.

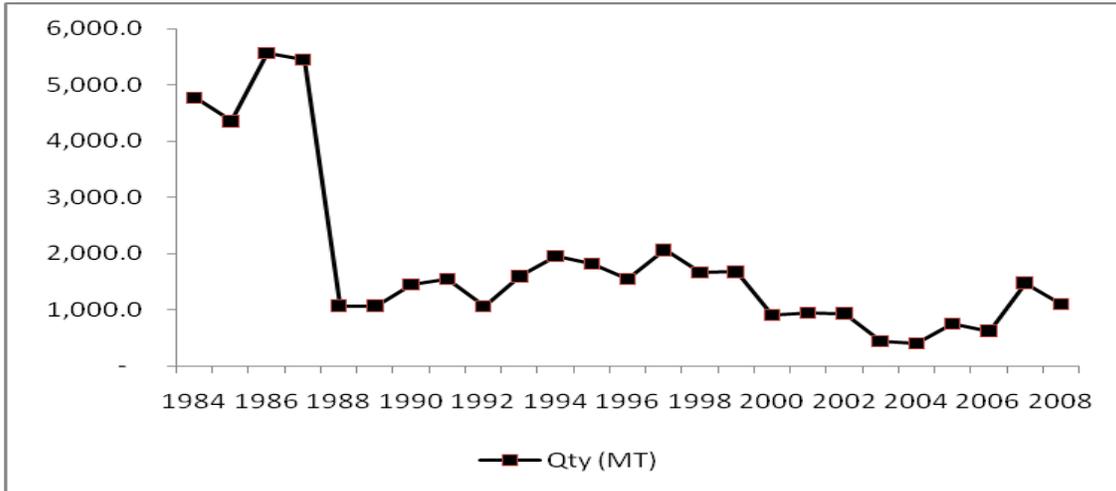


Figure 5: Fish exports in tonnes from 1984 - 2008

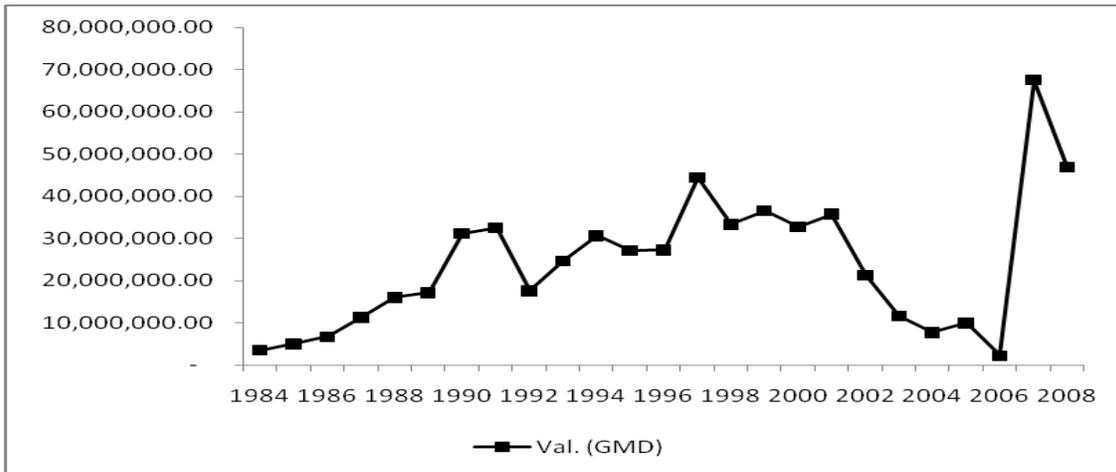


Figure 5: Fish exports in Gambia Dalasi (F.O.B Value) from 1984 - 2008

Volume of fish exported in 2007 was 1 480 tonnes; valued at D67 432 811 (US\$3,065,128). The breakdown of exports by component is given in table 4 below.

Table 4: Exports of fish in 2007

Product type	Qty (Kg)	Value (GMD)
Fresh or chilled fish	250, 940	5,982,792
Frozen fish	278,214	18,5195,16
Fish fillets and other meat	519	811,051
Dried, salted, smoked fish	404,083	17,193,045
Crustaceans	100,881	11,450,680
Molluscs	445,364	11,404,761
Total	1,480,000	67,432,811
		U\$3,065,128

10.5. Contribution to per capita consumption

The fisheries sector plays a significant role from a nutritional standpoint and according to the author's estimate the average per capita fish consumption for the period 1994 to 2007 has increased from nearly 25 kg per person to about 28.4 kg per person within the urban and peri-urban areas; representing about 40 to 50% animal protein intake. This is significantly greater than the 8.2 kg per person average for Africa. It should be noted that this figure varies from the coastal areas to the hinterland. It is estimated that the artisanal fishery segments supply over 98 percent of food fish consumed by the Gambian populace and the rest are from imported canned fish and some times, fish from locally based industrial fishing vessels. Between 80% and 100% of small pelagics (bonga, sardinella, mackerel and horse mackerel) landed by artisanal fishermen are consumed fresh or processed smoked or dried. It is important to note that about 30% to 50% of demersal fish landings contribute to per capita consumption.

10.6. Revenue

Albeit the new Fisheries Regulations (2008), the artisanal fisheries operators are not yet obliged to make any form of payment to access fisheries resources within waters of the Gambia. There are provisions in the regulations for artisanal fishermen to pay fees but are yet to be enforced. Revenue accruing to the Government of the Gambia for its marine resources is from licensing of industrial fishing vessels. Industrial vessels pay license according the fishery segment they operate in and the size of vessel in terms of Gross Registered Tonnage (GRT), Table 5.

Table 5: License Fees by category of industry segment

Product	Cost/GRT (For.) GMD	Cost/GRT (Loc) – GMD
Shrimp	4062.50	1560.00
Fish and Cephalopods	3250.00	1228.50
Fish Processing Vessel	1950.00	1950.00
Seiners/Pelagic trawlers (small pelagics)	1625.00	715.00

The licenses are issued on a pro-rata basis but extra administrative charges are levied on licenses drawn for less than six months. Revenue generated from licenses by the industrial fishing segments for 2007 is D7,140,480.36 (U\$324,567), the breakdown is given below.

Industrial Stern Trawlers (Fish and Cephalopods)	D 3,694,545.79
Industrial Shrimp Trawlers	D 3,445,934.57
Total	D 7,140,480.36

10.7. Volume produced

The volume of the main marine fish species produced in 2007 was estimated 33 357 tonnes (Appendix 2). The bulk of the volume of fish produced was bonga with about 14 000 tonnes.

10.8. Volume processed

In the Gambia, fish processing is an important social and economic activity for women and some of their male counterparts. It is estimated that about 20 to 30% of clupeids especially bonga are processed smoked or dried for local and regional. Over 90 percent of catfish landings are now smoked since the establishment of lucrative smoked catfish markets in Europe and the USA by women fish exporters.

11. The Fisheries Roadmap

The Government intends to pursue these objectives on a rationally planned basis through strategies of research and development, extension of appropriate skills and techniques, provision of credit and necessary infrastructure and protection and regulation of exploitation of the fisheries resources.

In considering the current social and economic status of the Gambia: underlying poverty and malnutrition, and excessive reliance on land base agriculture and a shortage of foreign exchange, the sustainable development of the fisheries sector can be seen to be a potentially powerful instrument in the overall national development strategy for the following reasons:

Fish and marine products represent a major component in the staple diets of many

Gambians in light of its relative affordability and availability. Fish represents a potentially superior protein substitute to high priced meat and can therefore play a leading role in the Government's effort to eradicate malnutrition amongst the population.

The fisheries sector, though not fully developed, provides significant employment thus representing a major source of income for both rural and urban communities and in many areas, a valuable and viable alternative to rain-fed agriculture. Correspondingly, productivity increases in the fisheries sector is expected to generate a multiplier effect throughout the economy and widespread improvements in living standards and real per capital income levels for a substantial segment of the population.

The export potential of the fisheries sector has to date been seriously neglected, and substantial excess exists for increased foreign exchange earnings. Given the high value attached to foreign exchange earning in countries like the Gambia that are undergoing structural adjustment, the fisheries sector with its enormous potential represents a valuable external revenue earning source. The development of the export trade in fishery products and value adding would assist the Government in diversifying the economy and shifting reliance on agricultural exports.

The realization of the potentials of the fisheries sector is imperative and hinged on sound conservation and management policies put in place. The open access nature of the artisanal fisheries requires proactive and dynamic management maneuver to curtail further overexploitation of the resources.

Establishment of an active national fleet needs top priority action by Government if the Gambia Artisanal Fisheries Development Project fisheries port objective is to be fully achieved. The question of foreign vessels using the port should be given attention.