

**The Gambia-Senegal Sustainable Fisheries Project**  
**USAID/BaNafaa**

Comparative Cost Study on Sole Fish: The  
Gambia and Senegal

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## List of Abbreviations\Acronyms

|            |   |  |
|------------|---|--|
| ACP        | : | African, Caraibes, Pacific   |
| ADB        | : | African Development Bank   |
| ADPES      | : | Association pour une Dynamique de Progrès Economique et Social               |
| BADEA      | : | Arab Bank for Economic Development in Africa                                 |
| BSc        | : | Bachelor of Science  |
| CFA        | : | Communauté Financière Africaine  |
| CNCAS      | : | Caisse nationale de crédit agricole du Sénégal                               |
| CNFTPA     | : | Centre national de formation des techniciens de la pêche et de l'aquaculture |
| CRODT      | : | Centre de Recherches Océanographiques de Dakar-Thiaroye                      |
| DITP       | : | Direction de l'industrie et de transformation de la pêche                    |
| EEZ        | : | Exclusive Economic Zone  |
| EIF        | : | Enhanced Integrated Framework Project  |
| EPF        | : | Economic Promotion Fund  |
| EU         | : | European Union   |
| FAO        | : | United Nations Food and Agriculture Organization                             |
| FENAGIE    | : | Fédération Nationale des GIE de pêcheurs du Sénégal                          |
| FGD        | : | Focus Group Discussions  |
| FOB        | : | Freight on Board   |
| GAIPES     | : | Groupement des armateurs et industriels de la pêche sénégalaise              |
| GAMFIDA    | : | Gambia Artisanal Fisheries Development Agency                                |
| GDP        | : | Gross Domestic Product   |
| GIEPA      | : | The Gambia Investment and Export Promotion Agency                            |
| GIPFZA     | : | The Gambia Investment Promotion and Free Zone Agency                         |
| GMD        | : | Gambian Dalasi   |
| HACCP      | : | Hazards Analysis Critical Control Point                                      |
| IFZ        | : | Industrial free zone   |
| IUPA       | : | Institut universitaire de pêche et d'aquaculture                             |
| KWH        | : | Kilowatt per hour  |
| M          | : | Metres   |
| MSC        | : | Marine Stewardship Council   |
| MSc        | : | Master of Science  |
| MSC        | : | Mutual of saving and credit  |
| MT         | : | Metric Tons  |
| MTP        | : | Gambia Medium Term Plan  |
| NAAFO      | : | National Association of Artisanal Fisheries Operators                        |
| NASCOM     | : | National Sole Fishery Co-Management Committee                                |
| NAWEC      | : | National Water and Electrical Company  |
| NGO        | : | Non Governmental Organisation  |
| PhD        | : | Philosophical Doctorate  |
| SDF        | : | Social Development Funds   |
| SFVCA      | : | Sole Fish Value Chain Assessment   |
| TFS        | : | Traditional Financing System   |
| UCAD       | : | University Sheik Anta Job of Dakar   |
| UNDP       | : | United Nations Development Programme   |
| URI        | : | University of Rhode Island, USA  |
| US\$       | : | Dollar of the United States  |
| USA        | : | United States of America   |
| USAID      | : | U.S. Agency for International Development                                    |
| VISACAs    | : | Village Saving and Credit Associations                                       |
| WTO        | : | World Trade Organization   |
| WWF WAMER: | : | The World Wide Fund West Africa Marine Eco Regional Program                  |

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## **Executive summary**

This consultancy has been commissioned to assess the impact of the cross-border of Gambian Sole Fish to Senegal to fully understand market context and opportunities for improving marketing that benefits more fully Gambian fishermen, processors and exporters.

The methodology of the study includes literature review, focus-group discussions, interviews and consultations both in The Gambia and Senegal; survey in the Gambia, analysis of data, and report writing.

A holistic and integrated approach to the study was adopted and all administrations involved directly or indirectly to sole fish trade have been visited.

In both The Gambia and Senegal, the sole fishery has an artisanal and an industrial component. In The Gambia, the industrial fleet is composed of foreign owned fish\cephalopod trawlers and in Senegal a very important national trawling fishery has been active since 2006 next to a foreign fleet operating under the fishing agreement with the European Union. The Gambia does not have a port for vessels to off load, so foreign vessels land their catches in foreign ports. Senegal does, and some of the foreign catch is landed in Dakar for processing. In 2011, out of 29 industrial fishing vessels operating in Gambian waters, 5 were involved in the sole fishery.

In Senegal, artisanal sole fishing is completely controlled by national fishermen while in The Gambia more than 60% of fishing units are controlled by Senegalese.

Average yearly landings of sole in The Gambia are 2000 tons for the period 2000-2009. In Senegal, landings are around 4,500 tons with a peak of 9000 tons in 2003.

Landing price of sole has been fixed the last several years in The Gambia (20 GMD on average) and generally quoted by the wholesale fishmongers. In Senegal, the price of sole (CFA franc equivalent price of 63 GMD per kilo) is fixed with a common agreement among stakeholders at the beginning of the season and adjusted according to supply and demand.

In the Gambia, only one processing sole fish plant was operating in 2011 and supplied exclusively by the small-scale fishery. In Senegal, 50 fish processing plants and 19 trawlers are interested in sole fish exports. The Senegalese sole fish exports are estimated at 2,816 tons in 2008 compared to 244 tons for The Gambia for a respective commercial value of US\$ 20 million and US\$220,618.

Stakeholders are fishermen, fish collectors at the landing site, wholesale fishmongers and processing plants owners. The collectors act as intermediaries between wholesale fishmongers/sole processing plants and fishermen. They are always present on the beach to

make sure that fishermen deliver all their captures. They package for the wholesale fishmonger all the collected products and generally receive a certain amount of money per kilo delivered.

Related to exported-oriented policies, both The Gambia and Senegal have experienced the establishment of free zones to boost exports, encourage employment, and speed industrialization. Customs, tax, financial, social and economic advantages are granted. While this favourable environment has for a long time stabilised the volumes of Senegalese fish exports, in The Gambia most of the expected results have not been met as the free zone is still not fully operational.

An export subsidy is part of a national policy in Senegal aimed at facilitating the penetration of external markets by local products and allowed from 1986 onwards for fish products to top the list of external trade and to account for about one-third of external receipts. The Gambia has never experienced an export subsidy policy for fisheries products.

The devaluation of the CFA franc in 1994 had a significant impact on the fishery export sector by restoring operating margins and boosting exports up to 125,000 tons in 1999 from 80,000 tons in 1993 and exports receipts soared from about 50 billion CFA francs (US\$ 100 million) to 174 billion CFA francs (US\$348 million). The Gambia fish processing industry has not benefited from this type of macroeconomic policy impacts. Even worse, the relative weakness of the Gambian Dalasi has had the perverse effect of making Senegalese fishermen prefer payment in CFA franc for their catch, and hence providing another incentive to sell their catch to Senegalese fishmongers.

The Lome Agreement (1975) has been beneficial for both The Gambia and Senegal. The customs duty-free regime applicable to fish products originating from the two countries contributed to stronger competitiveness in the European market. For Senegal, the years following the adoption of Lome, fish exports to Europe rose from 90,000 MT to 125,000 MT. Currently, Europe remains by far the main destination for Senegalese and Gambian fish exports, accounting for at least 75% of total exports.

For the fishery modernization and the cost reduction policies, average annual tax reductions granted in connection with the purchase of outboard engines, and small-scale fishing equipment average 5 billion CFA francs (\$US 10 million) per year in Senegal. The impacts of this policy are considerable from both the technical and the economic points of view since almost 90% of Senegalese pirogues are motorized. In The Gambia, tax concessions on the importation of fishing and fishing related equipment/materials boost the small scale fisheries sub-sector which has experienced a significant influx of fishers.

For the artisanal and industrial Senegalese fishery sub-sectors together, the average annual fuel subsidy is around 21 billion CFA francs (US\$42 million). The fuel subsidy has allowed the exploration of new remote fishing areas as resources become scarce in the Senegalese

Exclusive Economic Zone (EEZ) and has considerably reduced the operating costs of both the small-scale and industrial fleet. Currently, there is no subsidy on fuel for fishing and related operations in The Gambia.

For infrastructure, the Senegalese authorities subsidize industrial processing and export plants to help bring them to European standards. The subsidy amounts to 1.7 billion CFA francs (US\$3.4 million). Eight landing sites identified for export purpose are put in a process to bring them into compliance with European sanitary standards with a program of sanitary improvements, the construction of ice plants, frozen and refrigerated rooms for use by the small-scale fisheries. The industrial fishery benefits from a functional fishery port with ancillary facilities including: supplying, ship repair and maintenance facilities, freezing, and stocking facilities. Such infrastructure facilitates industry cost reduction and enhances competitiveness.

The Gambia lacks most of the necessary infrastructure to support the fishery sector and this has hampered the fish processing industry. Most of the 11 landing sites along the Gambian coastline do not have the basic facilities and do not yet apply rigorous sanitation standards. The industrial fishery suffers from infrastructural deficiencies, particularly with the absence of a dedicated fisheries jetty and other ancillary facilities. Fishing vessels operating in The Gambia are reluctant to land their catches in Banjul even though by the Fisheries Act they are required to land 10% of their catches in the country for local processing.

The Gambia is confronted with very high electricity costs. The country no longer waives taxes levied on gasoline and diesel-fuel; therefore, there is no subsidy for any category of users. Currently, the cost per KWH charged by NAWEC Electricity Company as at December 2011 is 7.96 GMD (US\$ 0.25) while for Senegal the current rate for industries is 72.99 F CFA (US\$0.15) per KWH.

The financial system for the fishery sector is more diversified in Senegal than in The Gambia. Contrary to Senegal where there is a specific fund (the Economic Promotion Fund) for the fishing sector with advantageous conditions (interest allowances, hedge funds and contribution funds), The Gambian plant owners are still subject to the existing financial market. Investment credits are minimal and commercial interest rates are very high (30%).

Both in The Gambia and Senegal, the small-scale fishery benefits from State-supported micro-financing. In The Gambia, this system is constrained by high personal capital contribution requirements, large guaranty requirements, prohibitive interest rates, and short repayment periods. In Senegal, the combination of financing options from public, non-governmental organizations and professional organizations has greatly increased the productivity of stakeholders, with less dependence of fishermen on middlemen.

The Gambia does not have any private packaging industries and this results in delays because packaging materials are imported and also results in higher cost of operations. Also, The



Gambia is at a disadvantage compared with Senegal because there is no dedicated administration for the fishing export industry or formal institutions for the training of technicians and managers for exporting industries.

The analysis of the cost structure of marketing of sole in The Gambia gives net revenue of 19.30 GMD per kilo for fish collectors delivering to sole processing plants and 44.30 GMD per kilo for local hotels/restaurants. Sole delivered to Senegal from Gambia by freezer truck generates net revenue of 18.2 GMD on each kilo for fishmongers. **Comparative cost structure in sole processing shows a higher cost of all utilities (ice, water, packaging materials, and electricity) in The Gambia.** The per unit of gross revenue generated by the processing plant is 75.4 GMD per kilo for The Gambian, 205.4 GMD and 185 GMD for Senegalese respectively in Italy and France. The large difference is due to higher sole prices in Italy and France than in the Netherlands (Gambian processors primary market) as Gambian plants deliver either smaller sole or Pan Ready products.

The major conclusions and findings of the study are summarized in six points related to: (1) the price of sole fish, (2) the incentives package offered in the two countries, (3) the prevailing financing system, (4) the position of the supporting industries, (5) the institutional framework and the human resources available for the promotion of the fish processing industries, and (6) the comparative cost per unit of sole processed.

Recommendations link the competitiveness, profitability and sustainability of The Gambian fish processing industry on issues of financing, utility costs, infrastructure improvements, associated industry creation, adequate supply of raw materials, information system on sole transshipment, and creation of an interagency Committee.

## **1. BACKGROUND TO THE STUDY**

### **1.1. Context of the study**

The *USAID/Ba Nafaa* project is a five-year regional initiative supported by the American people through the U.S. Agency for International Development (USAID/West Africa Regional Mission). It is implemented through the University of Rhode Island (URI)-USAID cooperative agreement on sustainable coastal communities and ecosystems. The World Wide Fund West Africa Marine Eco Regional Program (WWF WAMER) is the regional implementing partner. Project activities are carried out in partnership with the Department of Fisheries and stakeholders in the fisheries sector in The Gambia and in Senegal. The focus is on sustainable fisheries management including the shared marine and coastal resources between The Gambia and Senegal.

The goal of the *USAID/Ba Nafaa* Project is to assist The Gambia Government to meet its fisheries management and development objectives. The *USAID/Ba Nafaa* Project has been building on the on-going efforts of the Department of Fisheries in The Gambia, working with several Community Fisheries Centers and their management committees and Women's oyster group to improve fisher folk involvement in the management of fisheries resources. More specifically, the project is supporting an inclusive stakeholder approach to develop fisheries management plans for sole fish and oyster/cockles. It is also supporting improvements to health and sanitation in selected landing sites. The key expected results for the *USAID/Ba Nafaa* Project are:

- Strategies to increase social and economic benefits to artisanal fishing communities, and otherwise create incentives for a sustainable fisheries agenda in the WAMER identified, tested and applied
- Institutional capacity strengthened at all levels of governance to implement an ecosystem-based co-management approach to sustainable fisheries, and to prevent overfishing
- Nursery areas and spawning areas for critical life stages of commercially important species and for associated marine turtles and mammals are protected
- Change unsustainable and destructive marine resource use practices that threaten improved biodiversity conservation in the West Africa Marine Ecoregion

The *USAID/USAID/Ba Nafaa* project goal in terms of the sole fishery is to assist the fishing industry associations-The Gambia Artisanal Fisheries Development Agency (GAMFIDA) and the National Association of Artisanal Fisheries Operators (NAAFO), and the Department of Fisheries to meet the sustainability criteria required to be eligible for Marine Stewardship Council (MSC) certification in sole fish. The MSC audit report identified very specific areas

for improvement in order to meet sustainability criteria such as absence of reliable data, lack of enough knowledge on both the scientific and local knowledge, absence of a co-management committee, etc.

In 2010, a study was commissioned by *USAID/Ba Nafaa* project on a “Value Chain Study on the Sole fishery”. The results revealed that there are significant constraints in the sole industry. All industrial vessels operating in Gambian waters are foreign-owned and foreign fishermen dominate. These vessels land their catches in foreign ports where the fish is processed, packaged and labeled as products originating from those foreign ports. As a result, the industrial seafood processing plants in The Gambia rely on the purchase of fish from the artisanal fishery for processing and export. Consequently, they are operating far below capacity. The lack of adequate fish for processing is a persistent problem confronting the fish processing factories. The coastal artisanal fishery is dominated by Senegalese fishermen and the industrial fish factories suffer from shortage of raw material supply when most Senegalese fishers return to Senegal for Ramadan and Tobaski (Islamic holidays). Processing plants are also not operating at full capacity. Two reasons for this are their lack of enough product supply and low prices paid to the fishermen. In addition, the value chain study for sole revealed that there is a significant amount of sole that is landed in The Gambia and transported by truck to Senegal. Senegal traders seem able to provide a higher price than Gambian processors can pay. This export is not reported. If more of this “export” was processed in The Gambia it could provide higher volume for Gambian exporters. Another important issue is the high price of electricity, which hampers the ability of the fish processing factories to be competitive in the international fish trade. The Gambia cost structure for processing plants (electricity) makes it unprofitable. The value chain report found that the issue of trade and exports and relative price structures is complicated and requires more assessment to determine potential courses of action.

## **1.2. Objectives of the study and expected results**

The value chain for sole identified an unknown quantity of sole trans-shipped into Senegal and much of this transshipment is not being fully captured by the Department of Fisheries statistics (and distorts Senegal sole capture statistics). This also raises concerns if The Gambia artisanal sole fishery obtains MSC certification as an eco-labeled product. At Gambian landing sites, sole is loaded into trucks coming from the Casamance but reported as caught in Senegal and then transshipped to Senegal for eventual processing and export. This illegal trade can have significant impacts on trying to accurately assess landings of sole caught in Gambian waters as well as have impacts concerning ecolabeling. Ecolabeling may help curtail this trade, but other measures might be identified to make transparent this illegal trade. Additional assessment of the cross border trade is needed to fully understand the market context and opportunities for improved marketing that benefits more fully Gambian

fishermen, processors and exporters. Since cost differences in the two countries have been cited as key reasons for the lack of processing activity in The Gambia and exports to Senegal, this assessment will, to the extent possible, also look into the comparative cost structure for processing plants and exports to Europe in the two countries.

The general objective of this study is to help identify and understand both the major opportunities for upgrading and the driving constraints to market growth of the sole fishery sub-sector. The assessment seeks to generate recommendations for priority actions that can be implemented and impacts monitored.

The expected resultants are:

- A characterization of the financing of fishermen in Senegal and The Gambia for both fishermen operating in local waters and in waters of other countries and actors including description of operations, and agreements among them
- A comparative assessment of national policies in Gambia and Senegal on fish product trade
- A comparative assessment of the cost structure of the fish production chain from landing of fish to export
- A set of conclusions and preliminary recommendations

### **1.3. Methodology**

The Cross Boarder Sole fish study was prepared based on empirical material which comes from different types of sources, interviews, sole fish focus group discussions, key informant discussions, literature review and official data. A survey instrument (annex 1) was also applied at three Boarder Posts of The Gambia as supplementary information to the study.

Extensive and in-depth semi-structured interviews were held with officials of relevant fisheries authorities and financial institutions both in The Gambia and Senegal. Stakeholders in the sector including factory fish processing owners, individual fishermen, fish traders, representatives of three sole fish landing site co-management committees (sole fish operators) involved in the cross boarder sole fish trade from The Gambia to Senegal, and other service providers were visited. Annex 2 provides a complete list of people visited in the field.

Secondary literature and data review was conducted on fisheries policy, Senegal-Gambia bilateral maritime fishing agreement, trade policies between The Gambia and Senegal, subsidies, free zones and other related issues to cross border sole fish trade. Relevant documents were reviewed including those relating to national policies and programs on

fisheries. The value chain assessment of the sole fishery was reviewed to provide information on technical, social and economic matters essential for planning, executing and assessing the impact on the artisanal sole fishery development in The Gambia. Websites were also reviewed for relevant information on the two countries.

A questionnaire was designed to capture field data at three border posts (Amdali, Giboro and Kerr Ayip) of The Gambia as supplementary information to the study.

The drafted questionnaire was pre-tested to detect any inconsistencies and undefined terms in the subject matter. The questionnaire was administered from the 26, October to 24, November, 2011. The questionnaire results were anonymous to reduce outside influence that **might lead to bias. All the data collected was analyzed using a spreadsheet.**

The study was conducted during the low sole fish cross border trade season coupled with the feast of “Tobaski”. Therefore, the migratory behavior of Senegal sole fish traders resulted in difficulties during the field data collection and results in limitations in the degree that the data is representative of normal conditions.

#### **1.4. Organization of the report**

**The report is divided into five chapters. Chapter 1 describes the context of the study, the objectives and expected outcomes, the methodology, and the structure of the report.** Chapter 2 provides a situational analysis of the sole fisheries sector in The Gambia and in Senegal in terms of fleet, landings, prices, export sole industry, and key actors. Chapter 3 provides a comparative analysis of national policies in Gambia and Senegal linked to fish exports, modernization of the fish sector, and cost reduction actions, financial flows in the fishery sector, and other measures contributing to the improvement of the performance of the fishery. Chapter 4 provides a comparative assessment of the cost structure of the fish production chain for the two countries. Chapter 5 presents conclusions and recommendations of the study.

## **2. OVERVIEW OF THE SOLE INDUSTRY IN THE GAMBIA AND IN SENEGAL**

In both The Gambia and in Senegal, sole is one of the most important high-value species. Sole is harvested all year round in both countries with peak production occurring between February and June in both countries.

## 2.1 Fishery components

In The Gambia, the sole fishery has two components. The industrial fleet is composed of foreign owned fish\cephalopod trawlers. These vessels land their catches in foreign ports where the fish is processed, packaged and labeled as products originating from those foreign ports. The absence of a deep water port is the reason put forward that the industrial fleet does not land their catch in The Gambia as would otherwise be required under Gambia fisheries licensing regulations. A deep water landing dock in Banjul is now under construction as part of the Gambia Artisanal Fisheries Development Project supported by the African Development Bank and the Arab Bank for Economic Development (BADEA). As in the industrial fishery, the coastal artisanal fishery is dominated by Senegalese. Bottom gill nets are used by artisanal fishermen to catch sole. In 2011, among the 29 industrial fishing vessels operating in Gambian waters, only 5 (one Gambian and 4 Senegalese) harvest sole (table 1).

**Table 1.** Gambian licensed vessels in 2011

| N <sup>o</sup> | Name of vessel          | Nationality | Vessel type             |
|----------------|-------------------------|-------------|-------------------------|
| 01             | Nikolaos K              | Senegal *   | <b>Fish/Cephalopods</b> |
| 02             | Kriti                   | Senegal *   | <b>Fish/Cephalopods</b> |
| 03             | Octopus                 | The Gambia  | Shrimp                  |
| 04             | Pape Moussa             | Senegal     | Shrimp                  |
| 05             | Dimitrios 1             | Greece      | Shrimp                  |
| 06             | Anna Jacoba             | The Gambia  | Shrimp                  |
| 07             | Tadorne                 | Senegal *   | Shrimp                  |
| 08             | Betty                   | Senegal *   | Shrimp                  |
| 09             | Niam Niokho             | Senegal *   | Shrimp                  |
| 10             | Ile aux Mimosas         | Senegal *   | Shrimp                  |
| 11             | Reflection              | The Gambia  | Shrimp                  |
| 12             | Fleur                   | The Gambia  | Shrimp                  |
| 13             | Laurence Marie          | Senegal *   | Shrimp                  |
| 14             | Catherine Anne          | Senegal *   | Shrimp                  |
| 15             | Haddijatou              | The Gambia  | Shrimp                  |
| 16             | Releixo                 | Spain       | Shrimp                  |
| 17             | Fissel                  | Senegal *   | <b>Fish/Cephalopods</b> |
| 18             | Yeun Horng 1            | Taiwan      | Trawler long line       |
| 19             | Dimitrios 2             | Greece      | Shrimp trawler          |
| 20             | Pdt Magatte Aya Diack 2 | Senegal *   | Trawler long line       |
| 21             | Pdt Matar Ndiaye        | Senegal *   | Trawler long line       |
| 22             | Ramatoulaye             | Senegal *   | Trawler long line       |
| 23             | Cdt Birane Thiaw        | Senegal *   | Trawler long line       |
| 24             | Chun Ying 212           | Zanzibar    | Trawler long line       |
| 25             | Marina                  | Zanzibar    | Trawler long line       |
| 26             | Renaissance             | The Gambia  | <b>Fish/Cephalopods</b> |
| 27             | Adja Ndoume 2           | Senegal     | <b>Fish/Cephalopods</b> |
| 28             | Pape Moussa             | Senegal     | Shrimp trawler          |
| 29             | Dimitrios 3             | Greece      | Shrimp trawler          |

Source: Fisheries Department, The Gambia

The Fisheries Department frame survey conducted in 2006 indicates that out of the 1,410 fishing units counted, 62% of them belong to Senegalese fishermen vs. 36% to Gambians and 2% to other nationalities.

The bilateral maritime fishing agreement between The Gambia and Senegal allows various categories of industrial vessels to operate in each other's waters including artisanal fishing canoes. Senegalese fishing vessels have been taking advantage of this treaty, whereas the Gambian fleet operates only occasionally in the Senegalese Exclusive Economic Zone (EEZ). According to the agreement, artisanal fishers can fish in either country provided they abide by the laws of the country where they are fishing and land their catches in the country where they are fishing. Gambian artisanal fishermen do not operate in Senegal and have not been benefiting from the agreement. One of the main reasons for this is that Gambian participation in artisanal fishing is minimal and fishing boats, engines and gear are expensive.

In Senegal, the sole fishery is operated by three types of fishing gears throughout the year with a peak production between February and June. The artisanal sole fishery is completely controlled by Senegalese. The more recent and complete census of the Senegalese small-scale fishery conducted in 2006 by CRODT reported 2,796 bottom set gillnets (photo 1) and 577 trammel nets targeting sole along the entire Senegalese coastline (table 2). Sole fish gear account for 24% of the total artisanal fishery in 2005.

**Figure 1.** Bottom gillnets gear in The Gambia and Senegal (Deme, 2011).



**Table 2.** Small-scale fishery targeting sole fish in Senegal (2005)

| Regions            | Bottoms set gillnets | Trammel nets |
|--------------------|----------------------|--------------|
| <i>Grande Côte</i> | 850                  | 108          |
| <i>Cap-Vert</i>    | 310                  | 169          |
| <i>Petite Côte</i> | 987                  | 275          |
| <i>Sine-Saloum</i> | 347                  | 17           |
| <i>Casamance</i>   | 302                  | 8            |
| Total              | 2796                 | 577          |

Source: CRODT (2006), Senegal

A Senegalese industrial trawl fishery is also active in the sole fishery along with a foreign trawl fishery. The Senegalese fleet has declined significantly from 177 fishing units in 2000 to only 74 in 2009. Most of the foreign fleet operated under the fishing agreements between Senegal and the European Union which expired in 2006. In 2004, 4 Gambian trawlers were operating in Senegalese water under the marine bilateral agreement signed by the two countries. Since then, only one Gambian trawler is fishing occasionally in Senegalese waters (table 3).

**Table 3.** Industrial fleet targeting sole fish in Senegal

| Years | Senegalese trawlers | Foreign trawlers |        | Total |
|-------|---------------------|------------------|--------|-------|
|       |                     | Gambian          | Others |       |
| 2000  | 177                 | 4                | 89     | 270   |
| 2001  | 155                 | 0                | 4      | 159   |
| 2002  | 142                 | 0                | 104    | 246   |
| 2003  | 132                 | 0                | 28     | 160   |
| 2004  | 124                 | 0                | 19     | 143   |
| 2005  | 98                  | 0                | 21     | 119   |
| 2006  | 122                 | 0                | 8      | 130   |
| 2007  | 110                 | 1                | 0      | 111   |
| 2008  | 80                  | 1                | 0      | 81    |
| 2009  | 74                  | 0                | 0      | 74    |
| 2010  | 81                  | 0                | 0      | 81    |
| 2011  | 82                  | 0                | 0      | 82    |

Source: DPM, Senegal

## 2.2 Sole landings

With the exception of 2005, landings of sole in The Gambia are dominated by the small-scale fishery. A record of almost 6000 MT of sole was landed in 2005 followed with a sharp decrease in 2006 (1559 MT) and a slight recovery the following year (2523 MT). In 2008 and 2009, harvest of sole stabilized at around 1,000 MT. Trends for sole fish catch from 2004 to 2009 in The Gambia are shown in table 4.



**Table 4.** Artisanal and industrial catches of sole fish in The Gambia (Mt)

| Years | Artisanal Catches | Industrial Catches | Total Catches |
|-------|-------------------|--------------------|---------------|
| 2004  | 842               | 462                | 1 304         |
| 2005  | 2 190             | 3 713              | 5 903         |
| 2006  | 1 371             | 188                | 1 559         |
| 2007  | 1 293             | 1 230              | 2 523         |
| 2008  | 866               | Not available      | 866           |
| 2009  | 927               | 267                | 1 194         |

Source: Statistic Unit, Fisheries Department, The Gambia

Landings of sole in Senegal was characterized by relative stability between 1997 and 2000, a sharp rise between 2001 and 2003, with a peak of 8429 MT in 2002, and a continuous decline from 2004 (table 5). This declining trend is more obvious in the industrial fishery. In the small-scale fishery an opposite situation is noticed, the largest artisanal landings were recorded from 2004 onwards. In 2005, the artisanal fishery nearly landed as much as the industrial fishing fleet which prior to that always accounted for not less than 70% of total landings. The foreign demersal industrial fishery is marginal and average annual landings have never exceeded 250 tons. Moreover, this fishery has not operated in Senegal since 2006 with the non renewal of the fishing agreement with the European Union.

**Table 5.** Artisanal and industrial landings of sole fish in Senegal (Mt)

| Years | Artisanal catches | Senegalese industrial catches | Foreign industrial catches | Total catches |
|-------|-------------------|-------------------------------|----------------------------|---------------|
| 1997  | 1 475             | 4 973                         | 501                        | 6 949         |
| 1998  | 1 252             | 4 003                         | 480                        | 5 735         |
| 1999  | 1 671             | 4 316                         | 387                        | 6 374         |
| 2000  | 1 728             | 3 143                         | 446                        | 5 317         |
| 2001  | 1 502             | 4 950                         | 650                        | 7 102         |
| 2002  | 1 687             | 5 735                         | 168                        | 7 590         |
| 2003  | 1 159             | 7 082                         | 890                        | 9 131         |
| 2004  | 1 786             | 3 625                         | 212                        | 5 623         |
| 2005  | 1 324             | 2 196                         | 160                        | 3 680         |
| 2006  | 2 103             | 2 702                         | 65                         | 4 870         |
| 2007  | 1 945             | 2 709                         | 0                          | 4 654         |
| 2008  | 1 152             | 2 650                         | 0                          | 3 802         |
| 2009  | 2 337             | not available                 | 0                          | -             |
| 2010  | 367               | not available                 | 0                          | -             |

Source: CRODT, Senegal

### 2.3 Price of sole fish

In Senegal, the price of the sole is relatively stable but is influenced noticeably by changes in supply and demand. The price of sole is also influenced by other factors such as the location of the landing site. Wholesale fishmongers from fishing centers outside of Dakar (Kayar, Saint-Louis, Mbour, and Joal) selling on the same markets as those landing sites in Dakar (Hann and Yoff) have higher transport and ice costs. Consequently, the further landing sites are from Dakar, the lower the prices that wholesale fish buyers will offer (table 6).

**Table 6.** Average price of sole at the main landing sites in Senegal (CFA franc/kg)

| Année | Hann | Joal | Kayar | Mbour | Ouakam | Saint-Louis | Yoff |
|-------|------|------|-------|-------|--------|-------------|------|
| 2000  |      | 750  | 960   | 1767  | 850    | 833         | 1625 |
| 2002  | 1706 | 1040 | 1183  | 1701  | 1313   | 953         | 700  |
| 2004  |      | 940  | 830   | 1647  | 1860   | 675         | 1250 |
| 2005  |      | 676  | 597   | 1500  | 1573   | 750         | 1110 |
| 2006  |      | 846  | 1029  | 700   | 1000   | 1250        | 1000 |
| 2007  |      | 1070 | 853   | 1686  | 880    | 813         | 1241 |
| 2008  |      | 682  | 759   | 1075  | 1000   | 786         | 1379 |
| 2010  | 1700 | 643  | 639   | 690   | 1140   | 921         | 1335 |
| 2011  |      | 783  | 728   | 950   | 1100   | 1010        | 1000 |

Source: CRODT, Senegal

In The Gambia, the price of sole at landing sites is more rigid and steady at about 20 GMD per kilo. This price is quoted by the wholesale fishmongers without consulting the fishermen who are in a weaker position in contrast to Senegal where the emergence of strong socio-professional organizations of fishermen have balanced the powers among fishermen, wholesale fishmongers and fish processing plant owners. Therefore, the price of sole in Senegal is fixed with a common agreement at the beginning of the season and adjusted according to supply and demand.

#### 2.4 Processing and sole exportation industry

In the Gambia, harvested sole is mainly supplied to fish processing plants where they are transformed into value-added products such as fillets and Pan Ready. In 2009, over 106 MT of sole fish were exported to Europe and the African continent, and were valued at about 6,133,189 GMD (US\$220,618) (table 7). In 2010, about 267 metric tons of sole fish was exported, valued at about 12,937,996 GMD (US\$ 465,396) and 2.94 tons was sold in the Senegambia (Senegal and Gambia) market valued at 123,850 GMD equivalent to US\$ 4,455 (table 8). Relative to total export figures, sole fish count for 3% of volume and 6% of value in 2010.

**Table 7.** Sole fish exports from The Gambia, 2009

| Processing plants/Exporters   | Quantity (kg) | Value (GMD) | Value (\$US) | Destinations |
|-------------------------------|---------------|-------------|--------------|--------------|
| Atlantic Seafood Company      | 96,371        | 5,707,624   | 205,310      | Netherlands  |
|                               | 376           | 11,200      | 403          | UK           |
|                               | 7,606         | 380,285     | 13,679       | South Africa |
| International Pelican seafood | 585           | 17,550      | 631          | U.K          |
|                               | 20            | 900         | 32           | Spain        |
|                               | 162           | 6,480       | 233          | Italy        |
|                               | 152           | 9,120       | 328          | Belgium      |
| Rasomond Trade                | 1,200         | 30          | 1.08         | Norway       |
| Total                         | 106,472       | 6,133,189   | 220,618      |              |

Source: Fisheries Department, The Gambia.

Out of the 5 processing plants operating in the country in 2010, Atlantic Seafood Company exported 98% of total export volume mostly sent to the Netherlands (table 8). Processing plant's efforts of diversifying export markets are remarkable with new markets in 2010 in China, Egypt and Germany.

In Senegal, 53 fish processing plants and 23 fishing vessels are involved in fish exportation. Among them, 50 fish processing plants and 19 trawlers are interested in sole fish among other species. The Senegalese sole fish exports are estimated at 2,816 tons in 2008 (table 9) compared to the 3,782 tons in 2010 (table 10). The commercial value is around 10 billion CFA francs (US\$ 20 million) in 2008. Compared to total export figures, sole fish accounts for 3.8% of volume and 6.7% of value in 2008.

**Table 8.** Sole fish exports from The Gambia, 2010

| Processing plants/Exporters  | Quantity (Kg) | Value (GMD) | Value (\$US) | Destinations |
|------------------------------|---------------|-------------|--------------|--------------|
| Atlantic Seafood Company     | 46,971        | 2,271,706   | 81,716       | South Africa |
|                              | 161,012       | 7,746,340   | 278,645      | Netherlands  |
|                              | 16,556        | 827,800     | 29,777       | Netherland   |
|                              | 9,210         | 460,500     | 16,565       | Egypt        |
|                              | 20,700        | 1,035,000   | 37,230       | China        |
|                              | 1,000         | 40,000      | 1,439        | Senegal      |
| Interntional pelican seafood | 9,456         | 472,800     | 17,007       | Germany      |
| Tanji Fisheries Centre       | 40            | 1,350       | 49           | Senegal      |
| Mayacor Saine                | 1,500         | 67,500      | 2,428        | Senegal      |
| Marget Mbye                  | 400           | 15,000      | 539          | Senegal      |
| Total                        | 266,845       | 12,937,996  | 465,396      |              |

Source: Fisheries Department, The Gambia

**Table 9.** Sole fish export from Senegal, 2008

| Types of products | Fresh products |                   | Frozen products |                   | Total        |                   |
|-------------------|----------------|-------------------|-----------------|-------------------|--------------|-------------------|
|                   | Volumes (kg)   | Value (1000 FCFA) | Volumes (kg)    | Value (1000 FCFA) | Volumes (kg) | Value (1000 FCFA) |
| Whole fish        | 216 925        | 1 456 920         | 1 071 017       | 2 415 155         | 1 287 942    | 3 872 075         |
| Filet             | 669 557        | 3 859 722         | 505 475         | 1 085 680         | 1 175 032    | 4 945 402         |
| Others            | 116 126        | 600 453           | 236 694         | 531 557           | 352 820      | 1 132 010         |
| Total             | 1 002 608      | 5 917 095         | 1 813 186       | 4 032 392         | 2 815 794    | 9 949 487         |

Source: DITP, Senegal

**Table 10.** Sole fish export from Senegal, 2010

| Types of products | Fresh products (kg) | Frozen products (kg) | Total (kg) |
|-------------------|---------------------|----------------------|------------|
| Whole fish        | 120 750             | 1 790 143            | 1 910 893  |
| Filet             | 425 233             | 1 205 185            | 1 630 418  |
| Others            | 59 385              | 180 978              | 240 363    |
| Total             | 605 360             | 3 176 314            | 3 781 674  |

Source: DITP, Senegal

As expected, the information provided by the survey conducted at the 3 border posts (Amdali, Giboro and Kerr Ayib) did not provide volumes of fish yearly transhipped to Senegal due to the fact it was the period of “Tobaski” during which Senegalese fishermen return to Senegal and do not fish. However, by comparing landings of the Senegalese fleet and the volumes exported, we can have an idea of the transshipment. The quantity of sole exported in 2008 (2,816Mt) corresponds to 4,709 Mt of fresh fish (table 11). Senegalese national production in 2008 all fleets combined is 3,802 tons (table 5). This gives a net volume of 907 tons exported being object of transshipment. This figure can be much higher knowing that the origin of the landings of both small-scale and the industrial fleet are not well specified (in the Senegalese EEZ or sub-regional EEZ). The Gambia is providing an important share of this transshipment as both the artisanal and the industrial Senegalese fleet is operating in its ZEE.

**Table 11.** Exports of sole in Senegal and equivalent of fresh fish.

| Products           | Volumes exported (Mt) | Yield | Equivalence of fresh sole (Mt) |
|--------------------|-----------------------|-------|--------------------------------|
| Whole fish         | 1 288                 | 98%   | 1314                           |
| Filet              | 1 175                 | 40%   | 2937                           |
| Others (Pan ready) | 353                   | 77%   | 458                            |
| Total              | 2 816                 | -     | 4709                           |

## 2.5 Characterization of actors and agreements among them

### 2.5.1. The fishermen

The fishermen are the most important group among those intervening directly in the sub-sector of the Senegalese artisanal fishery. Around 60,000 fishermen are recorded in Senegal with about 13,492 involved in the sole fishery (National census of the small-scale fishery of Senegal, 2005). In The Gambia, the Fisheries Department frame survey conducted in 2006 indicates 475 active sole fishermen along the Gambian coastline accounting for about 10% of all fishermen.

A figure to take into account in any policy to manage the sole fishery is the dynamic character of fishermen both in The Gambia and in Senegal as they easily adapt strategies and tactics related to seasons and fishing areas. Among these, we can mention the use of several fishing gears on their boats, the redeployment of fishing effort from one fishery to another and the

migration of Senegalese fishermen in the West African sub-region coastline looking for fish and better markets.

### **2.5.2. The collectors**

The collectors act as intermediaries between wholesale fishmongers/sole processing plants and fishermen. They are always present on the beach to make sure that fishermen deliver all their captures. They package for the wholesale fishmonger all the collected products and generally receive a certain amount of money per kilo delivered. Apart from their main function, the collectors are also responsible for raising from the fishermen the funds granted by the wholesalers before the campaign to finance fishing equipment and fishing trips. In The Gambia, the collectors received from industrial seafood processing plants the ice needed and a surplus of 50 GMD per kilo delivered. They are in charge of transporting the products to the factory.

### **2.5.3. The wholesale fishmongers**

The wholesale fishmongers constitute a professional category with various functions: financing the artisanal fishery, buying fish on the beaches, packaging, and transporting them to the factories. Whole trade fishmonging is an activity dominated by the men who were former farmers and fishermen. In Senegal, some of them have integrated vertically in the fishery sector and manage their own fishing boats and gears, service-stations to supply fishermen with detaxed fuel, repair stations for outboard motors, and ice plants. In both countries, the women are often confined to micro-distribution and retail sales. Their financial position is too narrow and the difficulties of the job (long travel, late hours, and prolonged absences) put them in a weaker position. Apart from the collectors, individuals who help in weighing and packaging the sole products are also present.

### **2.5.4. The processing plants owners**

As they don't always have the appropriate supply of fish from the industrial fleet to operate at full capacity, fish processing plant owners both in The Gambia and in Senegal must rely on small-scale fishermen. Globally, about 80% of the supply of processing plants exporting sole come from the artisanal fishery. Therefore, the plant owners have greatly influenced the artisanal fishery. Under their influence, new types of traditional fishing such as the sole fishery appeared that are only directed to exports. In 2011, only one fish processing plant was exporting sole in The Gambia while in Senegal around 50 processing plants are exporting sole.

### **3. COMPARATIVE ASSESSMENT OF NATIONAL POLICIES ON FISH PRODUCT TRADE**

National policies in The Gambia and Senegal related to fish product trade are linked to four major items: 1) exported-oriented policies, 2) fishing modernization and cost reduction actions, 3) financial flows in the fishery sector, and 4) other measures contributing to the improvement of the performance of the fishery.

#### **3.1 Trade and exported-oriented policies**

The domestic and external mechanisms that greatly supported the connection of the Senegalese fishery sector to external markets include notably granting of free export enterprise status, export subsidy, Lome Agreement, and devaluation of CFA franc.

##### **3.1.1. Free Point/Free Export Enterprise Status**

###### 3.1.1.1. Senegal

In Senegal, Law 74-06 establishing the Dakar Industrial Free Zone was signed on April 22, 1974. This zone was expected to provide an attractive framework for encouraging foreign investors to come and establish export-oriented and labour-intensive industries. Authorized enterprises benefit from a variety of tax and customs facilities in the Free Zone. Later, law 91-30 of April 13, 1991 established the status of free points and extended these facilities to exporting industries operating outside the Industrial Free Zone (IFZ). Finally, in 1995, the scope of application of law 91-30 was further extended to all agricultural enterprises operating on the national territory and exporting at least 80% of their production (fishing being included in agriculture). The main objective was to boost the development of Senegalese exports to reduce the gap in the balance of trade through foreign exchange earnings and the creation of local value added. Other objectives were to encourage employment and to speed the country's industrialization.

Duty-free export enterprises benefit from many customs, tax, financial, social and economic advantages. These include the exemption from duties and taxes such as those levied on capital goods, equipment, commodities and finished or semi-finished goods entering or leaving the country. They also include reduced company tax on net annual benefits of 15% instead of 33% through the authorization of transferring abroad all the amounts needed to finance investments, trade and financial operations, depreciation allowances, withholding tax or dividend. This favourable environment has for a long time stabilized the volume of Senegalese fish exports around 100,000 tons yearly.

Any extension project that is worth at least US\$ 200,000 benefits from a sales tax waiver for its inputs for one year and newly established enterprises with an investment over US\$250,000

are granted a tax holiday on economic activities for a period of five years if located in a priority sector and eight years in a priority area. An enterprise located outside the export processing zone that exports at least 30% of its outputs is eligible for a 10% corporate tax concession for five years. An investor operating in an export processing zone for at least ten years and exporting at least 80% of its production is exempt from the payment of almost any kind of taxes (sales tax on goods produced or imported, import duty on capital equipment, corporate or turnover tax, etc). Micro, small or medium sized enterprises can benefit from support for research and development, income tax deposit waiver, market survey and research support, matching grants, and medium to long term loans with affordable interest rates. The Fisheries Department encourages exports through Letters of Credit that provide an export tax concession on sole and fish products. This incentive is intended to encourage fishing companies or individual fish exporters to bring back the foreign exchange earnings generated to the country for further capital development and investment.

### 3.1.1.2. The Gambia

Free Zones and the provision of investment incentives were expected to make The Gambia attractive to local and foreign private investors, and in turn encourage employment creation and the diversification of the relatively narrow productive and export base. The Gambia Investment Promotion and Free Zone Agency (GIPFZA) under the Ministry of Trade and Industry established in 1994 aimed to provide a one-stop-shop for potential investors, but falls well short of this goal. In 2010, The Gambia Investment and Export Promotion Agency (GIEPA) was established to replace the GIPFZA. GIEPA aims to create export processing zones, a stable and friendly environment for investments and enterprise development in The Gambia. The Gateway project which creates both GIPFZA and GEIPA aimed to create at least 20 new firms and 4,000 jobs by 2006 in export-oriented processing.

The approach is quite different from the Senegal. In The Gambia many criteria for access to benefits of the Free Zone were imposed such as whether the firm produces in what is considered a priority area, the volume of capital investment and the percent of products exported. Fishery is among the priority sectors and the priority areas are Western Region (Foni, Kombo East, Kombo South and Kombo Central except the town of Brikima), Lower River Region, North Bank Region, Central River Region, and Upper River Region.

Most Gambian enterprises fall in the category of small and medium enterprises and most of the incentives granted (financial planning, product design and consultancy, etc.) are too vague and do not have any direct effect on enterprise development and financial supports (loans with subsidized interest rates) are inexistent. The combined requirements (priority sector, priority area and minimum capital investment) to fulfill in order to benefit from economic and financial incentives are difficult to meet. Compared to Senegal where capital investment

requirements are limited to only 5 million CFA francs (US\$10,000) and the creation at least of three jobs, in The Gambia the minimum is US\$250,000.

Because of these constraints, the GIEPA did not perform well and the free zone near the airport was converted to a business park (and is still not fully operational).

It is recommended to withdraw the conditions on Gambian nationals in terms of required capital investments, priority areas, etc. in order to make the GIEPA functional.

### **3.1.2. Export Subsidy**

In Senegal, the export subsidy instituted by law 80-38 of August 15, 1980 was a trade measure aimed at facilitating penetration of external markets by national products. The granting of export subsidies was part of a general policy of encouraging exports to international markets. The strategy aimed to increase competitiveness and offset certain local costs. It was motivated by a desire to contain Senegal's trade deficit after a period of import growth and poor performance of traditional exports (groundnuts and phosphates). Initially set at 10% of FOB value, it was raised to 15% in 1983. The rate was then raised to 25% with the subsidy being extended to all fish sector products. For example, around 1.2 billion CFA francs (US\$2.4 million) were granted to fish exporters during the fiscal year 1991/1992 allowing them to be more competitive in international markets. Since 1986, the sector has topped the list of external trade ahead of the combination of phosphates and groundnuts and accounted for about one-third of external receipts. This mechanism was, however, cancelled after the 1994 devaluation of the CFA franc in view of emerging possibilities of recovery of the marine fishing industry.

Unlike Senegal, The Gambia has never had an export subsidy policy for fisheries products.

### **3.1.3. Devaluation of local currency**

On 11 January 1994, the CFA franc used by fourteen African countries was devaluated by 50% of its value vis-à-vis the French franc, following a process of structural adjustment policies for several African countries under the auspices of the International Monetary Fund. The CFA franc went from CFA 50 to CFA 100 for 1 French franc. The expectation was that devaluation would enhance export competitiveness and restore macro-economic creditability. In this context, the fisheries sector received special attention from donors as it was seen as important for increased exports.

The devaluation of the CFA franc had a significant impact on the fishery sector in Senegal. While fish sector exports had sharply declined between 1991 and 1993, especially exports of frozen products to Europe, the devaluation immediately improved their competitiveness. It restored operating margins and boosted exports to 125,000 tons in 1999 from 80,000 tons in 1993. Following the devaluation, strong external demand further inflated export prices. These



price increases meant that even modest growth in export quantities resulted in significantly higher earnings. For example, between 1993 and 1994 exports increased only by 10,000 tons (from 80 000 to 90 000 tons), exports receipts soared from about 50 to 83 billion CFA francs (US\$ 100 million and US\$ 166 million). The upward trend continued and reached 174 billion CFA francs (US\$348 million) in 1998 whereas export volume stagnated between 100,000 and 110,000 tons. This is a perfect illustration of a situation in which devaluation in a context of some production constraints induced a price-effect rather than a volume-effect. This effect not only led to the reopening of various companies once shutdown, but it also attracted new investors. In about a year after the devaluation of the CFA franc, the number of enterprises in operation rose from about 40 units to almost 80.

The Gambia fish processing industry has not benefited from similar macro-economic policy impacts. Even worse, the relative weakness of the Gambian Dalasi has had the perverse effect of Senegalese fishermen preferring payment in CFA franc for their catch, and hence providing another incentive to sell their catch to Senegalese fishmongers.

#### **3.1.4. Lome Agreement**

In 1975, the European Community concluded the trade and aid agreement known as the Lome Convention with a group of African, Caribbean, and Pacific (ACP) countries who were former European colonies. The Lome Convention (now replaced by the Cotonou Agreement) put in place a regime granting almost all ACP products access to the European market free of any tariffs or quotas imposed on other supplying countries.

In a context in which many ACP economies generally experienced public finance deficits and struggled to balance their external accounts, the trade aspect of the agreement was naturally essential. The Agreement, therefore, instituted a customs duty-free regime applicable to most of the products originating from ACP countries on entry onto the European market. Piscatorial products are covered under the regime.

By instituting a duty-free regime, the Lome Convention contributed to stronger competitiveness of Senegalese and Gambian fish products in the European market. In the years following the adoption of Lome, Senegalese exports to Europe for instance rose steadily. Between 1982 and 1991, exports rose from 90,000 MT to 125,000 MT. Currently, Europe remains by far the main destination for Senegalese and Gambian fish exports, accounting for at least 75% of total exports of the two countries.

## **3.2 Fishery modernization and cost reduction policies**

### **3.2.1. Tax free fishing equipment**

In the Senegal, annual tax reductions granted in connection with the purchase of outboard engines and small-scale fishing equipment averages 5 billion CFA francs (US\$10 millions). The impacts of this policy are considerable from both the technical and the economic points of view. The use of engines significantly extended the capacity of small-scale fishing vessels by enabling them to reach previously inaccessible distant fishing areas. It greatly reduced travel times and substantially extended the time available for fishing operations. This policy encouraged migration of Senegalese small-scale fishermen along the West African coast and the development of distant fishing. There is no doubt that the introduction of outboard engines in small-scale fishing has been the main factor in promoting the enlargement of pirogues, thereby facilitating their adaptation to all fishing techniques. Subsidization has accelerated and intensified the motorization and expansion of the small scale fleet. Today, almost 90% of Senegalese pirogues are motorized.

In The Gambia, duty/tax concessions on the importation of fishing and fishing related equipment/materials as established in March 1985 boost the small scale fisheries sub-sector which has experienced an important influx of fishers, from 1,299 canoes and 1,319 fishermen in 1983 to 1,669 canoes and 1,785 fishermen in 1997.

### **3.2.2. Fuel subsidy**

The Senegalese artisanal fleet consumes up to 40 million liters of fuel yearly (DPM, Senegal) (table 12). Through subsidization, the price paid by fishermen is less than that paid by the general consumer. An average fixed subsidy of 125 CFA francs (US\$ 0.25) per liter was prevalent these last ten years. The average yearly total fuel subsidy granted to the small-scale fishery reached almost 5 billion of CFA francs (US\$ 10 million). Subsidies of fuel contribute to the use of more powerful engines and the exploration of new remote fishing areas as resources become scarce in the Senegalese EEZ.

**Table 12.** Yearly fuel consumption of the Senegalese artisanal fishery

| Years | Number of liters |
|-------|------------------|
| 2000  | 41 155 290       |
| 2001  | 39 485 200       |
| 2002  | 45 996 900       |
| 2003  | 51 261 410       |
| 2004  | 45 346 000       |
| 2005  | 41 557 000       |
| 2006  | 43 235 400       |
| 2007  | 44 764 000       |
| 2008  | 36 729 000       |
| 2009  | 39 695 000       |

Source: DPM, Senegal

The Senegalese industrial fleet also benefits from reduced fuel prices. The industrial fleet consume on average 70 million liters of fuel yearly. With an average subsidy of 229 CFA francs (\$US 0.45) per litter consumed, the industry benefits from a total average yearly subsidy of around 16 billion CFA francs (US\$ 32 million).

For the artisanal and industrial sub-sectors combined, the average annual fuel subsidy is around 21 billion of CFA francs (US\$ 42 million) in Senegal.

The fuel subsidy has considerably reduced the operating costs of both small-scale and industrial fleet; thereby keeping the price of fish caught at a reasonable level, contributing to the competitiveness of the processing plants.

Currently there is no subsidy on fuel for fishing and related operations within the industry in The Gambia. For both the artisanal and the industrial fleets, the prevailing fuel prices are similar to the commercial pump price.

Price differentials in fuel cost in Senegal and The Gambia have production cost implications. They help Senegalese products to be more competitive in the international market. The high price of fuel is one of the reasons that Senegalese fishers based in The Gambia land their sole catch in Casamance to benefit from the higher sole landing market price and the lower cost of fuel.

### **3.2.3. Subsidized infrastructures**

In 1995, as part of the “Support to the Restructuring of the Fishing Industry” project, the Senegalese authorities with the help of the French Government started a policy aiming to align export companies and industrial fishing vessels (freezer ships) to European standards. A subsidy of 1.7 billion CFA francs (US\$3.4 million) was granted to some companies in a bid to finance up to 30% of their investments in order to comply with health and sanitary requirements in the European market. This project focused in part on export platforms.

In 2004, the European Union health and consumer protection authorities visited some landing sites for the small-scale fishery and noted the need to establish acceptable standards for the artisanal fishery; mainly with regards to conditions on the pirogues, at the landing sites and in the vehicles transporting fish products. Following their recommendation, eight landing sites were identified along the coastline from north to south, and a process to bring them into compliance with European sanitary standards started. Subsidies for sanitary improvements, ice plants, freezing and refrigerated rooms for use by the small-scale fisheries at landing sites were provided (photos 2 and 3). Subsidized infrastructure helped Senegalese exporters to consolidate their position in the international market and helped raise the level of exports.

**Figure 2.** Laboratory for fish quality inspection in the quay of Mbour, Senegal (Deme, 2011)



**Figure 3.** Ice plants built by Senegalese authorities for the artisanal fishery, Senegal (Deme, 2011)



The industrial fishery fleet has the advantage of a functional fishery port with supplying facilities (fuel, water, ice, and provisions), ship repair and maintenance facilities, freezing, and stocking facilities. Such infrastructure facilitates industry cost reduction, enhances competitiveness and has encouraged foreign fleets to unload their catch in Dakar.

The Gambia lacks most of the necessary infrastructure to support a more competitive fishery sector and this has hampered the fish processing industry. All raw materials being processed in The Gambian plants currently originates from the artisanal fisheries. Most of the 11 landing sites along the Gambian coastline do not have fuel stations, access roads, water supply and sanitation facilities, ice plants/chill and cold rooms, jetties/wharfs and do not yet apply rigorous sanitation standards despite efforts put in the construction of Community Fishing Centers in some fishing villages (photo 4).

**Figure 4.** Community Fisheries Center in The Gambia (Deme, 2011)



As landing sites remain unsuitable for high-quality export oriented products, a limited number should be selected and investments made to bring them to European standards, as in the Senegal case.

The Gambian industrial fishery suffers from infrastructural deficiencies, particularly with the absence of a dedicated fisheries jetty and ancillary facilities. Foreign fishing vessels do not land their catches in Banjul even though by policy they are required to land 10% of their catches in the country for local processing. The ongoing construction of a jetty for industrial fishing boats outside the commercial port at Banjul is expected to encourage greater off-loading of fish products for local processors.

Recent EU reviews of sanitary conditions and the application of HACCP principles in The Gambia put pressure to rigorously enforce sanitary and quality control and pressure on local processors to upgrade their plants to prevailing standards. If unable to meet EU standards they lose the authorization to export fish to the EU under regular procedures. Most Gambian processors have failed to meet the necessary required investments because of lack of financial resources to carry out improvements.

### **3.2.4. Electricity and other costs**

The Gambia is confronted with very high electricity costs. The country no longer waives taxes levied on gasoline and diesel-fuel; therefore there is no subsidy for any category of users. Past attempts to provide duty-free gasoline reportedly were widely abused. Currently, the cost per Kwh charged by NAWEC Electricity Company as of December 2011 is 7.96 GMD (US\$0.25) while for Senegal the current rate for industries is 72.99 CFA franc per kWh (US\$0.15) and 116.79 CFA franc (US\$0.23) according to time slots. The Gambian industrial processing plants currently pay more for electricity than their Senegalese counterparts. Electricity is the highest item in the cost structure of fish processing plants, but Government has not helped the sector with a lower tariff charge. Such policy would help the fishery sector to achieve its great potential in earning substantial foreign exchange and providing employment for the Gambian people.

Water is charged at US\$6 per cubic meter in The Gambia compared with US\$2 in Senegal, while a ton of ice is sold around US\$108 in The Gambia and only US\$40 in Senegal.

## **3.3 Financing flows in the fisheries**

### **3.3.1. The industrial fishery**

The Senegalese industrial fishery and fish processing plants have for a long time experienced a lack of affordable bank financing, high interest rates, short-term commitment, insignificant capital portfolio and dissuasive guaranties requirements.

The Economic Promotion Fund (EPF) was set up in 1991 by the Senegalese Government to face the funding problems of the Senegalese industrial fishery sector. The fund is market oriented and available through commercial banks for the financing of economic activities that can boost growth in terms of value added and job creation. Operations like creation of new enterprises, expansion, restructuration, rehabilitation or modernization of existing business enterprises are eligible for financing under the EPF.

Several funds have been set up in Senegal including one exclusively dedicated to the fishery sector. All fishing activities qualify for them, from production to wholesale sale to processing and export. Up to 70% of total investment is eligible. A maximum interest rate of 9% is applied on the credit with all banking operations totally free from taxes. A period of 15 years

can be granted for the loan including an extension of 5 years. A complementary loan of 10% of the total project can be granted by the fund to alleviate the personal capital contribution of the bearer.

The EPF has two major financing instruments. The Fund for Contribution Loans enables enterprises to obtain bank credits to fund their investments. The Security Fund gives investors the possibility to meet required guaranties.

The EPF has played an important role in restructuring the fishing sector in Senegal and achieving European standards in fish processing plants. If they had to rely only on commercial banks, most of the enterprises in the fishing sector would not have been able to obtain financing due to prohibitive interest rates, securities demanded, required personal capital contribution, and relatively short terms of payment (a maximum of 5 years). It is estimated that EPF has put more than 10 billion of CFA francs (US\$20 million) in the fishery sector these last ten years (EFP, Senegal).

By contrast, long term financing for productive investment, vital for economic development, is largely unavailable in The Gambia, especially for small and medium sized enterprises. Various attempts to establish development banks have proved unsuccessful as the banks have suffered large losses from non-performing loans, due to poor management and political interference. The defunct Agricultural Development Bank is an example.

For The Gambian processing plant owners investment credits are hardly available, interest rates are very high (30%) and commercial bank lending to the private sector is mostly short term and largely related to the re-export trade (another disadvantage since payment for export sole fish currently requires a period of at least 45 days). All these constraints reduce the competitiveness of Gambian industrial seafood processing plants.

### **3.3.2. The artisanal fishery**

- Contractual relationships between actors and informal financing

Both in The Gambia and in Senegal, sole processing plants rely heavily on the small-scale-fishery for their supply. Generally, sole processing plant owners through wholesale fishmongers ensure the renewal of the fishing equipment and the financing of activities in the coastal demersal fisheries throughout the sub-region (The Gambia, Senegal, Guinea, and Guinea-Bissau).

Some wholesale fishmongers finance costs related to the installation of migrant fishermen, fishing trips, purchase of spare parts and various repairs, and maintenance of fishing equipment. There is usually an agreement on prices and method of payment for these costs. Scheduled throughout the fishing campaign or even several, the payment is generally made by levying an amount of money on every kilo of fish delivered. This type of collaboration is

particularly noticed in the fisheries of sole where the wholesalers face many difficulties to meet the demand of fish processing plants.

Field surveys have shown that without the financial support of the wholesale fishmongers many Senegalese sole fishermen couldn't have faced the required financing of their activities in The Gambia. The presence of the wholesalers is an encouraging and supporting factor in the migratory fishing of sole in The Gambia. Their presence is also an important and securing outlet for the fishermen in times of overproduction or when the Gambian processing industry stops functioning. The Senegalese wholesalers are always ready to absorb any surplus in supply for their market in Senegal. They pay cash for the sole contrary to The Gambian plants which face enormous difficulties to raise the necessary working capital to make the industries function. They buy on credit and often default on payment or are late in payment.

This Cross Border Trade study revealed that the sole value actors are highly dependent on informal sources of finance. Based on the outcomes of focus group discussions, 35% of the sole fish landing sites co-management representatives reported having self-financed their activities and the remaining 65% reported that they are financed by obtaining loans from local *banabanas*, Senegalese fish traders, family members, friends, and neighbors.

- Public institution financing

Insufficient financial resources have long been a major impediment to the development of the artisanal fishery sub-sector in Senegal. The Senegalese authorities, with assistance from development partners such as the African Bank of Development, the Canadian Agency of International Development and the French Agency for Development set out several projects to create mechanisms such as mutual funds that provide an alternative to the traditional credit system (high interest rates on loans). Commercial banks are not interested in the small-scale fishery because it is seen as too risky and non-reliable.

These development projects aimed to provide funds to meet the equipment needs of fisherman as well as other actors indirectly involved in fishing activities (*e.g.*, wholesalers, artisanal fish product processors, carpenters, outboard engines mechanics). The funds were placed at the *Caisse Nationale de Credit Agricole du Senegal* (CNCAS) specialized in financing the activities of the primary sector which includes the fishery sector. The CNCAS is set up in most of the major unloading centers of the traditional fishing in Senegal (Saint-Louis, Dakar, Mbour, and Ziguinchor) and in areas connected to a certain number of secondary ports (Louga, Kaolack and Fatick). To come over the usual constraints to access the credit of traditional commercial banks (high personal capital contribution, large guaranty requirements, prohibitive interest rates, and very short repayment periods), the State of Senegal has set up a security fund placed at CNCAS to pay any differential like subsidized interest rate and contribution capital requirements. This security fund resulted in a lower interest rate (6% instead of 12.5%) with no guarantee or financial contribution requirements.



During the period covered by the development projects, credits helped small-scale fishermen, women fish processors, and wholesale fishmongers meet most of their financial needs. However, funds available for the artisanal fishery at the CNCAS are insufficient relative to the needs. This situation has reinforced the value of NGO intervention in Mutual Credit Funds at the major unloading centers of the traditional fishery in Senegal.

In The Gambia, artisanal fishery actors have been highly dependent on informal sources of financing (family members, friends, fish traders, fish processing establishments). As a result, The Gambia Government has obtained funds on credit from the ADB\BADEA Banks, which is accessible through micro-finance institutions (SDF, VISACAs etc.). Conditions of access to this revolving loan are as follows:

- Submission of a business plan to a micro-finance institution to be approved by the Credit Review Committee.
- Provision of collateral by the applicant.
- Three months grace period, loan payable between one to three years depending on the amount applied.
- Total interest rate to be paid by the beneficiary stands at 20%.

The micro-finance system in The Gambia has suffered from serious shortcomings reflected in the smallness of the fund’s portfolio which has not risen above 22.7 million GMD (US\$ 681,000) in many years of intervention in the sector with a very limited number of beneficiaries (table 13). The difficulties encountered range from restrictive conditions of access to credit to a dissuasive interest rate (20%), lack of permanent guarantees, and weak decentralized financial system. By contrast, in Senegal, allowances are more consistent, interest rates much lower and applicant is not required to provide any collateral.

**Table 13.** SDF\Fisheries Department ADB\BADEA loan Scheme, 2009

| Items                   | Amount (GMD) |
|-------------------------|--------------|
| Loan Disbursed          | 22,696,076   |
| Total Loan Repayment    | 5,123,680    |
| Total Loan Outstanding  | 17,572,3956  |
| Number of Beneficiaries | 108          |

Source: SDF First Quarterly Report on the Credit Fund (July-September, 2009)

- NGOs and professional organizations interventions

In Senegal, as credit lines are getting weak with the end of many development projects and the drying of funds from financial Senegal/EU fishery agreements, financing schemes known as Mutual Saving and Credit (MSC) exist to support the artisanal fishery. Through the acceptance of small deposits, the MSC gives access to credit to most of artisanal fishery

sector actors. The MSC has thus managed to set up a flexible policy of credit more adapted to the needs of the members, which considerably increased the productivity of the beneficiaries.

The setting up of MSC has contributed to provide an alternative to the practice of usury that has prevailed in fishing and other economic activities in Senegal. The MSC is a decentralized financial system and allowed saving and credit to penetrate in relatively poor rural areas where a “culture of credit” was lacking. The availability of credit has greatly increased the productivity of beneficiaries. The diversification of activities related to credit has brought greater security and less dependence of fishermen on middlemen. The credit has a real impact on community development as it affects activities as varied as fishing, small-scale processing, local fish trading, development of the local economy, and the social safety net. The implantation of MSC in remote areas has contributed to a diversification of local economies and keeps people in their rural area. MSC is now widely supported by grassroots organizations. They are strongly rooted in the local economy.

Due to the high risks involved in artisanal fisheries, such as safety at sea of fishing inputs (canoe, nets, engine etc.), commercial Banks and local insurance companies are not ready to offer loans and insurance coverage to artisanal fishermen despite several attempts made by Government in both countries to facilitate insurance coverage to artisanal operators.

### **3.4 Others supporting factors to fish trade**

#### **3.4.1. The packaging industry**

In Senegal, packaging has a central even leading place in fishing activity. The packaging industry is active and absolutely strategic in Senegal. It sustains and supports the competitiveness of several economic activities. The big three Senegalese enterprises making metallic packages (Crown Senegal), cardboards (La Rochette), and plastic packages (Simpa) have equipment and organizational levels of European standards. They quote competitive prices for their customers, reinforcing their competitiveness on the export market.

The packaging industry benefits from financial and technical assistance of Senegalese public authorities. It is eligible for credit from the Economic Promotion Fund in the framework of financing of small and medium sized industries (financing up to 90% of the cost of the project, interest rate discounted by 10.5%, and a 5 year repayment period). The Food Technology Institute, a public establishment well involved in developing techniques to conserve, process, and package agro-alimentary and sea products, brings its technical assistance to the Senegalese packaging industry.

The absence of packaging industries in The Gambia is related to the small market (limited number of fishing and food processing industries). The imported packaging materials increases the costs of The Gambian fishing industries and therefore reduces their

competitiveness as well as resulting in delays. Support to the development and growth of the packaging industry in The Gambia should be encouraged.

### **3.4.2. Institutional framework and human resources**

In The Gambia, the Fisheries Department has the responsibility to define and apply policies to manage the fisheries sector and achieve objectives assigned to the sector, including:

- Rational and long-term utilization of the fisheries
- Improvement of the nutritional standards of the population
- Increase of employment opportunities in the sector
- Increase the foreign exchange earnings
- Expand Gambian participation in the sector.

The mandate for the Fisheries Department exceeds the limited budget and human resources available. To promote the development and the production of value added of fishery products, the Government of Senegal created the DITP (Direction des Industries de Transformation de la Pêche), a technical office in charge of industrial restructuring and organization of the processing industry to meet the objectives of hard currency earnings and industry promotion.

Managing fish processing plants requires qualified technical personal to deal with quality control and production of elaborated products. These qualified human resources are lacking in The Gambia because of the absence of specialised academic institutions in the field of fisheries. In Senegal, however, the National Training Centre of Fisheries and Aquaculture Technicians (CNFTPA) based in Dakar is in charge of academic training of technicians for the fish processing industry. In addition, the University Institute of Fishing and Aquaculture (IUPA) located at the University *Cheikh Anta Diop* of Dakar (UCAD) offers an academic degree program in fisheries and aquaculture (BSc, MSc and PhD levels). This program is unique in West Africa and can be used by Gambians for their training needs even though the language may be a constraint.

## **4. COMPARATIVE ASSESSMENT OF THE COST STRUCTURE OF THE FISH PRODUCTION CHAIN**

### **4.1 Marketing channels of sole production**

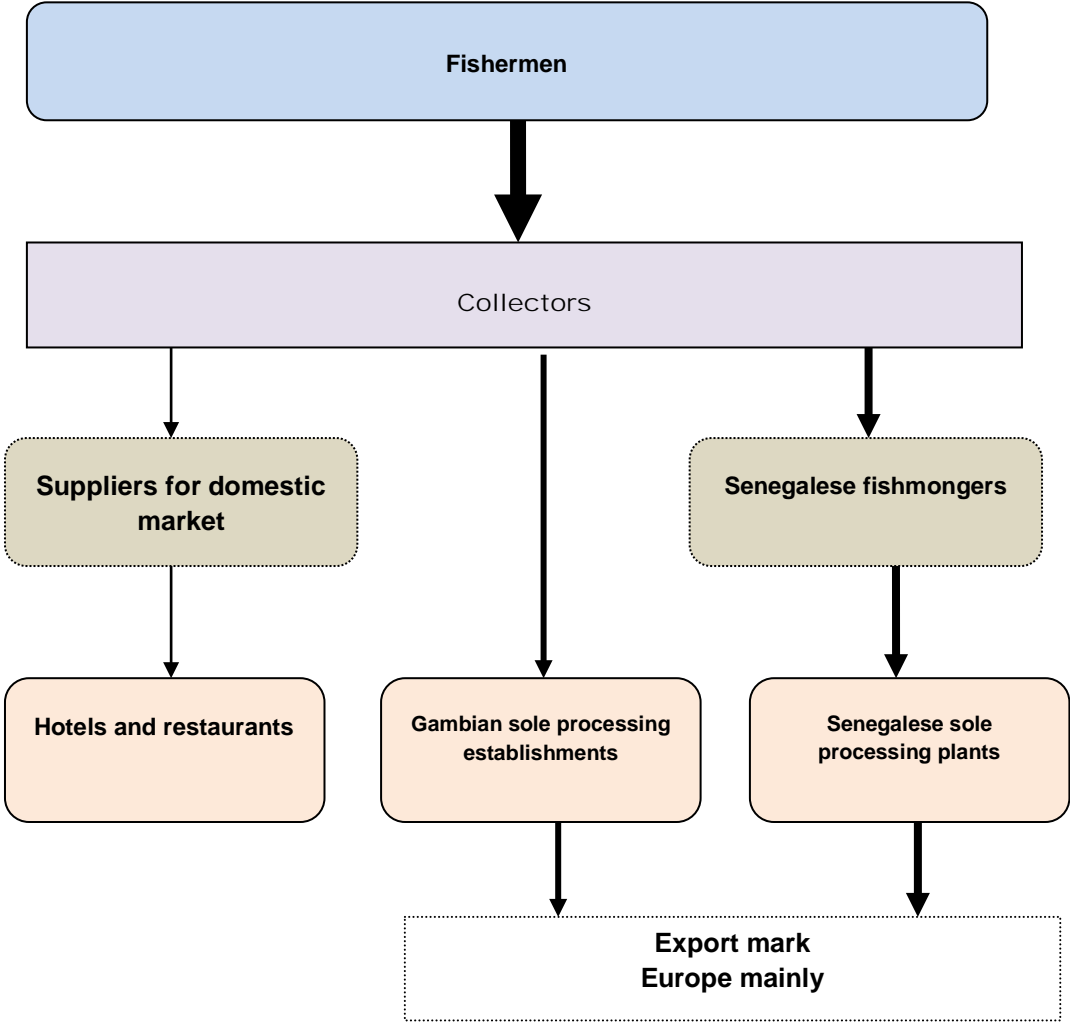
All fish landing sites (Brufut, Sanyang, and Gunjur) visited during the study's field trip, all landed catches of sole fish are offloaded from the canoes, weighed, recorded and conserved with flake ice in recycled freezers (photo 5) by collectors representing different Gambian fish processing establishments, Senegalese fishmongers, and suppliers to hotels and restaurants (figure 1).

Senegalese fishmongers deliver sole products to fish processing plants in Senegal. Sole fish is transported in insulated vehicles.

**Figure 5.** Recycled freezers used to conserve sole at the landing site in The Gambia (Deme, 2011)



**Figure 6.** Flow Chart of Sole fish trade in The Gambia and in Senegal



**4.2 Cost structure of marketing of sole in The Gambia**

Price of fresh sole fish at the landing site has been consistently about 20 GMD per kilogram for the past three years. This suggests that the price of landed sole fish is not dictated by market forces (supply and demand) but generally determined by buying agents. Cost elements involved in delivering sole fish to Gambian processing plants are ice (10 GMD/kg) and transportation (0.70 GMD/kg). The total cost of a kilo of sole delivered to fish factories is 30.7 GMD. For a selling price of 50 GMD/kg to sole processing plants, the net revenue of the collector is 19.30 GMD (table 14) against 44.30 GMD for local hotels/restaurants. Thus, the collector in The Gambia receives nearly as much in net revenue selling to Gambian processing plants as what the fishing boat receives as gross revenue (and that gross revenue must be split among captain and crew).

**Table 14.** Cost and income structure of the sole fish production chain in the Gambia

| Description  | GMD/Kilo of Sole |
|--|------------------|
| Landings Site buying price from fishermen                        | 20.00            |
| Cost of flake ice (all production chain)                         | 10.00            |
| Transportation cost from landing site to processing plant        | 0.70             |
| Total average cost   | 30.70            |
| Selling price to Gambian processing plant                        | 50.00            |
| Selling price at local hotels/restaurants                        | 75.00            |
| Net revenue of the collector selling to Gambian processing plant | 19.30            |
| Net revenue of the collector selling to local hotels/restaurants | 44.30            |

Source: Fieldwork (November, 2011)

### 4.3 Cost structure of marketing of sole to Senegal

Senegalese agents based in The Gambia, supplying directly to Senegalese fish processing establishments in Senegal buy at 20 GMD/kilo of sole from fishermen at the landing site. These products are loaded in insulated vehicles with ice and transported to their respective destinations in Senegal for processing and subsequently to export markets. Costs incurred by Senegalese fishmongers include the cost of the sole, ice, loading fees, ferry crossing charges, transportation cost, and customer fees in Senegal (table 15). Price of sole is the major item followed by flake ice and transportation costs. For a total cost of 44.3 GMD and a selling price of 62.5 GMD to the processing plant, fishmongers generate net revenue of 18.2 GMD on each kilo of sole delivered to Senegal.

**Table 15.** Cost structure per unit of sole delivered to Senegal

| Description   | GMD/Kilo of Sole |
|---|------------------|
| Landing site buying price from fishermen                              | 20.00            |
| Cost of flake ice (all production chain)                              | 10.00            |
| Loading of sole product on insulated vehicle at landing site          | 0.10             |
| Internal expedition fees  | 2.50             |
| Ferry crossing  | 2.50             |
| Transportation cost from landing site to final destination in Senegal | 7.80             |
| Customer fees in Senegal  | 0.9              |
| Miscellaneous costs   | 0.5              |
| <b>Total average cost</b>   | <b>44.3</b>      |

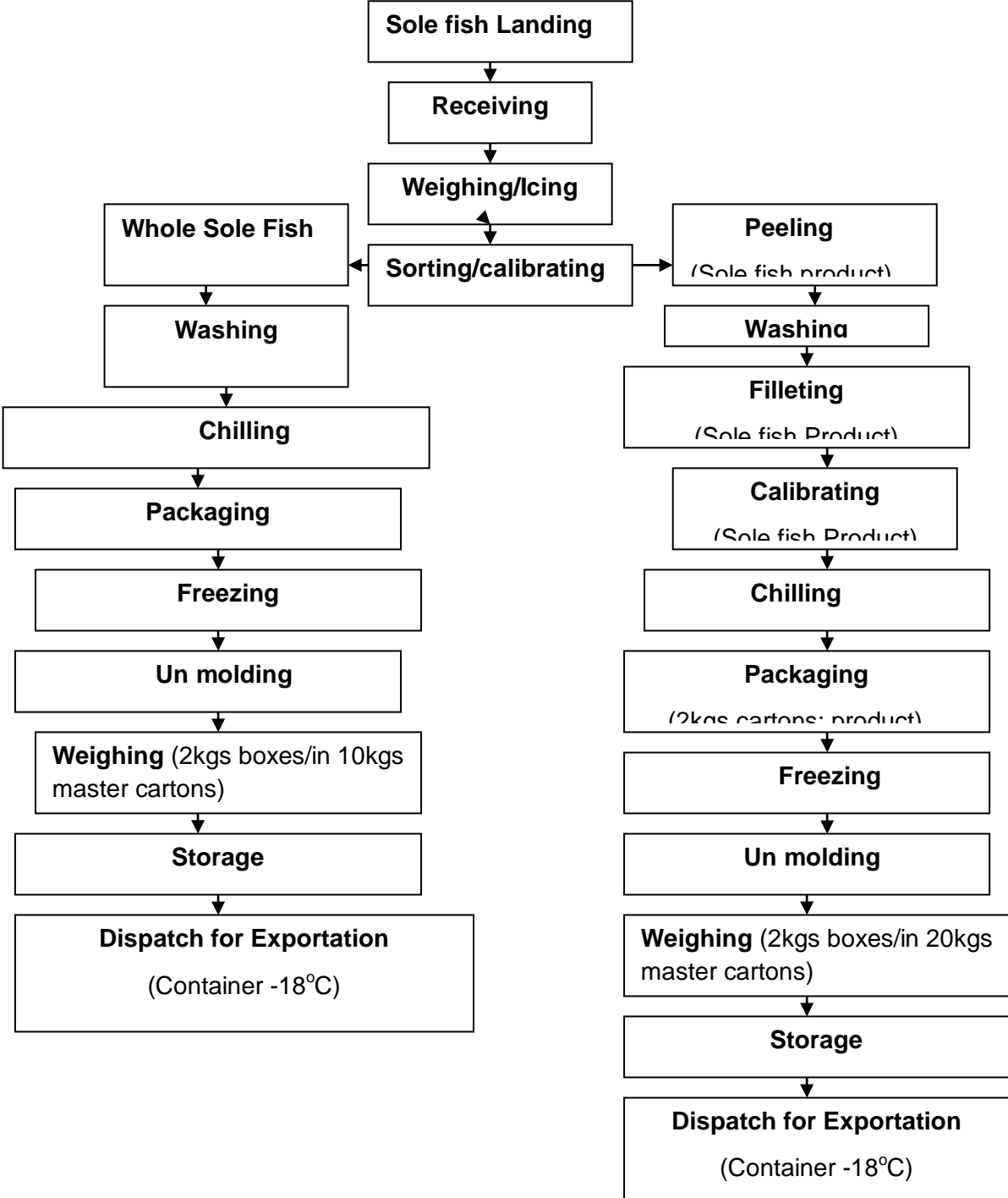
Source: Fieldwork (November, 2011)

### 4.4 Comparative cost structure in sole processing

Processing establishment buying price is much higher in Senegal than in the Gambia. While landing price is relatively rigid and fixed solely by fishmongers in The Gambia, in Senegal it results from the negotiations among stakeholders and is adjusted by market forces. Labor costs are much higher in Senegal than in The Gambia. Wages in the fish processing industry in Senegal are regulated by national conventions strongly controlled by powerful professional workers' organizations. However, costs of all utilities are much lower in Senegal. Price of ice

is half of that in The Gambia and electricity cost is 20% lower per KWH. Packaging materials bought in Senegal include at least 10% of transport cost for delivery to Banjul (table 16).

**Figure 7.** Flow Chart of Sole Fish processing



**Table 16.** Cost Structure of Sole Fish Production Chain (GMD/Kilo)

| Description   | The Gambia   | Senegal      |
|---|--------------|--------------|
| Gambian processing plant buying price from collectors | 50.00        | 62.50        |
| Cost of flake ice (all production chain)              | 10.00        | 4.20         |
| Offloading/sorting                                    | 0.24         | 0.34         |
| Peeling   | 0.70         | 1.25         |
| Filleting   | 2.40         | 3.40         |
| Packaging   | 10.40        | 9.40         |
| Remoulding/stocking/expedition                        | 0.50         | 1.50         |
| Cost of electricity/water                             | 4.50         | 3.25         |
| Other labor cost (technical and cleaning)             | 0.40         | 0.75         |
| Internal expedition fees                              | 2.50         | 0.03         |
| Transportation to final market (Europe)               | 6.75         | 6.75         |
| <b>Total average cost</b>                             | <b>88.39</b> | <b>93.37</b> |

Source: Fieldwork (November, 2011)

#### 4.5 Export prices and net revenues

Europe is the main destination of sole processed in Senegal and The Gambia. The Netherlands is the major European market for The Gambia. Senegalese sole products are mainly traded in Italy, Spain, Belgium, and France. Declared price of a kilo of frozen filet of sole in Holland averages four Euros (163.75 GMD), while it is 6.8 Euros (278.37 GMD) in France and 7.30 Euros (298.84 GMD) in Italy. The per unit of gross revenue generated is 75.4 GMD for the Gambian processing sole fish (sold in the Netherlands), 205.4 GMD and 185 GMD for a Senegalese processing plant respectively in Italy and France (table 17).

**Table 17.** Gross average revenue per unit of sole generated (GMD)

| Country | Destination | Average cost | Selling price | Gross average revenue |
|---------|-------------|--------------|---------------|-----------------------|
| Gambia  | Holland     | 88.39        | 163.75        | 75.4                  |
| Senegal | France      | 93.37        | 278.37        | 185.0                 |
|         | Italy       | 93.37        | 298.84        | 205.4                 |

Source: Fieldwork (November, 2011)

## 5. CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Conclusions

The major conclusions and findings of the study can be summarized by six points related to (1) the price of sole fish, (2) the incentives package offered in the two countries, (3) the prevailing financing system, (4) the position of the supporting industries, (5) the institutional framework and the human resources available for the promotion of the fish processing industries, and (6) the comparative cost per unit of sole processed.

The landing price of sole in The Gambia is relatively rigid (stable at about 20 GMD per kilo). It is quoted by the wholesale fishmongers. By contrast, in Senegal the price of the sole is



determined with a common agreement among stakeholders at the beginning of the season and adjusted according to supply and demand.

The incentive package provided by the Senegalese authorities to the fish processing industries is far more attractive than what is provided by The Gambia Government. Both The Gambia and Senegal established a Free Zone and benefit from the Lome Convention. But Senegal has other incentives like export subsidies, devaluation of the CFA franc, fuel subsidies for both the industrial and the artisanal fishery, infrastructure subsidies dedicated to fish export, and a well-developed port. They together have combined to boost fish exports and enhance the competitiveness of the fisheries industry.

The Gambian fisheries industry is constrained by a lack of affordable bank financing, high interest rates, short-term commitment, insignificant capital portfolio and dissuasive guaranty requirements. In Senegal, the fund set up in the Economic Promotion Fund dedicated exclusively to the fisheries sector has helped in restructuring the fishing sector in Senegal and bringing fish processing plants up to European standards. In The Gambia, artisanal fishermen are still highly dependent on informal sources of financing. The micro-finance system in The Gambia suffers from serious shortcomings reflected in the smallness of the fund's portfolio which has not risen above 22.7 million GMD. Limited growth is related to a dissuasive interest rate (20%), requirements of permanent guarantees, and a poorly decentralized financial system. In Senegal, the combination of Government and NGO funds allow more consistent allowances, lower interest rates, no provision of collateral, a more decentralized system and a special fund dedicated to subsidizing the credit line. Decentralized micro-finance has brought greater security and less dependence of fishermen on middlemen in Senegal. The higher price of sole in Senegal reflects the greater financial autonomy of fishermen.

Supporting industries, particularly packaging manufacturers have reinforced the competitiveness in the export market of Senegalese fish processing plants. They benefit from financial support from the EPF and technical assistance from the Food Technology Institute. In The Gambia, packaging materials for industrially packaged sole are imported causing delays and high costs of operations.

Unlike The Gambia, Senegal created the *Direction des Industries de Transformation de la Pêche* in charge of industrial restructuring and promotion of the processing industry. This office provides processing plants access to qualified technical personal to deal with quality control, production of elaborated products, and management of fish processing plants trained from local specialised institutions.

The average cost of processed sole per unit in The Gambia is lower than in Senegal due to high labour costs in Senegal. However, all utilities are much cheaper in Senegal, including ice, electricity and water. The selling price per kg in Europe of sole is much higher for

Senegalese processing plants. A reason given by is that Gambian plants deliver small size sole and Pan Ready product demanded by their targeted market, products inducing a lower price.

In the end, the gross revenue generated per unit sole is greater in Senegal.

## **5.2 Recommendations**

The competitiveness, profitability and sustainability of the Gambian fish processing industry depend on the issues of 1) financing, 2) utilities reduction costs, 3) infrastructure improvements, 4) associated industries, 5) the supply of raw materials, **6) information on sole transshipment, and (7) creation of an interagency Committee.**

### **5.2.1 Financing of the fishery industry**

The value chain assessment report (Fafanding et al., 2010) and field trip information from this study found that in The Gambia, sole fishers are still heavily dependent on processing companies and traders who provide them with inputs such as fuel and gear at very high cost. Difficulties of sole fishers in diversifying their marketing outlet are due to the obligation to sell their catch to the credit provider at a fixed price. Assistance with credit mechanisms would improve the efficiency of the value chain. This can be addressed by setting up a line of credit through the Social Development Fund to provide credit to artisanal fishery value chain actors mainly fishermen. This strategy has been effective in Senegal with the CNCAS. In Senegal, NGOs and professional organizations have successfully collaborated in the formation of mutual credit institutions in all major landing sites along the Senegalese coastline. They include ADPES/FENAGIE-PECHE with ten micro-finance institutions established (Saint-Louis, Mbour, Joal, Foundiougne, Missirah, Rosso-Senegal, Ndangane, Niodior, Richard-Toll, Kaolack) and one in Kayar for the WWF. Each financial institution has links to more than ten other fish landing centers. This strategy should be tied to parallel efforts to strengthen fish associations. Consequently, professional organisations could play an active and effective role in the management of the financial institutions. The Gambian Government should reorganise micro-finance institutions by helping to decentralize the services, improving conditions for access to credit (subsidized interest rates, funds to cover guarantees), and improving capital available.

The positive experience of the Economic Promotion Fund in Senegal should be replicated in The Gambia to help restructure the fishery sector by providing seed capital for local entrepreneurs interested in participating in the sector. The fund should be market oriented and access to it through commercial banks. The public sector money generated by the fishery should be reinvested in the development of the sector. For example, in Senegal, approximately 70% of fishing license fees and a major share of the fines related to violations of fishing regulations are deposited in the *Caisse d'encouragement pour la pêche et des industries annexes* (CEPIA) for capacity building, infrastructure improvements and resource management. Adoption of a similar policy in The Gambia is recommended. Government

should review the Fisheries Development Fund with the view to increasing the percentage allocation from fishing license fees and fines from arrested fishing vessels. However, Government should ensure that the Fund is managed to meet its objectives. The FOB values are very low and should be revised upwards and revenues derived should be directed towards developing the sector. The mandate of the National Sole Fishery Co-Management Committee (NASCOM) should be expanded to engage in the marketing and distribution of sole fish (buying at the landing sites and supply fishing companies, and establish a microcredit scheme). This will have two positive effects (i) NASCOM members will start earning more money for their labor, and (ii) help to break the stranglehold that the Senegalese fishmongers and other middlemen have on fishermen. Most of the time, Senegalese fishmongers provide fishing equipment, fuel and financial support to fishermen who therefore are obliged to sell their catches to them.

### **5.2.2 Cost reduction policies on utilities**

Even though the unit cost per production of a kilo of fish is higher in Senegal than in The Gambia due to high labor cost, utilities like electricity, fuel, ice and packaging materials are reducing the competitiveness of the processing industry. If fisheries is a priority sector of The Gambian Government electricity and water tariff schedules should be revised. As in Senegal, The Government should reduce outboard engine energy costs for the sector by facilitating the purchase of fuel. Promoting industries (packaging manufacturers, ice plants, and other materials) through soft financing is further recommended.

### **5.2.3 Infrastructure improvement**

Subsidies to port infrastructure and processing can help improve product quality and value-added, which result in higher profits for all actors in the fishery. Inadequate infrastructure to support the fishery sector is hampering the fish processing industry in The Gambia. As the artisanal fishery is landing most of the raw materials being processed in The Gambian plants, it is recommended to the Gambian Government assist in providing landing sites with basic facilities (fuel stations, access roads, water supply and sanitation facilities, ice plants/chill and cold rooms, jetties/wharfs). A limited number of fishing centers should be selected for exclusive export purpose and improved to European sanitary standards. Such policy will vastly enhance Gambian fisheries export revenues as the European market absorbs up to 70% of Gambian fish exports. Five fishing landing sites have been suggested, Brufut, Tanji, Sanjang, Gunjur, and Kartong. The Enhance Integrated Framework Project (EIF) will support the upgrading of three landing sites by providing funds for partial upgrade. Government can request for donor support to fully upgrade the fish landing sites as was done by the Government of Senegal.

#### **5.2.4 Associated industries**

The Gambian industry is largely dependent on imports of packaging materials, (polystyrene boxes, plastic sheets, fish boxes, fish baskets, ice containers, and other packaging items) in contrast to Senegal where several companies manufacture a wide range of products used in the fish processing industry. The absence of such business in The Gambia increases production costs and creates operation delays. The Government should promote and attract private sector investors to develop these associated industries to support the development and growth of the fishing industry of the country. This strategy was promoted in Senegal through a specific credit line in the Economic Promotion Fund for the financing of small and medium sized enterprises. The constraints (priority sector, priority area and minimum capital investment) on the conditions for accessing Free Zones incentives for Gambian nationals also need to be relieved. It is recommended to the Government to revisit the incentive package to make it more attractive and affordable to Gambian investors. A study tour to Senegal should be organised to study more closely the incentive system.

#### **5.2.5 Supply of raw materials**

In order for the fish processing industry to be operational it must operate at full capacity with a permanent and sufficient supply of raw material. A joint venture industrial fleet should be granted access to fishery resources with the obligation of landing all catch in Banjul for processing. Senegal has successful experience with this strategy with the suspension of the multilateral fishing agreement between Senegal and the European Union and the adoption of joint-ventures arrangements between Senegalese and foreign fleets for supplying the local industries. For this to be possible, a functional deep water landing dock with ancillary services in Banjul is necessary. In order to have more raw materials for the local industry, the illegal trade in fish from The Gambia to Senegal should be curbed and eventually eliminated. However, this shall be a collective responsibility for all agencies and stakeholders. Security personnel, Customs and Fisheries Department at the border entry and exit posts should be empowered to stop, search and confiscate the products and punish the law breakers.

Trading in CFA francs at the fish landing sites shall not be allowed. Only the Gambian Dalasi is the legal tender and accepted for trade transactions. In this regard, awareness creation and sensitization is necessary. Therefore, all the relevant Government agencies, the fishing industry, fisheries communities and committees should work collectively to ensure that the marketing and movement of fish at the fish landing sites are conducted legally. Also, processing companies shall pay for the product at buying price and not on credit.

#### **5.2.6 Information system on sole transshipment**

Attempt was made to study the volume of the Gambian fish that cross to Senegal over a one month period. The figure obtained was low and does not reflect the true picture because the survey coincided with the period of Tobaski when fishing activities were at a low. The Fisheries Department should continue the study on the movement of fish across the three

border posts (Giboro, Kerr Ayib, and Amdali) for a minimum period of 12 months to get a true account of the volume of Gambian fish taken out the country.

### 5.2.7 Creation of an interagency Committee

An interagency committee should be created to further review the report and prepare a Cabinet paper. The Committee should comprise Ministry of Fisheries, Fisheries Department, Ministry of Trade, Ministry of Finance, Office of the Vice-President, the fishing industry and NASCOM. Roles and responsibilities for each proposed action should be specified. The USAID/Ba-Nafaa Project should support the Committee.

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**ANNEX 1: Questionnaire for Cross Border Sole Fish Study**

Buyer:..... Boarder Post:..... Date:.....

1. How often do you get your supplies? -----

2. Which landing sites do you get your supplies from? -----

3. Are your suppliers Gambians or Senegalese? .....

4. What is the name of your suppliers ?.....

5. How much quantity of sole do you buy in a day?  
 Quantities ( kg) : ..... Value (D) : .....

6. Do you use ice?                      Yes                      No

If yes, quantities (kg): ..... Values (D) : .....

7. What other fish species do you buy per day? (Specify whether smoked, dried or fresh)

| Species | Quantity (kg) | Value |
|---------|---------------|-------|
| .....   | -----         | ----- |

8. What is the lowest price you buy per kg of sole?    D : .....

9. What is the highest price you buy per kg of sole?    D : .....

10.    (a) Labour cost of loading the fish                      D : .....

          (b) Labour cost of offloading the fish in Senegal D : .....

11. Who do you supply your sole fish ? :.....

13. Who do you sell your other fish species? .....

14.    What type of transport do you use for distribution? .....

15.    (a) Do you benefit from any Government Subsidy (fuel, equipment, tax cut)? Yes No

          (b) If yes, list the type of subsidies you benefit from .....

16. What type of documents do you tender at the borders to facilitate trade? .....

17. Distribution cost to Senegal (transportation)?

| Fuel Cost | Cost of Ferry Crossing | Custom duty at the boarder |
|-----------|------------------------|----------------------------|
| D-----    | D-----                 | D.....                     |

18. How much is the lowest price you sell your sole per kg? D-----

19. How much is the highest price you sell your sole per kg ?D-----

20. Any problem with marketing: .....



## ANNEX 2 : List of persons met in The Gambia and in Senegal

### List of persons met in The Gambia

| <b>Names</b>         | <b>Functions and organizations</b>  |
|----------------------|---|
| Nfamara Jerro Dampha | Director, Fisheries Department  |
| Momodou Njie         | Principal Fisheries Officer, Responsible for export certification, Fisheries Department |
| Edi Sanyang          | Managing Director, Pelican Sea Food Company   |
| Ndene Jallow         | Managing Director, Atlantic Sea Food Company  |
| Sonko Fofana         | Managing Director, Social Development Funds   |
| Musa Bah             | Director, Investment Promotion and Facilitation, GIEPA                                  |
| Abdou Njie           | Sahel Investment  |
| Ousmane Jobe         | Principal Fisheries Officer, Fisheries Department                                       |
| Matarr Bah           | Principal Fisheries Officer, Fisheries Department                                       |
| Ousman Drammeh       | Project Manager USAID/ <i>Ba Naffa Project</i>  |

### List of persons met in Senegal

| <b>Names</b>           | <b>Functions and organizations</b>                                    |
|------------------------|---|
| Moustapha Thiam        | Director, Department of Maritime Fisheries                            |
| Sidi Ndaw              | Chief of Statistics Bureau, Department of Maritime Fisheries          |
| Tahirou Bodian         | Chief of fish licenses Bureau, Department of Maritime Fisheries       |
| Sidya Diouf            | Chief Division of Artisanal Fishery, Department of Maritime Fisheries |
| Marième Diagne Talla   | Juridical adviser, Ministry of Fisheries                              |
| Diène Faye             | Director of DITP  |
| Dione                  | Chief of Statistics Bureau, DITP                                      |
| Khalil Ndiaye          | Coordinator, Planning Cellule, Ministry of Fisheries                  |
| Falilou Lô             | Economic Promotion Fund   |
| Mamadou Bâ             | CNCAS   |
| Amadou Wade            | Technical officer, FENAGIE  |
| Khadim Diop            | Quality and production Manager, Dakar Ice                             |
| Pape Diaw              | Production Manager, CAM   |
| Prosper                | Production Manager, Amerger Casamance                                 |
| Ibrahima SEYE          | Quality Production Manager, SIPASEN                                   |
| Douguitougui Coulibali | Executive Secretary, GAIPES   |
| Diebel Sarr            | Former Coordinator Micro-Finance program, ADPES                       |
| Sokhena Dieng          | Chief, Special Clients Commercial Unit, SENELEC                       |
| Oumykhayri Ndiaye      | Professor of Technology, CNFTPA                                       |
|                        |   |

*N.B. Some processing plant managers did not wish to be indicated in this list.*

**ANNEX 3: List of persons that participated in the Validation Workshop of the Study  
Report on 1 March 2012.**

|     |                         |  |
|-----|-------------------------|--|
| 1   | Mr. Amadou Saine        | Permanent Secretary, Ministry of Fisheries, Water Resources and National Assembly Matters. |
| 2   | Mr. NFamara Dampha      | Director, Fisheries Department   |
| 3   | Mr. Illo Jallow         | Senior Assistant Secretary, Office of The Vice President.                                  |
| 4   | Mr. Matarr Bah          | Principal Fisheries Officer (Associate Consultant of the Comparative Cost Study)           |
| 5   | Mr. Moustapha Deme      | Fisheries Economist/Researcher, CRODT (Lead Consultant of the Comparative Cost Study)      |
| 6   | Mrs. Baturu Camara      | Senior Trade Economist, Ministry of Trade, Regional Integration and Employment.            |
| 7   | Mr. Momodou Njie        | Principal Fisheries Officer, Fisheries Department.   |
| 8   | Mr. Ousman Mass Jobe    | Principal Fisheries Officer, Fisheries Department.   |
| 9   | Alh. Ebou Mass MBye     | Senior Fisheries Officer, Fisheries Department.  |
| 10  | Dr. Bamba Banja         | Coordinator, USAID/Ba-Nafaa WASH component.  |
| 11  | Mr. Cherno O.Joof       | Fisheries Consultant (GAMFIDA)   |
| 12  | Mr. Edi Sanyang         | President, Association of Gambian Fishing Companies (International Pelican Seafood Co.)    |
| 13  | Mr. Ndene Jallow        | General Manager, Atlantic Seafood Company.   |
| 14  | Mr. Alagie Sillah       | Executive Secretary, Association of Gambian Fishing Companies.                             |
| 15  | Mr. Gabriel Sambou      | Association of Gambian Fishing Companies.  |
| 16  | Mr. Alpha O. Jallow     | Director, Department of Parks and Wildlife Management.                                     |
| 17  | Mr. Abou Rahman Jobe    | Directorate of Agriculture.  |
| 18  | Mr. Elliman Sarr        | President, NASCOM.   |
| 19  | Alh. Ousman Bojang      | NASCOM-GAMFIDA.  |
| 20  | Mr. Alagie Manjang      | Interim WWF Country Program Coordinator.   |
| 21  | Mr. Dodou K. Darbo      | Association of Farmers, Educators and Traders.   |
| 22  | Mr. Gibeil Gabis        | USAID/Ba-Nafaa Project   |
| 23  | Mr. Abdou Rahman Sallah | Point Newspaper.   |
| 24  | Ms. Neneh Galleh Bah    | Today Newspaper  |
| 25  | Ms. Meita Touray        | Daily Observer   |
| 26. | Mr. Ousman K.L. Drammeh | USAID/Ba-Nafaa Project Manager.  |
| 27  | Ms. Anna Gaye           | Foroya Newspaper   |
| 28  | Mr. Joseph Jatta        | Department of Soli and Water Management.   |
| 29. | Mr. Lamin Haja Bojang   | N/A.   |
| 30. | Ms. Lina Kelpsaitte     | Peace Corps Volunteer  |