

# The fisheries sector in the Gambia: trade, value addition and social inclusiveness, with a focus on women



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## ACRONYMS AND ABBREVIATIONS

ANR	Agriculture and Natural Resources
ANRWG	Agriculture and Natural Resources Working Group
CA	Competent Authority
CBG	Central Bank of The Gambia
CBO	Community Based Organization
CCLME	Canary Current Large Marine Ecosystem
CCRF	Code of Conduct for Responsible Fisheries
CECAF	FAO Fishery Committee for the Eastern Central Atlantic
CFC	Community Fisheries Centre
COFI	FAO Committee on Fisheries
CRODT	Centre de Recherche Oceanographique de Dakar, Thiaroye
CRR	Central River Region
DOF	Department of Fisheries
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zone
EIF	Enhanced Integrated Framework
ESMP	Environment and Social Management Plan
EU	European Union
FAO	Food and Agriculture Organization
FAO SPWG NWA	FAO Working Group on the Assessment of Small Pelagic fish off Northwest Africa
FAO/CECAF DWG	FAO/CECAF Working Group on the Assessment of Demersal Resources
FEU	Fishing Economic Unit
GAFDP	Gambia Artisanal Fisheries Development Project
GAFSP	Global Agriculture and Food Security Program
GAMSEM	Gambians in Self-employment
GAWFA	Gambia Women's Finance Association
GBOS	Gambia Bureau of Statistics
GDP	Gross Domestic Product
GMD	Gambian Dalasi
GEF	Global Environment Facility
GOTG	Government of The Gambia
GIEPA	Gambia Investment and Export Promotion Agency
GPA	Gambia Ports Authority
GRT	Gross Registered Tonnage
HACCP	Hazard Analysis and Critical Control Point
IMR	Institute of Marine Research
IMROP	Mauritanian Institute of Oceanographic Research and Fisheries
JICA	Japanese International Cooperation Agency
KWh	Kilowatt Hour
MCS	Monitoring Control and Surveillance
MFI	Microfinance Institution
MOA	Ministry of Agriculture
NACCUG	National Association of Cooperative Credit Union of Gambia
NAWEC	National Water and Electricity Company
NES	National Export Strategy
NORAD	Norwegian Agency for Development Cooperation
OMVG	Organization for the Management of The Gambia River Basin
PL	Post Larvae
PRCM	Regional Coastal and Marine Conservation Program
SDF	The Gambia Social Development Fund
SME	Small Medium Enterprise
SPS	Sanitary and Phytosanitary
SRFC	Sub-Regional Fisheries Commission
TAGFC	The Association of Gambian Fishing Companies
TCP	Technical Cooperation Program – FAO
TOWA	TRY Oyster Women's Association
UPDEA	Union of African Electricity Producers, Distributors and Conveyors
VAT	Value-Added Tax
VISACA	Village Savings and Credit Association
WAQP	West Africa Quality Program
WTO	World Trade Organization

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The preparation of this report involved the pooling of expertise and resources from: UNCTAD's Division for Africa, Least Developed Countries and Special Programmes (ALDC); and UNCTAD's Trade, gender and Development Section, within the Division on International Trade in Goods and Services, and Commodities (DITC). The study was prepared by an UNCTAD team led by Simonetta Zarrilli, Chief of the Trade, Gender and Development Section at UNCTAD and Stefano Inama, Chief of UNCTAD's Technical Cooperation and Enhanced Integrated Framework Section, and including Momodou Cham and Irene Musselli.

The report draws extensively on information and material gathered in The Gambia. The following officials and experts provided guidance, contributed ideas and gave their time for interviews: Momodou Njie, Principal Fisheries Officer and Head of Inspection Approval and Certification Systems, Inspectorate Unit, Fisheries Department; Ousman Mass Jobe, Principal Fisheries Officer, Extension Unit, Fisheries Department; Anna Mbenga Cham, Principal Fisheries Officer, Research and Development Unit (Bio-Statistics), Fisheries Department; Peter Ndow, Artisanal Fisheries Development Project Coordinator, Fisheries Department; Famara Darboe, Assistant Director, Fisheries Department; Alagie Sillah, Executive Secretary, and Edrissa Sanyang, Chairman, The Association of Gambian Fishing Companies; Fern Aguda-Brown, Oyster Women's Association; Lamin Fofana, Financial Controller, The Gambia Social Development Fund; Patrick Mendy, Finance and Admin Manager, and Nuha Sanneh, Manager/Projects Coordinator, National Association of Co-operative Credit Unions; Ebrima Ganno, Operations Manager, Gambia Women's Finance Association; Aminata Deen, Senior Statistician, Gambia Bureau of Statistics; Alieu Saho, Head of National Accounts, Gambia Bureau of Statistics; Ndene Jallow, Manager, The Atlantic Seafood Company; Lennart Hansson, Manager, West African Aquaculture; Awa Demba, Rosamond Trade, Gambia; Ida Jobe Lette and Lala Jaiteh, smoked fish product exporters; Yunus Camara and Sheriff Badjie, Kendaka Fishing; and Fausto Perini, Programme Manager, Economist, Delegation of the European Union to The Gambia. Their inputs are gratefully acknowledged. Field work in The Gambia was facilitated by Bai Ibrahim Jobe and Modou Touray, EIF, Ministry of Trade, Industry, Regional Integration and Employment. Their inputs and logistic support are gratefully acknowledged.

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## EXECUTIVE SUMMARY

The relationship between trade and gender is highly contextual and country-specific, as the gender effects of trade depend on the specificities of individual economic sectors and countries. However, it is at times possible to extrapolate some general patterns that are likely to be found across countries. In general terms, The Gambian case study points to three critical dimensions that should be taken into account when promoting fish-export-oriented policies as a pro-poor strategy: i) the existence of gender-specific patterns in the processing and marketing of fresh and cured fish products; ii) the resultant, gender-differentiated impacts of a commercial, export-oriented strategy in the fisheries sector; and iii) the need for trade policy responses that are gender-specific and redistributive.

The fisheries sector is a critical entry point for poverty alleviation in The Gambia. It provides a source of revenue and foreign exchange earnings for the country; but also contributes importantly to food and livelihood security, particularly for the poor. The sector is the third largest food provider - after agriculture and livestock - and plays a significant role from a nutritional standpoint, being the main supplier of animal protein in the diets of most Gambians. Fisheries and related activities (processing and marketing) also provide income to the poor: fish-related activities represent the main source of income for coastal fishing communities, and are an important complement activity (and safety net) for rural communities inland. In The Gambia, the artisanal subsector employs between 25,000 and 30,000 people, while about 2,000 people work in the industrial sub-sector. The livelihoods of an estimated 200,000 people are indirectly dependent on fisheries and related activities. For women in particular, fish processing and marketing provide an important source of income and livelihood support: an estimated 80 percent of fish processors and 50 percent of small-scale fish traders are women.

In the sector, men and women tend to produce rather distinctive products, operate on different scales, and serve different markets. This results in rather specific gender-based trade patterns throughout the chain. Women are the predominant dealers involved in the domestic marketing of fresh and cured fish products; while export of the frozen and smoked-dry products is mainly carried out by men. The operations of the women fish processors essentially involve small-scale

direct marketing on a daily basis, and low profit margins. Women typically buy a few trays of fresh fish from large-scale mongers at land sites, and transport it to various urban markets where the fish is retailed. The operations of male fish processors and traders tend to be more capital-intensive and on a larger scale: their products are marketed to the inland and sub-regional markets, where the profit margins are higher. Some large-scale specialist fish dealers (usually men) export the fish to Senegal - or to Ghana, Guinea Conakry, Nigeria, etc. - in smoked or dried forms. Processing factories also procure their fresh fish supply for export to the EU from large-scale (men) fish suppliers.

This division of labour reflects deeply embedded social roles: in The Gambian context, women look after the children, work on the family plot, tender small livestock, etc. and are less likely than men to be away from home. However, it is also a consequence of gender disparities in access to productive assets. Observations at selected landing sites, for example, have evidenced women's unequal access to community-managed facilities: women tend to occupy units in need of rehabilitation, for which they pay a rent with virtually no service provided. As in other contexts, the overall tendency seems to be that women tend to receive "diminished" assets, while sectors that attract investment tend to "defeminise".

The acknowledgement of these gender dimensions is critical when designing policies geared towards upgrading the fisheries sector in The Gambia. The rationale for gender-sensitive measures in this context is twofold.

First, if the constraints affecting women's ability to carry out their trade are not addressed, this may negatively affect the overall prospects for sector development, as women represent the majority of fish processors and about half of fish traders. Improving the overall efficiency of operations will largely depend on ensuring that women processors and traders - as well as men - have sufficient access to quality supplies, upgraded facilities, and credit and support services.

Second, given women's crucial roles in the domestic marketing chain, any efforts to reduce food insecurity must take into consideration the constraints that women face in their trade. It is important to note, in this respect, that an expansion of the export-oriented



fish-processing industry is likely to generate significant employment opportunities for relatively unskilled women downstream (factory processing), with positive effects in terms of poverty alleviation. However, it may also unleash dynamics of social polarization and exclusion upstream in the chain, with potentially important food security implications. This is because the expansion of an export-oriented fish industry may, to some extent, accentuate the dual-nature structure of the fisheries chain. In particular, it may incite some diversion of resources from the domestic segment (domestic marketing and distribution of fresh fish and traditionally processed products) to the export-oriented segment (particularly fresh and frozen fish products serving the EU market). This could act to the detriment of small-scale women operators, who mainly operate in the domestic segment. More generally, the selective upgrading and segregation of the export-oriented segment of the chain may accentuate social cleavages between the relatively empowered and the relatively disempowered; and between large-scale dealers (involved in the export segment) and small-scale traders (predominant in local marketing). Also, for those fish species that serve both the export and domestic markets, there may be some diversion of supplies from the domestic to the export chain, with important food security implications. To effectively tackle food security issues it is thus important to identify and understand the dimensions and relevance of gender issues and gender-based constraints, and take corrective actions.

Hence, a call for trade policy responses that are not only gender-specific (in that they respond to practical gender needs of either sex), but also gender-redistributive (as they tend to create a more balanced relationship between men and women in access to productive resources). Three important intervention areas are outlined below.

A critical issue is the integration of gender considerations into the design and implementation of fisheries infrastructure projects. It is important, in particular, to acknowledge and address gender-based constraints throughout the planning, implementation and monitoring of projects aimed at the rehabilitation and expansion of facilities at fisheries landing sites and fish domestic markets. The objective is to ensure that facilities used by women are upgraded, or that upgraded facilities (including those that serve the export-oriented segment of the chain) can be effectively accessed by women, as well as men. Concrete measures may

include quotas, informal complaints procedure, etc. Community mobilization in the identification and enforcement of suitable gender-redistributive measures is critical in this context, as the whole process should be endogenous, from within the community. Community leaders, in particular, should be mobilized to support women's access to resources. Prioritized investment should also continue to include facilities that cater to small-scale operators (women) who serve the domestic market, and not only facilities designated for export. Strategic domestic-oriented facilities would include: ice plant and cold storage facilities to market high quality fish products at main urban/inland markets; fish handling and processing equipment and improved processing techniques in the domestic chain; packaging material at landing sites; and dedicated, well-equipped fish markets.

Parallel action should be taken to favour women's access to resources (credit) and support services (training and extension, and marketing). As regards access to credit, affirmative actions taken to redress power imbalances may include a target percentage of credit to be disbursed to women and dedicated lines of credit for women operators. Training is needed in at least three key areas: i) technical training in the handling, processing, and marketing of fish and fish products (fresh and cured) with a view to improving food security and quality; ii) marketing (how to use market information and establish business contracts and alliances); and iii) record-keeping and business plan formulation (this will help micro-finance institutions to assess credit-worthiness).

It is also important to explore niche markets for high-value products that can generate income for women. The potential for commercial and artisanal aquaculture involving shrimps and oysters is high. Shrimps offer significant potential for a product differentiation strategy (antibiotic-free shrimp with unique characteristics in terms of texture and size), with a focus on high-value niche markets (e.g. gourmet restaurants in Europe). Artisanal oyster farming, involving women oyster harvesters, can expand the local oyster trade and even encourage the development of the half-shell trade to supply The Gambian tourist market. A different niche of interest for potential development and expansion is that of traditional ethnic foods of value for The Gambian Diaspora. Specifically, there is a potentially important niche export market for smoked catfish and other high-value fish species including shrimps, barracuda, etc., to The Gambian Diaspora in Europe

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and America. The realization of women's commercial potential in these areas depends on enhancing their access to credit and support services (training, extension and marketing). The strict implementation of stringent sanitary and phytosanitary measures is also critical, particularly if the focus is on high-value niche markets. Equally important is the siting of operations,

which must be chosen taking into due account potential environmental pollution. Finally, in order to effectively identify and tackle market access and market entry barriers, it is key to set up strategic alliances involving women operators, key public entities, and off-takers (for example: traders, specialized wholesalers and retailers in targeted export markets).

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# 1

## Introduction and report outline



With a total area of 11,420 sq km, the Republic of The Gambia is one of the smallest countries in Africa. It is located in West Africa, bordered on the West by the Atlantic Ocean and on the other three sides by Senegal. Its geography is distinctive: like a tongue in the mouth of Senegal, the country extends inland for about 480 kilometres along the banks of the river Gambia; its Atlantic coastline is only 80 km in length. A semi-enclave in Senegal, The Gambia shares common socio-cultural features with its surrounding neighbour, including: similar ethnic groups (the Mandinka, Wolof, and Serere, among others), shared languages (Senegambian languages), and a similar religious makeup (Muslims represent over 94% of the population in The Gambia). The country is divided into 5 regions (the West Coast Region, Lower River Region, Central River Region, Upper River Region and North Bank Region), and two municipalities (the City of Banjul and Kanifing Municipality – part of the Greater Banjul Area). The capital city is Banjul.

The Gambia is one of the 49 countries that are officially recognized by the United Nations as Least Developed Countries (LDCs), based on economic vulnerability and human asset indicators. In spite of its LDC status, the country shows some economic dynamism. The country's 3.8 percent average annual GDP growth rate for 2000-2011 was higher than the average among West African Economic and Monetary Union countries (UNCTAD, DTIS Update 2013). In terms of output structure, the tertiary sector currently contributes to over half of the country's GDP and is rapidly developing, largely driven by tourism. The tourism sector alone - a sector in which The Gambia is improving its competitive position - supports over 10,000 direct and indirect jobs out of a total formal, private sector employment of 22,000 (World Bank, DTIS 2007). The Gambia Bureau of Statistics (henceforth GBOS) estimates the overall contribution of the Agriculture and Natural Resources sector to be (crops, livestock, forestry and fishery) at 30 percent of GDP (2010); with the crops sector alone contributing about 20 percent. The Agriculture and Natural Resources is reported to account for more than 70 percent of employment. Industry (including the extractive industry, energy and manufacturing) was estimated to account for about 12 percent of GDP (2010).

The Gambia continues to run a merchandise trade deficit, but has had a current account surplus since 2008, driven by net transfer payments. Remittances constitute an important source of foreign capital. They

account for 7.4 percent of The Gambia's GDP and for 26.2 percent of The Gambia's trade in goods and services (UNCTAD, DTIS Update 2013). The Gambia also relies heavily on official development assistance (ODA) inflows. In 2010 The Gambia received US\$ 110 million in ODA, amounting to some 11 percent of its GDP (UNCTAD, DTIS Update 2013). The Gambia has high export and import ratios to GDP, but as much as 90 percent of exports were estimated to be re-exports to the sub-region (World Bank, DTIS 2007). Tourism is the single most important export sector and a major foreign exchange earner; groundnuts are the dominant merchandise export.

The Gambia has a population of about 1.36 million (Census 2003). In the Integrated Household Survey (IHS) 2010 sample, the proportion of urban and rural populations were 50.9 and 49.1 percent respectively, very close to the 2003 Census. More than 50 percent of the sampled population was under 20 years old. The proportion of females (51.9 percent) was higher than that of the males (48.1 percent). A wide variety of ethnic groups live in The Gambia. The main groups include: the Mandinka (about 36.8 percent of the population), the Fula (19.5 percent), Wolof (15 percent), Jola (10.7 percent) and Serahule (9.2 percent) (African Development Bank, 2011). Ethnicity is an important factor in the division of labour. The Mandinka are mainly engaged in agriculture, while the Fula are traditionally herdsmen, though occupational divisions have blurred over time. Ethnicity intersects with gender in framing specific patterns of occupational segregation. For example, Jola women from Senegal are often employed in domestic service as maids, while Mandinka women more typically grow vegetables. Furthermore, ethnicity overlaps with class and social divisions, as not all ethnic groups are equally affected by poverty. According to the Integrated Household Survey 2003-2004, for example, the poorest groups were the Mandinka (67.3 percent were poor) and the Fula (66.3 percent).

The results of the 2010 IHS show that 48.4 percent of the population live below the poverty line of US\$ 1.25 per day (compared to 58 percent of the population in the 2003- 2004 IHS). Although poverty has declined, the gap between the richest and the poorest is widening: the 2010 IHS shows that the lowest quintile (poorest 20 percent of the population) are consuming only 5.6 percent (share of total household consumption), compared to 8.8 percent in 2003; whereas the 5th quintile (richest- top 20 percent) are consuming 46.5 percent, compared to 38.0 percent in 2003.

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The likely determinants of poverty in The Gambia include (2010 IHS):

- Place of residence, as rural residence is strongly correlated with poverty: using the US\$ 1.25 poverty line, poverty was significantly higher in the rural than in the urban areas (73.9 percent as compared with 32.7 percent, respectively).
- Average household size: Poverty increases as the household size increases.
- Educational attainment of the household head: The higher the educational attainment, the lower the likelihood of poverty. In the 2010 IHS, the poverty rates range from 58.4 percent for those with no education, to 17.8 percent for those with tertiary education.
- Gender of household head: The analysis is not straightforward. According to the 2010 HIS, the incidence and severity of poverty is lower for female-headed households (19.4 percent of all households) than for their male counterparts: 38.3 percent of female-headed households live on less than US\$ 1.25 per day, compared to 50.9 percent of men-headed households (28.2 percent vs. 38.8 percent using the poverty line of US\$ 1 a day). This is contrary to the findings of the 2003 IHS, according to which female-headed households had higher poverty rates (60.3 percent) compared to their male-headed counterparts (40.7 percent)). According to the 2010 IHS, the reasons for this disparity in overall poverty levels is attributable to a list of factors: female-headed households now tend to be smaller (with fewer members); they receive more remittances than their male-headed counterparts; and also, the proportion of women in the (relatively precari-

ous) agricultural sector has decreased significantly compared to 2003. An analysis of income data by gender shows that - overall - the average per capita household income for male-headed households (D 16,015) is higher than for female-headed households (D 15,582).

- Sector of employment of the household head: Household heads employed in the agricultural and fishing sector exhibit higher poverty rates using both thresholds (PUS\$ 1.25 = 79.0 percent, PUS\$ 1 = 68.8 percent), compared to household heads employed in the other sectors.

These findings point to specific sectors where policy intervention has the greatest potential to alleviate poverty. In particular, the strong correlation of poverty with rural residence and employment in agriculture and fishing points to the need to prioritize these sectors for purposes of poverty alleviation.

Against this background, this report looks at the fisheries and fish-processing sector in The Gambia. The objective is to identify socially inclusive and gender-responsive development strategies for the sector. The overall structure of the report is as follows.

Chapter 2 first briefly assesses the role of fisheries and fish-related activities in the economy in terms of contribution to: output, employment, revenue generation, and foreign exchange earnings (macro-level analysis). The analysis then sheds light on the organization of the fish product chain by mapping out different value chain actors, their roles, and the relationships between them (meso- and micro-oriented approach). This brief background analysis will generate important analytical and policy insights for the design of a sectoral policy that is socially-inclusive and gender-sensitive.

Table 1. Poverty by sector of employment of the household head

Sector of employment	Headcount rate (< US\$ 1/person/day)	Distribution of the poor (< US\$ 1/person/day)	Headcount rate (< US\$ 1.25/person/day)	Distribution of the poor (< US\$ 1.25/person/day)
Agriculture and fishing	68.8	43.6	79.0	39.6
Mining	46.2	0.3	61.6	0.3
Manufacturing and energy	33.6	5.6	43.6	5.5
Electricity, gas and water	5.8	0.3	21.2	0.5
Construction	35.6	5.2	50.2	5.6
Trade, hotels and restaurants	24.2	14.3	36.2	16.3
Transport and communication	37.7	5.1	51.2	5.1
Financial management	20.7	0.4	32.8	0.6
Social and personal service	28.1	12.2	40.4	12.9

Source: Integrated Household Survey - Income and Expenditure Poverty Assessment, 2010

Chapter 3 assesses critical constraints that hamper the competitiveness of the industrial, aquaculture and artisanal sub-sectors; identifies areas of competitive advantage/commercial potential (particularly niches or products that can generate value-added through women's work); and seeks viable solutions to overcome development obstacles, in a gender-sensitive way.

Chapter 4 concludes by listing some priority areas for policy intervention in the Gambian fisheries and fish-processing sector.

Gender issues flow throughout the analysis, and inform the policy recommendations. The report reflects consultations with key government, private sector and civil society representatives; as well as semi-structured interviews with various stakeholders in the artisanal subsector.

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# 2

## Overview of the fisheries sector





This Chapter reviews the role of “fisheries” and “fish processing” in the economy of The Gambia, while also unravelling the organization of the fish product chain, with due attention to gender roles. “Fisheries” is here and hereafter intended to include the economic activities of capture or culture of aquatic animals and plants (i.e. fish harvesting). “Fish processing” covers two discrete segments: i) the industrial processing (washing, sorting, cleaning, processing, packaging and freezing) of fresh fish, mainly for export to the European Union (EU), but also to other international destinations; and ii) traditional smoking and drying processes (cured fish products), mainly for the domestic and regional markets -with some smoked fish for the European and other international niche markets.

## 2.1 THE RESOURCE BASE

With a continental shelf area of about 4,000 km<sup>2</sup> and approximately 10,500 km<sup>2</sup> of Exclusive Economic Zone (EEZ), The Gambia is believed to be particularly rich in terms of fish species abundance and diversity. This rich resource base offers great potential to make a substantial contribution to The Gambia’s socio-economic development, if fish resources are managed sustainably.

Over 500 marine fish species have been recorded in Gambian waters; they are usually classified as demersals (bottom dwelling) and pelagics (surface dwelling). The demersals include: shrimps, groupers, sea breams, grunts, croakers, snappers, etc. The small pelagics group consists of the two sardinellas (*Sardinella aurita* and *Sardinella maderensis*), the bonga/shad (*Ethmalosa fimbriata*), horse mackerels (*Trachurus trecae*, *Trachurus trachurus* and *Caranx rhoncus*) and mackerel (*Scomber japonicas*). The high value demersal species (shrimps, sea breams, lobsters and cephalopods, among others) are mostly supplied to fish processing factories for export, mainly to the EU, North America, and Asia. Small pelagics are mainly consumed locally in fresh or traditionally processed product form, or exported regionally.

In the inland sector, fish resources are found within The Gambia River system, which runs through the entire length of the country. They comprise mainly fresh water species, such as: the freshwater catfish, (*Clarias spp.*), tilapia (*Oreochromis niloticus*), the bony tongue (*Heterotis niloticus*), *Gymnarchus (Gymnarchus niloticus)*, etc. It is important to note that the river and its ecology also serve as a transitional phase for many marine fish species: they spend part of their life cycle there to reproduce, feed or as nurse. The concerned

species include: shrimps, croakers, thread fins (locally known as the “kujali”), and other high value pelagic species such as the barracuda. The Gambian shrimp stock has its spawning grounds in the estuary/river. After hatching and metamorphosis to various larval stages in the river, the juvenile shrimp migrate upstream to shallow areas of the River Gambia for feeding and growth in the nutrient-rich mangrove areas. After three months, the adult shrimp migrate to the sea to spawn in the central - and deepest - part of the estuary.

The Gambia does not have the requisite financial, human, and technical resources to conduct scientific surveys on its own, but relies on assistance provided by international institutions and organizations, such as the FAO and the Norwegian Agency for Development Cooperation (NORAD). For several years, annual hydro-acoustic surveys of small pelagic fish stocks in The Gambia, Morocco and Senegal were conducted with assistance from the FAO and the Norwegian Institute of Marine Research (IMR). Estimates from these surveys are shown in Table 2. While relatively accurate information exists on the status of the pelagic fish stocks, very little information is available on the demersal fish stocks. The most comprehensive survey of the Gambian demersal fish resources was carried out by the Spanish Institute of Oceanography in 1986, which estimated the biomass at 43,645 tonnes. Biomass estimates of the demersal stock in 1995 were

Table 2. Biomass estimates of fisheries resources

Year	Biomass MT Demersals	Biomass MT Pelagics
1986	43,645	
1992	30,000	160,000
1995	22,000	156,000
1996	-	122,000
1997	-	113,000
1998	-	173,000
1999		510,000
2000		213,000
2001 Jun		217,000
2001 Nov		165,000
2002 Jun		470,000
2002 Nov		242,000
2003 Jun		62,000
2003 Nov		285,000
2004 Nov		212,700
2005 Nov		284,000

Source: Reproduced from Mendy, 2009.

obtained from a partial survey of demersal stocks, conducted during a survey focused on pelagic fish species.

Concerns have been expressed over the excessive exploitation of marine fish species. The results of limited surveys and assessments over recent years indi-

cate that the major marine fish stocks are over-fished or fully-exploited (Table 3). In particular, the most commercially important demersal species appear to be under threat from high levels of exploitation (Mendy, 2009; Tobey et al, 2009).

Table 3. Status of main stocks

Species	Status	Year of assessment	Reference
<b>Small pelagics</b>			
<i>Sardinella aurita</i> /NW Africa	O	2008	FAO SPWG NWA (2008)
<i>Sardinella maderensis</i>	NA	2008	FAO SPWG NWA (2008)
<i>Ethmalosa fimbriata</i>	NA	2008	FAO SPWG NWA (2008)
<i>Scomber japonicas</i>	O	2008	FAO SPWG NWA (2008)
<i>Trachurus trecae</i>	F	2008	FAO SPWG NWA (2008)
<i>Caranx ronchus</i>	O	2008	FAO SPWG NWA (2008)
<b>Demersal species</b>			
<i>Pagellus belottii</i>	O	2007	FAO/CECAF DWG (2008)
<i>Arius</i> spp	O	2007	FAO/CECAF DWG (2008)
<i>Pseudotolithus</i> spp.	F	2007	FAO/CECAF DWG (2008)
<i>Epinephelus aeneus</i>	O	2007	FAO/CECAF DWG (2008)
<i>Penaeus notialis</i>	F	2007	FAO/CECAF DWG (2008)
<i>Octopus vulgaris</i>	O	2007	FAO/CECAF DWG (2008)

Source: Mendy, 2009 based on reports of the FAO Working Group on the Assessment of Small pelagic fish off Northwest Africa (FAO SPWG NWA) and of the FAO/CECAF Working Group on the Assessment of Demersal Resources (FAO/CECAF DWG). Note: O – over-exploited; F – fully exploited; NA – inconclusive assessment.

## 2.2 THE STRUCTURE OF THE FISHERIES SECTOR

The Gambia's fisheries sector consists of two subsectors: the artisanal fisheries sub-sector and the industrial sub-sector.

### 2.2.1 Artisanal fisheries

The artisanal fisheries consist of relatively extensive, low-capital fishing practices. This sub-sector refers to those fishermen and women (both nationals and foreigners) operating in small units of a few fishermen - or on individual basis - employing little equipment and technology. It also includes the women oyster and cockle harvesters who generally operate within the estuarine areas. Essentially, the craft employed in this subsector are planked and/or dug-out canoes. The sub-sector is highly diversified, covering marine (coastal), brackish (through the estuary waters of the river Gambia) and freshwater (upstream along the river) fishing operations.

In spite of the small-scale nature of its operation, the artisanal sector provides 90 percent of the total national fish consumption, and is the main source of raw material for the industrial sector. Artisanal fisheries also supply about 80 percent of throughput in the industrial fisheries processing plants. The bonga, round and flat sardinella - and other small pelagics - are the main species landed by the artisanal fishermen. These species are mainly consumed locally in fresh or traditionally processed (smoked or dried) product form, or exported regionally. The high-value commercial species the sector produces (shrimps, sole fish, sea breams, lobsters and cephalopods) are mostly supplied to fish processing factories for export: mainly to the EU, North America, and Asia.

The sub-sector has witnessed a huge expansion in the number of fishing economic units (FEU) operating on the coast and along the river banks and estuaries: from 1,299 canoes in 1983 to 1,969 canoes in 1997. However, a decline in the 1997 total was recorded in the 2006 frame survey, which indicated a fleet of

1,785 canoes operating in both the marine area and along the river Gambia.

As shown in Table 4 below, the sub-sector provides direct employment to 6,104 fishermen (1,410 head fishermen and 4,694 assistant fishermen). Out of the 1,410 head fishermen, 805 (57 percent) are Gambians and 605 (43 percent) foreigners. However, foreign fishermen (mainly Senegalese) form the majority along the Atlantic coast, which is the most productive area. Of the 416 head fishermen operating in the coastal area, 249 (60 percent) are foreign nationals, compared to 167 (40 percent) Gambians. In addition to fishermen, fisheries sector participants include: boat builders, fish processors, fish traders, fish retailers and wholesale buyers. It is estimated that the artisanal fisheries sub-sector provides direct and indirect employment to 25-30,000 people. More broadly, the livelihoods of an estimated 200,000 people are dependent on fisheries and related activities (Mendy, 2003). Women play a very active role in the artisanal fisheries sector, accounting for about 80 percent of fish processors and

50 percent of small-scale fish traders (African Development Bank/GAFDP).

#### *The Oyster and Cockle Fisheries – Structure and Production*

The bivalve industry consists mainly of oyster and cockle harvesting, currently done on a subsistence/artisanal level. These fisheries are an important for the livelihoods of people resident particularly in: Tanbi National Park; the Allahein “Bolong” in Kartong; and the north bank villages of Tambana and Bakang, and Kemoto in the Lower River Region. Harvesters - the majority of whom are women - mainly belong to the Jola, Balanto and Manjago ethnic groups. The harvesting season lasts from March through June for oysters, and from July to November for cockles. The development of the oyster and cockle fisheries has been a stated priority for the Government since the 1980's, but little has been done to manage them or provide technical support to help develop them, until recently. Information on these fisheries is limited. The total number of people involved in the oyster and cockle fishery

Table 4. Comparison of the 1997 and 2006 Fishery Frame Surveys

	1997	2006	Percentage change from 1997
<b>Head Fishermen</b>	1,969	1,410	-28.4
Gambian	1,238	805	-35.0
Non Gambian	731	605	-17.2
<b>Assistant Fishermen</b>	4,067	4,694	15.4
Gambian	1,985	2,291	15.4
Non Gambian	2,082	2,403	15.4
<b>Total Fishermen</b>	6,036	6,104	1.1
Gambian	3,223	3,096	-3.9
Non Gambian	2,813	3,008	6.9
<b>Type of Canoes</b>			
Non-motorized Canoes	1,243	1,082	-13.0
Gambian	888	700	-21.1
Non Gambian	357	382	7.0
Motorized Canoes	542	625	15.3
Gambian	306	325	6.2
Non Gambian	236	300	27.1
<b>Fishing Gear Used</b>			
Encircling Net	279	295	5.7
Gill Net	1,050	1,066	1.5
Long Line	158	177	12.0
Head Line	138	169	22.5
Drift Net	165	344	108.5

Source: GOTG, 2006 Fishery Frame Survey Report.

sectors countrywide is not known. Data on oyster and other shellfish production is unavailable because it has not been part of the countrywide frame survey design and data collection effort of the Fisheries Department. However, limited surveys have been conducted on the oyster fisheries in the Tanbi National Park, and it was estimated that there are about 500 oyster harvesters - predominantly women - and that hundreds more could be involved in related activities, including the production of white lime from oyster shells (Njie and Drammeh, 2011).

The oyster harvesters use non-motorized simple dug-out canoes (3-4 meters in length), capable of carrying 1 or 2 women who paddle from their bases to the harvesting sites. There are times when they do not use canoes (because they cannot afford them), and they walk on foot or wade into knee-deep waters to get at the exposed oysters. Harvesting is only possible during the six hours of diurnal low tide when the oysters - attached to the prop roots of the mangroves - are exposed, and the women can reach them using either a cutlass or a small axe. Using the axe, the women select the oysters one by one, removing the mature ones and leaving the small ones to grow; whilst with the cutlass they peel the oyster from the roots of the mangrove, scraping the bark of the roots and usually leaving a scar on the roots. The oysters are gathered in the canoes or carried back to the bases on their heads -in bags or baskets - before the high tide sets in (GOTG, Ministry of Fisheries Water Resources and National Assembly Matters, 2011).

Hacking or chopping off the oysters from the roots can be destructive. When the roots are chopped off, and the available settling space for the next generation of spats (baby oysters) is reduced, this can in turn lead to fewer oysters, and thus a reduced oyster population and potentially reduced harvests for the women.

Cockles are also harvested by the same women during low tide, either using canoes taken to the harvesting sites or by walking on foot. Unlike oyster harvesting, in cockle harvesting the women anchor the boat and disembark to scrape the sand with their fingers or with spoons to get at the cockles (spoons are still used, although there is the superstitious belief that the cockles will disappear from high yield beds due to their use).

Oyster processing is done by the same women who harvest them from the wild, and involves steaming or boiling because it is effective and consumes fewer resources (firewood, water and time). The process be-

gins with the removal of foreign matter from the harvested oyster; the oysters are then steamed in pans/drums for 30 minutes to one hour, during which the shells will gape, and the muscles soften up to ease shucking and extraction of the meat.

Another technique is to roast the oyster over fire on metal grills - a practice which is now rare: the oysters soon gape, and the meat is extracted with knives and collected in woven baskets. The oysters are then marketed, often after having been washed clean, or even reheated at some sites. In some other places in the country, the meat is preserved by salting and sun drying to very low moisture content, before the oysters are marketed.

The oyster shells, meanwhile, are gathered in heaps and sold for cash to people involved in: the production of white lime, brick-making, the preparation of chicken feed or the horticulture industry (where it is used as soil conditioner and fertilizer).

Cockles are processed by boiling/steaming - as with oysters - to open the shell and to loosen the meat from the shell. After steaming, the meat is sieved with perforated trays or shaken and separated by gravity, after which the meat falls to the bottom and the shells are gently scooped off the top. The meat is then placed in baskets and washed many times in sea water. The water is then allowed to drain and the product is re-cooked before marketing. In some instances, the product is salted and sun-dried to reduce moisture content before storage and subsequent marketing, similar to what is done with oysters.

Cockle and oyster marketing is done by the same women who harvest and process them. However, it is not uncommon to find younger women (daughters or harvesters' family members) selling cockles and oysters along the highway to and from the city of Banjul. The products are marketed in diverse places, including the processing site and urban market places and along roadsides -while some producers carry the products on their head and sell from house to house in neighbourhoods. Dried oysters and cockles are sold at the weekly market days ("loumo") in rural communities, which move from village to village on a daily basis. They are sold by a measure of empty milk tin, which contains about 150 grams of oyster or cockle meat at GMD 15 (50 US cents). However, the large, hand-picked grade of processed oysters fetches a higher price (GMD 20 for 150 grams). The price of fresh cockles is GMD 5.00, and dried cockles are sold at GMD 10.00.

Buyers and consumers include: individual consumers who buy for home consumption, street food vendors, restaurant operators and exporters. Currently, limited quantities of oysters enter international trade. The oysters are exported by individuals who normally carry a few kilos with them as gifts to relatives, or sell them informally to niche markets which-mainly form part of the Gambian Diaspora -in the EU and the USA. The product may also be taken for use in special ceremonial occasions of Gambians living abroad. Hence, exports are classed as traditional ethnic foods of value.

However, it must be noted that there are certain concerns that need to be addressed if the formal export markets are to be targeted. In particular, there are stringent sanitary requirements to be met for a raw or fresh shell fish product to be formally exported, particularly to the European and North American markets.

### 2.2.2 The Industrial Sector

Unlike the artisanal sector, industrial fisheries and fish-processing activities involve use of high-cost fish-production systems (fish trawlers), as well as high-cost processing systems (fish factories), and are concentrated along the Atlantic coastline.

As at mid-2012, there were 20 locally registered fishing companies operating in The Gambia, but only 10 companies had managed to invest in on-shore facilities (fish factories). Five of these (Bara Fishing, Kendaka, Rosamond Trade, International Pelican, and West Africa Aquaculture) had met the required standards and been certified to process and export fresh and frozen fish products to the EU. Only one factory (Rosamond Trade) was certified to export cured (smoked) fish products to the EU. The remaining had not yet met the EU regulations on fish-processing establishments.

Exports to the EU essentially consist of fresh and frozen fish, particularly of high-value commercial species (crustacean, cephalopods, sole fish, etc.). Specialized smoked fish products (all traded through the only certified establishment) essentially serve the Gambian Diaspora market in the EU (the UK, Netherlands, Spain, and Belgium) and the USA (Box 1). Export figures and values of exports to the Diaspora in Europe, the USA and Canada are shown in Table 7.

The development of industrial fisheries has been relatively limited in The Gambia. Industrial fisheries account for as little as 10 percent of the total national fish consumption, and for only an estimated 20 percent of the locally processed fish. This is due to the fact that

over 90 percent of the fishing vessels legally operating in Gambian waters are foreign-owned, and land their catches abroad. They usually make contractual arrangements with Gambian fishing companies in order to satisfy national licensing conditions, or operate by virtue of fishing access agreements with The Gambia - for example, the Senegalo-Gambian Reciprocal Fishing Agreement. They also operate under bilateral agreements with Japan, the Republic of Korea, and the EU (under the now-expired EU/Gambia Fishing Agreement). Most of these trawlers land their catches in Senegal, or process them out at sea and export to Spain, Greece, South Korea, etc. Although foreign trawlers are required to land 10 percent of their catches in The Gambia (a licensing requirement), sometimes – for lack of handling space in the existing Gambian factories - they land the bulk of the fish in overseas ports after paying the value of the 10 percent to the Gambian government. Industrial catches landed in foreign ports for processing and further value-addition are exported, not as products of Gambia but as products of those countries where the catches have been landed. This deprives the country of foreign exchange, employment-generation opportunities, and reduces the availability of fish for local consumption and local industrial processing.

This situation is due, among other things, to the absence of a dedicated modern fisheries port and related ancillary facilities -which has had considerable negative impact on the development of industrial fisheries and the economy in general. This is coupled with other constraints, such as: lack of storage facilities, financial constraints, the high cost of energy, and poor management -resulting in some of the fish factories going bankrupt.

The major contribution of the sub-sector lies in its foreign exchange earning potentials, and its employment-generating capacity. For example, licensing requires that 20 percent of the crew of a fishing vessel licensed to operate in Gambian waters must be Gambian; this is aimed at building up the proportions and capacities of Gambian youths in fishing operations. It is estimated that about 2,000 people are presently employed in the industrial sub-sector, of which an estimated 70 percent are women. The female share of employment is significantly higher in the packaging/processing nodes, where virtually all workers are women, with the notable exception of fileters (Fisheries Department).

### 2.3 THE FISH SUPPLY CHAIN

The supply chain for fish and fishery products (see Figure 1) is rather complex in The Gambia because of:

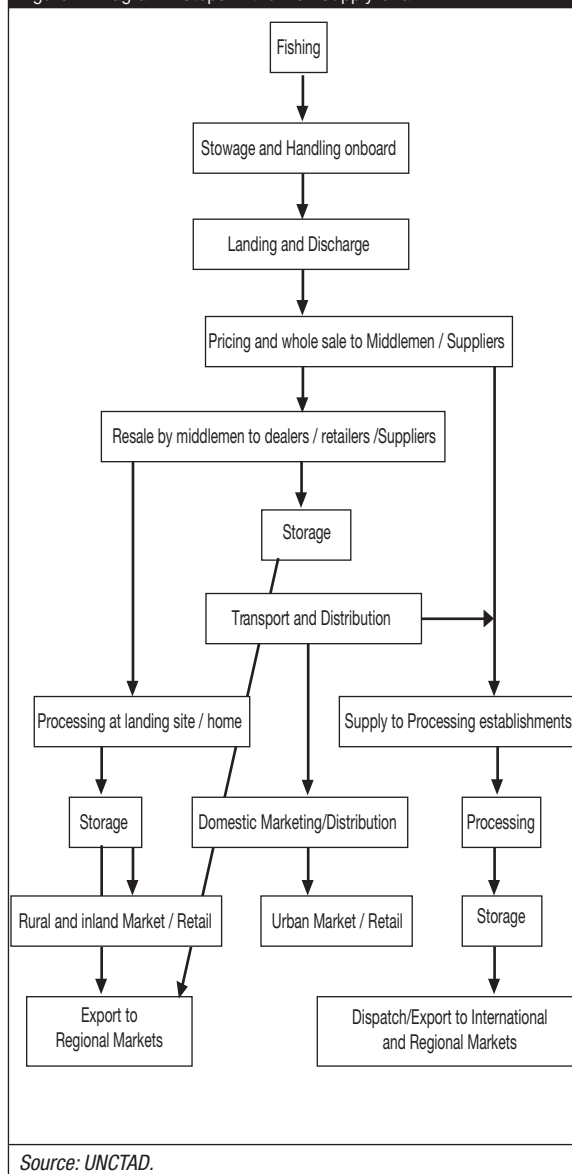
- i) The range of different markets served (urban, inland, sub-regional, international - EU and USA, including the Diaspora niche);
- ii) The assortment of species (small pelagics and high-value demersal species) and products offered (fresh and frozen fish, cured products, by-products), each serving different market outlets;
- iii) The large number of different operators (fishermen, fish traders/dealers, artisanal processors, industrial processors, specialized exporters, etc.) and modes (small-scale and large-scale trade).

At the landing sites (11 coastal landing sites), the fish is typically bought from artisanal fishermen by relatively large-scale fresh fish dealers, who tend to be men. The dealers (“banabana”) then sell on to smaller intermediaries for distribution in urban or inland markets, or to processing establishments. In certain cases, the fisherman is related to the “banabana” - or if not related, has invested in the boat, or often provides some form of assistance to the fisherman - and thus holds the fisherman in bondage. At some landing sites, women may be the intermediary between fishermen and traders/processors, particularly as regards certain fish species processed and traded by women (e.g., cat fish and spoiled white fish for the production of salted and dried products). These women are sometimes the fishermen’s wives and take over the task of marketing their husbands’ catches to other women and men traders and processors.

About 40 percent of fish landed in The Gambia is marketed fresh within the coastal areas and in some of the major growth centres in the rural districts (white fish is mainly supplied to urban markets and consumers, as well as hotels, restaurants and other catering houses; bonga to both urban and rural markets). As fish is the predominant source of protein in The Gambia, and fish marketing and distribution in country contributes greatly to food and nutrition security, distribution of fish from riparian coastal areas to inland communities is very important. However, this aspect of the sector is relatively under-developed, and requires improvements in the handling, transportation, and storage of products.

An estimated 30 percent of landed fish is traditionally processed (dried and/or smoked) and marketed

Figure 1. Diagram - Steps in the Fish Supply Chain



within the country (especially in the inland markets); part of this is then exported to neighbouring West African countries. However, the processing techniques and facilities leave much to be desired.

The rest of the fish (mainly high value demersal species) is supplied to industrial fish processing companies for export processing.

To add to this complexity, men and women tend to produce rather distinctive products, operate on different scales and serve different markets. This results in rather specific gender-based trade patterns through the chain, as discussed below.

### Box 1. Women in the Fisheries Sector

Women in The Gambia play a very active role in the fisheries sector: about 80 percent of fish processors and 50 percent of small-scale fish traders are women. They are engaged in both fresh fish marketing and distribution, and in the processing and distribution of cured fish products. Also, women tend to dominate the Diaspora trade.

#### **Fresh fish marketing and distribution**

In the fresh fish trade women tend to be small-scale dealers. They mainly buy a few trays of fish (typically bonga, but also white fish) from large-scale mongers and transport it to various urban markets where the fish is retailed. They sometimes collectively hire a commercial vehicle to transport the fish to the urban markets, or use local taxis.

Large-scale dealers are mainly men: they often buy big quantities (e.g., one or more canoes of fish). Some large-scale specialist fish dealers (usually men) export the fish to Senegal - or to Ghana, Guinea Conakry, Nigeria, etc. - in smoked or dried forms. Processing factories also procure their supply from large-scale (men) fish suppliers. Local hotels and restaurants are also mainly supplied by this category of dealers. However, within this group of suppliers a few women are quite often very active as they too enter into contracts with the hotels and restaurants, especially during the tourist season (October –April). This trade offers the women involved substantially bigger returns than those available to the small-scale processor who takes her produce to the market every morning. This category of women traders usually require a bit more working capital and better cash flows because the hotels and restaurants usually do not pay on receipt of produce -the women are paid fortnightly, or monthly. Thus, extending a credit line to this category of women traders will help them expand their business and increase their income, which could get them out of poverty. In addition, these women will require training in various aspects of the fish value chain, small business management, and other important and relevant skills.

The fish is unloaded from the canoes by carriers (who used to be predominantly women, but are increasingly being replaced by men), paid in kind (3-4 pieces of bonga per pan carried), and loaded onto refrigerated trucks or pick-up vans for distribution to inland markets. Typically these men come from Mali, and are willing to do any odd job, including unloading and carrying fish on wheel barrows from the canoes to the waiting trucks. Evidently, the wheel barrows carry more fish than the usual head pans the women use. Even though the women try their best to cope, they are outmatched because the men are quicker and stronger and their wheel barrows carry more fish per trip. Very soon, the canoe load of fish is emptied and the truck is on its way, of course to the satisfaction of the trader. Clearly, if this trend continues very soon the women will be pushed out of the business of unloading the canoes and this essentially means they will lose an important source of their daily fish acquisition. This further means that their daily revenues will drop because they will have fewer fish to sell and to take home for their families' consumption.

#### **Cured fish distribution and marketing**

The artisanal fish processing sub-sector is constituted of small family or women-owned business enterprises with rudimentary processing technologies, often located close to the beaches or areas of towns around the landing sites. Cured fish products are mainly sundried and/or salted and smoked.

Fish dryers tend to be women. They produce salted sun-dried fish for urban and inland markets, or for regional export dealers. The same women who process the fish often market it (small-scale traders).

The women lay the split fish on raised platforms made from sticks and poles where the fish dries out under the sun over a period of 5-7 days. Often, it is contaminated with dust, and is assailed and infested with blow flies and maggots. This leads to a shorter shelf life and to losses due to maggot infestation. Transportation to market centres is usually done by means of commercial vehicles: at this stage too a good part of the product could be lost due to spoilage, and this of course means financial loss for the processor.

Smokers are both men and women. It should be observed, in this respect, that the smoked fish market is complexly branched within, and that men and women tend to operate in different market segments. In particular, a distinction is to be drawn between smoked-dry products with lower moisture content and longer shelf life (3-9 months depending on storage conditions), and hot-smoked fish, typically with higher moisture content and

**Box 1 (contd.)**

shorter shelf life (1-3 days). The choice of whether fish will be hot-smoked or smoked-dry depends on a number of factors, including: the type of fish; the desired shelf life of the smoked product; and available technology.

Male fish smokers tend to operate in the long-distance trade of smoked-dry products with longer shelf lives. Their operations are more capital intensive and their products are marketed to the inland and sub-regional markets, where the profit margins are higher.

Women smokers are mainly involved in the domestic marketing of hot-smoked products. They generally produce smoked fish (mainly bonga and catfish), of relatively short shelf life meant for urban and inland markets. Their operations are often labour-intensive and characterized by small-scale direct marketing (on a daily basis) and low profit margins. Women usually smoke the small pelagic bonga and the catfish, over open fires in pans covered with jute bags. Because of the high cost of fuel wood, the women use cartons, coconut husks, groundnut shells, or any material to smoke the fish. Smoking lasts for two to four hours, after which the fish is laid out to cool before being packed in woven baskets to be taken to market the following morning. Unlike the fish smoked by the men, this product soon deteriorates if not cooled: because the moisture content is still high, spoilage can easily occur if the product does not sell fast enough.

For both (men and women), curing processes are tedious, time consuming, and unhygienic. Because of the inefficient smoking process the products are easily lost due to spoilage - particularly during prolonged transportation and storage.

**The Diaspora Trade**

The trade of smoked fish products within the larger Diaspora trade to the EU (mainly the UK and Netherlands) and to the USA is - currently - virtually a women-led business, although a few men exporters are also involved. It is small-scale, and is the principal export trade for women in fisheries in The Gambia. It involves a wide range of fish species - with products such as smoked catfish, shrimps, sole fish, bonga, sardinella, croakers, and barracuda - and is a trade dominated by smoked products. Between 2004 and 2010, these exports constituted 3-18 percent of all fish exports from The Gambia (Table 7 and Figure 4).

As at July 2012, the women operated through Rosamond Trade, the only processing facility in the country certified to export cured fish to the EU. They especially supplied the niche Diaspora market of Gambians - but also the African Diaspora (including from the Caribbean) - living in: the EU (UK and Netherlands mainly), the USA, Canada, and Africa. With a permanent staff of 13 (6 women and 7 men) the processing facility was rented by a group of women (6 women at the time of the visit) on a monthly basis, and the women's fresh fish was smoked by the staff of the facility - their individual quota of fresh fish ranging between 500 kg - 5000kg. The processed fish was stored until such time as the women had enough products to export, then it was loaded onto a 20 or 40 foot reefer container for shipment. Each woman acquired her shipping documents and other forms of certification for her consignment before travelling by plane to the UK, the Netherlands, etc. There she awaited the arrival of the container at the UK port. Upon arrival of the shipment, each woman collected her consignment, usually addressed to herself or to a UK-based business partner. Then the woman could either retail her fish by herself, or sell to a wholesaler -after which she returned to Banjul to load another container.

This trade needs to be formalized in order to enable the women to develop and expand their production from the current small-scale operations of 200-500 kgs. per woman. In addition, the women involved need training in hygiene, and in the handling and marketing of fish products, in order to improve quality and address food safety concerns. They also need capacity-building in relation to EU market requirements.

Another system of regional niche marketing involves both men and women, some of who travel from the countries of export destination to process the products in Gambia. In this case, it is worth noting, gender interacts with nationality and ethnicity: Senegalese, Ghanaians, Guineans and Malians travel to The Gambia - or reside in the country - and organize the export trade towards their country of origin.

*Source: Field observation and semi-structured interviews (refer to Annex 1) and literature review (Njai, 2000 and Njie, 2002)*



## 2.4 PRODUCTION TRENDS

The total fish landed from both the artisanal and industrial sub-sectors was estimated at nearly 50,000 tonnes in 2010 (Fisheries Department). The artisanal fisheries sub-sector contributed approximately 46,000 tonnes (92 percent) to this total, with about 4,000 tonnes (8 percent) from the industrial fisheries. Overall, the nominal output of the industrial fisheries sector has, by and large, remained low over the years, whilst catches from the artisanal fisheries have been on the increase (Table 5 and Figure 2). In 2002, industrial production was 12,000 tonnes, but declined to

Table 5. Industrial and artisanal fish production (MT), 1997-2010

Year	Industrial	Artisanal	Total
1997	7,988	30,243	38,231
1998	7,012	26,533	33,545
1999	10,249	29,743	39,993
2000	9,237	26,867	36,104
2001	11,198	32,016	43,214
2002	12,160	32,336	44,496
2003	11,005	34,365	45,370
2004	8,375	29,317	37,692
2005	4,600	30,169	34,769
2006	2,830	36,898	39,728
2007	4,000	43,007	47,000
2008	2,973	42,841	45,814
2009	3,179	45,881	49,060
2010	4,001	45,910	49,911

Source: Data provided by the Department of Fisheries, GOTG

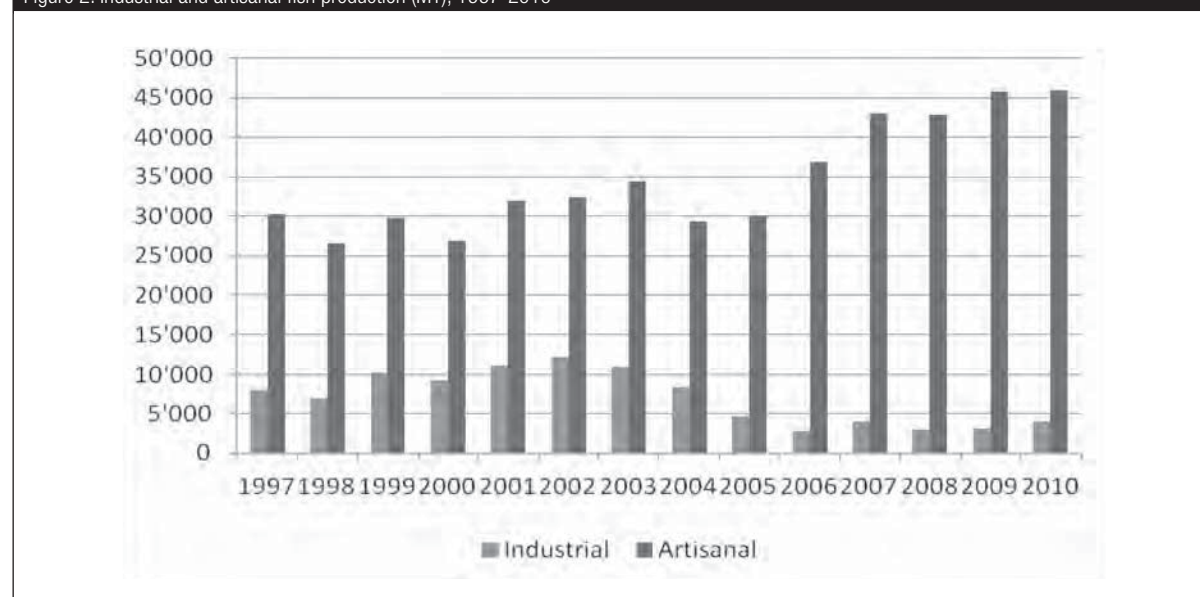
4,000 tonnes in 2007; whilst landings from the artisanal sub-sector increased from 32,000 tonnes in 2002 to 46,000 tonnes in 2010. It should be noted that these figures do not capture the largest proportion of industrial catch caught in Gambian waters, which is not landed in The Gambia but in foreign ports.

## 2.5 EXPORT OF FISH AND FISHERY PRODUCTS

Export figures for fish and fishery products are shown in Table 6. Exports totalled 932 metric tonnes in 2002 and 3,563 tonnes in 2010, which mostly reflects increases in production by the artisanal sub-sector. This has mainly been due to the fact that the fisheries sector - especially the industrial subsector - has lacked inflows and investments to allow for its optimal operation. The value of fish exports from The Gambia is believed to be severely underestimated, as most fish caught in Gambian waters is landed in foreign countries, and hence not accounted for in Gambian trade statistics.

The EU is the main export destination for fishery products. Trade requirements for this market are stringent, and production systems and products must comply with equivalent regulations on hygiene, food safety, consumer protection and official control requirements. It should be noted that exports to the EU were suspended for four months (October 2010 to February 2011), following detected deficiencies in the system of official control of fishery products, but have since resumed: four out of five establishments approved to export to the EU are fully operational and continue to

Figure 2. Industrial and artisanal fish production (MT), 1997-2010



Source: Data provided by the Department of Fisheries, GOTG.

**Table 6. Exports of fish and fishery products, 1997-2010**

Year	Quantity (MT)	Value (GMD)
1997	2,063	44,427,355
1998	1,666	33,293,225
1999	1,677	36,563,649
2000	901	32,779,477
2001	949	35,726,199
2002	932	21,334,062
2003	445	11,629,895
2004	405	7,694,241
2005	751	9,956,837
2006	625	2,287,733
2007	1,480	67,432,811
2008	1,363	47,847,297
2009	2,087	64,919,036
2010	3,563	100,041,068

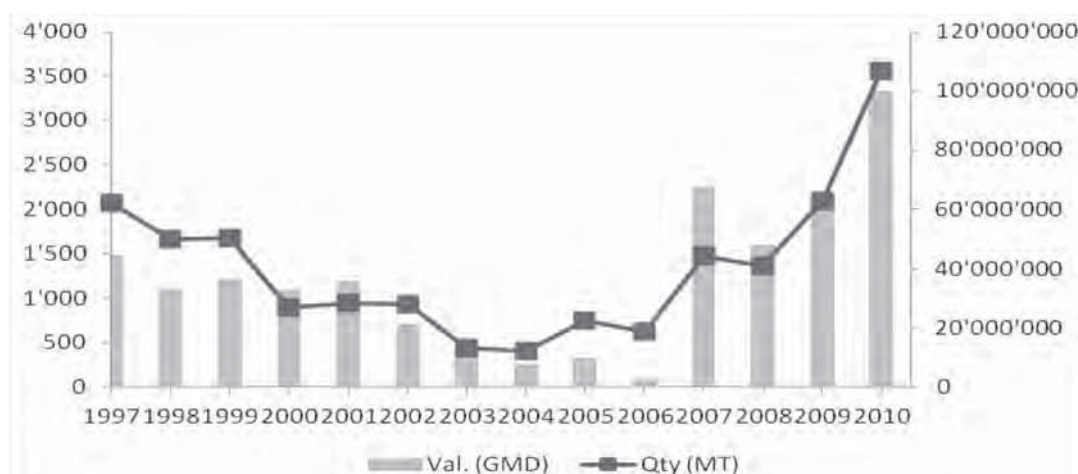
Source: Department of Fisheries, GOTG. US\$ 1=GMD30

export a variety of fresh, frozen and smoked products. The fifth one is a shrimp aquaculture establishment which was delisted due to non-submission of a national residue control plan for aquaculture in 2010. The residue control plan was submitted in 2011/2012 and approved by the EU. Hence, the establishment is being relisted for export of aquaculture products to the EU.

**2.6 IMPORTANCE OF THE FISHERIES SECTOR TO THE NATIONAL ECONOMY**

The Gambian Government continues to give high priority to the development of the fisheries sector as it is a source of revenue and foreign exchange earnings for the country, but also a source of hope for increasing employment opportunities -particularly for women who are those mainly involved in fish processing and marketing. The sector is also contributing to the improvement of the nutritional dietary in-take of the

**Figure 3. Exports of fish and fishery products, 1997-2010**



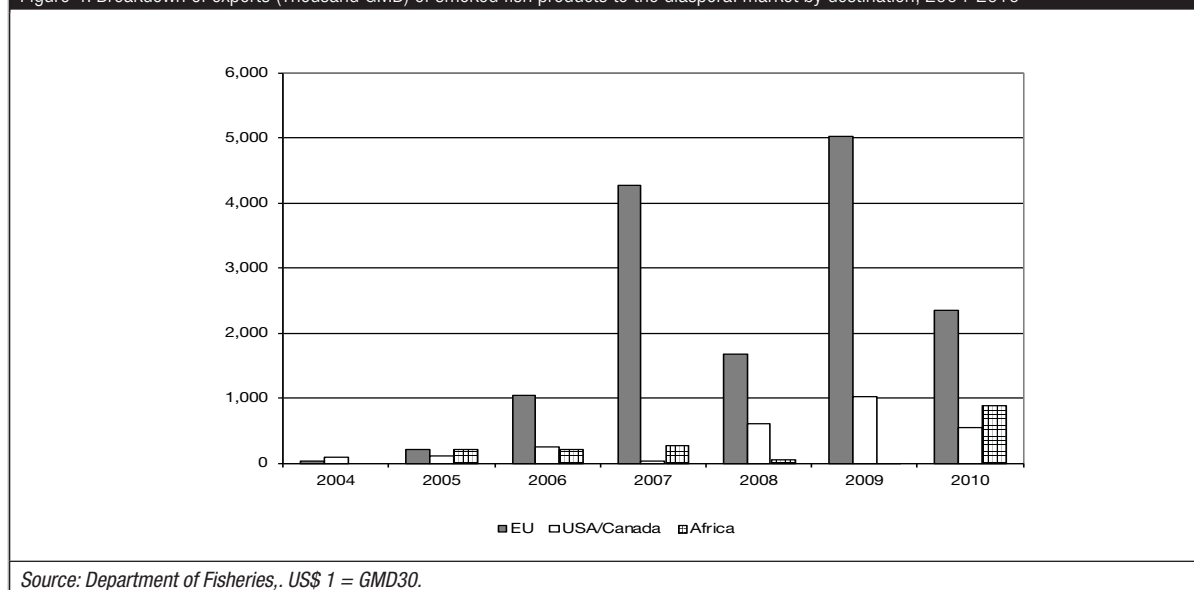
Source: Department of Fisheries, GOTG.

**Table 7. Export of smoked fish products to the diaspora market, by destination, 2004-2010**

Year	Total Qty (kg)	Value (GMD)	Destination					
			EU		USA/Canada		Africa	
			Qty (kg)	Value (GMD)	Qty (kg)	Value (GMD)	Qty (kg)	Value (GMD)
2004	18,194.2	131,233.6	4,684.6	35,283.8	13,509.6	95,949.8	-	-
2005	143,994.5	521,742.1	21,911.0	202,622.1	14,122.5	102,687.0	107,961.0	216,433.0
2006	114,946.5	1,483,317.6	61,098.0	1,029,963.5	19,595.5	252,546.6	34,253.0	200,807.5
2007	159,464.0	4,554,958.5	140,564.0	4,266,233.5	1,000.0	25,000.0	17,900.0	263,725.0
2008	188,390.5	2,325,935.9	175,350.7	1,671,141.4	11,572.8	612,627.1	1,467.0	42,167.4
2009	187,849.8	6,052,783.0	156,166.7	5,022,861.9	29,200.5	1,026,640.7	2,482.6	3,280.4
2010	123,349.1	3,777,171.4	79,028.7	2,353,325.2	14,564.4	541,514.3	29,756.0	882,332.0

Source: Department of Fisheries, 2011, US\$ 1 = GMD30

Figure 4. Breakdown of exports (Thousand GMD) of smoked fish products to the diaspora: market by destination, 2004-2010



citizenry, thus helping ensure the alleviation of poverty and the existence of adequate food security.

It is difficult to gauge the sector's contribution to GDP, given the informal and unrecorded nature of artisanal fishing and artisanal processing activities in The Gambia. According to official figures from the Fisheries Department, the sector contributed about 3.4 percent of GDP in 2010. Other less conservative estimates from the same Department situate the fisheries GDP share at about 8 percent or even more. However, a much more conservative figure of 1.8 percent (2010) is reported by The Gambia Bureau of Statistics (GBOS).

Though small in absolute terms, fish exports are significant for the economy. In 2007, fish and fish products accounted for about 15 percent of merchandise export earnings (excluding re-exports) (Department of Fisheries). The bulk (about 80 percent) of the exports is sent to the EU (fresh and frozen fish).

The fisheries sector's contribution to government revenues is relatively small: fishing licenses and registration fees account for as low as 0.1 percent of total government revenue, according to Gambia's 2012 budget estimates. Although the contribution of the sector is small, great importance is attached to its development because of its huge potential to make a significant contribution to national socio-economic development. In particular, the sector is the third largest food production sector - after agriculture and livestock - and plays a significant role from a nutritional standpoint, as fish is the main source of animal protein in the diets of most Gambians. The estimated per capita fish con-

sumption is 25 kg along the coast, with the average dropping to 9 kg as one moves away from the coast. Also, as discussed, the artisanal subsector provides direct and indirect employment to between 25,000 and 30,000 people; and about 2,000 people are presently employed in the industrial sub-sector.

## 2.7 KEY ELEMENTS OF THE POLICY ENVIRONMENT

Following the identification of a number of constraints (institutional, technical, economic, social, and physical) impeding the sustainable management and development of the fisheries sector, the Gambian government adopted a new Fisheries policy in 2007. This policy aims to address these constraints in order to contribute to the realization of the country's goals, as outlined in the main national development policy blueprint - "Vision 2020". The review process prior to the adoption of the new policy incorporated into it the principles of the Code of Conduct for Responsible Fisheries (CCRF), as well as other emerging trends in fisheries management.

The policy objectives include (among others): a rational and long-term utilization of the resources; the use of fish as a means to improve the nutritional standards of the population; increasing employment opportunities in the sector; increasing foreign exchange earnings; expanding the participation of Gambians in the sector; the development of aquaculture; and strengthening regional and international collaboration in the management and sustainable exploitation of shared stocks.

To implement these policy objectives the Government developed the Fisheries Strategic Action Plan (2012 – 2015). Implementation of the plan is progressing, albeit with constraints due to (among other reasons): inadequate skilled manpower; inadequate scientific information and data for informed decision-making; poor infrastructure; limited control over the resources; low product quality management; a low level of aquaculture development; a low level of regional trade in fish and fishery products; and inadequate investment in the sector.

It should be noted that the Fisheries Policy is being implemented within the context of the overall framework of the Agriculture and Natural Resources (ANR) Policy -which encompasses the water and other natural resource sectors (forestry, livestock, parks and wildlife, and the environment). Each of these natural resource sectors is implementing its own policy. This essentially means that harmonization and coordination of these various interrelated policies must be achieved to enhance coherence and complementarities in their implementation. In this regard, and to address conflicts and inter-sectoral policy inconsistencies, the ANR Working Group (ANRWG) was established. This Working Group is co-chaired by the Permanent Secretaries of the Ministries of: Agriculture, Forestry and the Environment; and Fisheries and Water Resources. The Working Group thus serves as a clearing house mechanism and a policy conflict resolution forum, where planned sectoral policies are reviewed and harmonized in order to avoid duplications, conflicts and redundancies in their implementation.

The implementation of the Fisheries Policy presents major challenges. Coordination and consensus-building - especially with other entities outside the ANR sector - is challenging. Very often, conflicting interpretations and low level commitment to the principles of the policy from partner institutions lead to ineffective implementation from their side, and thus the required outcome is not achieved. Furthermore, there is often resistance to harmonizing policies, strategies and programs of other partner institutions with the Fisheries Policy. Finally, achieving sustainable growth and development of the fisheries sector - as envisaged in the policy - has so far been elusive due to the constraints listed above. Thus, several policy goals are far from achieved, so far. These include: increasing fisheries production, the promotion of aquaculture to meet local demand for fish protein, and the satisfaction of demand for fishery products in international markets.

An important element of the Fisheries Policy is the need for collaboration with international, regional and national organizations to address the numerous problems (often trans-boundary and global in nature) of conservation and protection of the aquatic environment. In this regard, the Government has placed strong emphasis on international cooperation within the context of the various multilateral and bilateral agreements and processes to which The Gambia is a party, such as: the Sub-regional Fisheries Commission (SRFC)<sup>1</sup>, The Gambia River Basin Development Organisation (OMVG - French acronym), the Regional Coastal and Marine Conservation Program for West Africa (PRCM in French)<sup>2</sup>, the FAO Fishery Committee for the Eastern Central Atlantic (CECAF), the Canary Current Large Marine Ecosystem (CCLME)<sup>3</sup>, and the World Bank/GEF funded West Africa Regional Fisheries Project<sup>4</sup>. Others include: the FAO Committee on Fisheries (COFI), the Economic Community of West African States (ECOWAS), and the World Trade Organization (WTO). At the bilateral level, regular monitoring and implementation of the national obligations occur within the respective cooperation framework, including the fisheries cooperation agreements with: Senegal, the Republic of Guinea, Guinea Bissau, and Mauritania.

In addition to the ANR sector policies, a number of other relevant national policies and strategies support and complement the Fisheries Policy. These include:

- i) The Gender and Women Empowerment Policy (2010-2020), which promotes the mainstreaming of women into development processes in all sectors, in order to enhance equal access to opportunities and achieve a gender balance in the economy and in Gambian society. It also promotes economic opportunities for women (e.g. employment creation), which is especially important as women constitute over 50 percent of the population;
- ii) The National Microfinance Strategy Framework Policy (DOSA) -currently under review by the Ministry of Agriculture (MOA) -which aims to institutionalize a beneficiary-managed sustainable rural finance system to provide smallholders credit access at reasonable conditions;
- iii) The National Export Strategy (NES) provides the national framework for export development and promotion. The Strategy is intended to promote public-private partnerships, export competitive-

ness, and multiband bilateral protocols -notably ones developed with ECOWAS member countries.

The Fisheries Act (2007), and its attendant Fisheries Regulations (2008), serve as the legal basis for the management of the fisheries sector. The Act - whose provisions cover the artisanal, industrial and aquaculture sub-sectors - was first promulgated in the 1970s, and several amendments were made since then. These two pieces of legislation are under the purview of the Ministry of Fisheries and Water Resources, and practical implementation is the responsibility of the Director of Fisheries. The other important stakeholder and partner involved in its implementation is The Gambia Navy, responsible for the enforcement of licensing conditions. A Fishery Advisory Committee, and the Community Fisheries Centres (CFCs), are also part of the institutional structure for inclusive oversight of the sector and decentralized fisheries co-management (Tobey et al, 2009). Together, these different stakeholders interact to address the issue(s) at hand. The most common infringements committed by the industrial sector are: operating without an authorization to fish; incursion into prohibited areas; use of destructive fishing methods; and use of banned gear and mesh sizes. Thus, the industrial fishery is regulated through licensing, mesh size restrictions, delineation of fishing areas or zones, and surveillance. Table 8 summarizes the regulatory and management measures employed specifically for the industrial sector.

A major constraint used to be the policing of the country's EEZ by the Navy. Operational constraints included insufficient fuel to conduct surveillance exercises, and the relatively short range and endurance to stay out at sea for long periods of the navigational equipment employed in the surveillance efforts. This surveillance is important, as even just the continual presence of the patrol vessels at sea will deter incursions into wrong fishing zones by licensed vessels, and poaching by unlicensed vessels. Often the incursions of trawlers into wrong fishing zones – resulting in the destruction of the fishing gear and equipment of artisanal fishermen, and even in deaths of fishermen – are the source of conflicts between the industrial and artisanal fishing sectors. Clearly, this can lead to great economic and financial (and personal) losses for the artisanal fishermen. Where an offending licensed vessel has escaped from the scene of conflict - but has had its registration identified - the local agent of the vessel is called in to effect reparation. On the other hand, if the vessel is not licensed in Gambia and not in the records, the case is usually difficult to follow up for any reparation.

Table 8. Implementation of the Fisheries Act (2007) and Fisheries Regulations (2008)

Industrial Fishery Regulatory Management Measure	Description
Mesh size regulations on trawlers	Demersal fish species: 70 mm Pelagic fish species: 40 mm Shrimp: 50 mm Tuna seine nets: 40 mm Tuna gill nets: 60 mm
Licensing	The bilateral Agreement with Senegal has a limit on the total tonnage of fishing catch capacity. When the maximum allowable catch capacity for each fishery is reached, no other vessel can be registered.
Surveillance and Monitoring	Fish production is recorded by the Fisheries Observer Program (each vessel carries an observer) and industrial fishing vessels are monitored by the Gambia Navy.
Near shore fishing restriction	For the purposes of resource management, and to reduce conflict between the industrial and artisanal fishing fleets, the legal near-shore fishing limit for industrial vessels is less than 250 gross tons in the waters of The Gambia which are past 7 nautical miles. In January 2009, the allowable near-shore fishing limit for industrial boats (less than 250 tons) was extended from 7 to 12 nautical miles. This was amended to 9 miles in February 2009, when it was clear that none of the Senegalese boats would obey because the 12 nautical miles restriction would require costly new fishing technologies. The regulations prohibit vessels of gross tonnage over 250 tons from operating within a 12 nautical mile zone from the shoreline.

Source: Tobey et al, 2009.

However, with the advent of the AFDP and training of fisheries and Navy MCS staff, illegal fishing appears to have been significantly curbed. From 2000 to 2008, a steady decline in the number of vessels arrested was recorded - from about 12 per year to 1 or 2 per year - and this has been attributed to effective surveillance.

There are also restrictions on gear, mesh size and minimum fish size for the artisanal fishery sector; however artisanal fishermen are not restricted to the 9 nautical

mile limit, whereas as industrial trawlers are. In addition, there are no closed areas or seasons for artisanal fishery. The provision to impose fees on the canoe fishery, which existed in the older regulations, was not implemented because it was seen as too cumbersome and expenses associated with its implementation would have been more than revenue generated. There is a licensing fee provision for artisanal fisheries in the new Fisheries Regulations; however it is dependent on the size of boat, and on the gear/technology used. The more a boat can catch, and the higher the value of the fish, the greater the fee. On average, it will amount to about D 500 (about US\$ 16). The artisanal fishery also self-regulates with respect to: rule-making, arbitration and conflict resolution. Conflicts are rare among artisanal fishermen, and when they arise they are usually resolved in a mutually accorded fashion, or arbitrated with the help of a combination of village authorities and respected elderly fishermen.

The only reciprocal fisheries agreement which The Gambia currently has is with Senegal. This agreement has been in existence since 1982; and it covers areas such as fishing, joint research and training. It is reviewed every two years. Under its provisions, artisanal fishers can fish in either country, provided they abide by the laws of the country where they are fishing. For industrial fishing vessels there is a limit on the total

maximum tonnage of fishing catch capacity. However, since The Gambia does not have an industrial fleet, only Senegal benefits in this regard: all the catches are delivered to Senegal and the revenues from these exports are not reflected in the Gambian economy. Gambian-flagged vessels<sup>5</sup> are not registered under the Agreement; and like the Senegalese registered vessels, their entire catch is landed in other ports, mainly in Europe.

Artisanal fishermen operate in the following manner within the Agreement: there is no restriction to enter the fishery, but all catches in the respective waters of The Gambia and Senegal must be landed and sold in the country where they operate. This poses a problem for Gambian fish factories, because very often the catches of The Gambian-based Senegalese canoes are landed and sold in Senegal, especially when the price is better than that offered in The Gambia. This is particularly pertinent since foreign nationals - mainly Senegalese - dominate the most productive Atlantic Coast Stratum, with 249 Senegalese head fishermen as opposed to only 167 Gambians. This study could not ascertain the presence of Gambian artisanal operators in Senegal. However, it is apparent that - as with the industrial sector - the implementation of the Agreement is lopsided, grossly in favour of Senegal.





3  
Constraints and potential,  
with a focus on women





### 3.1 INDUSTRIAL SUB-SECTOR(FISH PROCESSING)

#### 3.1.1 Potential for Employment Generation and Poverty Alleviation, particularly for Women

Though the local industrial fish-processing sector is relatively small, it has significant potential for employment generation and poverty alleviation, particularly for women. It should be emphasized, in this respect, that the fish processing industry tends to be “female-intensive”, given that there is a preference for women in light processing/assembly types of work. Women currently account for between 46 and 80 percent of the workforce at the fish factories. The sector is, however, still in its embryonic state: as at July 2012, a total of 128 women were employed in the four operating factories (Table 9). An expansion of the sector is likely to stimulate an increase in female wage employment in the formal sector, with important corollary poverty alleviation effects (women pay school fees for their children, and buy clothes and food for the family from their wages).

The fact that most of the industrial catches are landed in foreign ports deprives the sector of valuable raw material that could generate employment for women involved in the sector. If only 10 percent of the industrial catch (this is a present licensing condition) were landed in Gambian factories, this would be another source of raw material for the sector. Consequently, more women could be involved in the fishing industry, even if not directly employed in the fish factories. These women could work as small scale retailers selling the part of the catch not destined to the EU market. This could form the basis of another type of trade and value addition for the women: for example, if they sold the fried fish in some sauce within the community.

Daily wages for women are in the range of GMD 75 to GMD 135 per day. With an average of GMD 105 in

wages per day, weekly and monthly wages would fall at about GMD 735 and GMD 2,940, respectively. In some factories, the work week is at times (during the peak fishing season of certain fish species) seven days a week (Monday through Sunday), about 10 hours per day.

For local standards, these working conditions are decent, and salaries are comparable with salaries for relatively skilled jobs in administration. Family-work tradeoffs are eased by the extended family that cares for children and helps with housework during working hours. However, there are some aspects that need to be carefully assessed (Box 2).

#### 3.1.2 Constraints Facing the Sector

The sector’s competitiveness is hindered by a number of structural constraints. Key issues are addressed below:

##### a) The poor availability, poor reliability and high cost of electricity

The supply of electricity from the National Electricity and Water Company (NAWEC) in The Gambia is insufficient, unreliable and expensive. According to the UPDEA (2009), the cost of electricity in The Gambia is amongst the highest in Sub Saharan Africa (about US\$ 0.35 per kWh or GMD 10.40 per kWh, as at July 2012).<sup>6</sup> The price of electricity is estimated to account for an estimated 75 percent of operating costs. The cost of electricity thus hampers the international competitiveness of the fish processing plants - which are relatively energy-intensive - as the cold chain equipment needs to operate continuously 24 hours a day, seven days per week.

In addition to the cost, electricity pricing methods are also at stake: the progressive pricing system - the more you consume the more you pay - discourages the expansion/scaling-up of processing activities, par-

Table 9. Estimated earnings of Industrial Women Processors (GMD)

	Factory	Product Type	Employees		Wages/day		Total/Month
			Male	Female	Male	Female	
1	Rosamond Trade	Smoke cured	7	6	117-200	117-133	3,750
2	Kendaka Fishing	Fresh/Frozen	30	37	110-135	110 -135	3,185
3	International Pelican	Fresh/Frozen	40	45	100	100	2,800
4	Atlantic Seafood	Fresh/Frozen	10	40	80	80	2,240
5	West African Aquaculture	Tiger Shrimp	25 P	150 T*	-	75	2,100

Source: Factories and establishments visited (2012). Notes: T= Temporary Employment; P= Permanent Employment; T\* = Women employed on temporary basis - only during harvest time when the shrimps are processed for export. 1US\$ = GMD30.

**Box 2. Addressing Women's Concerns in Fish Processing Factories**

Discussions with women revealed some concerns that need to be addressed:

1. Women generally stand for 7-8 hours per day while sorting, washing, or performing other activities related to fish processing. This tends to have health implications for them (e.g. back aches).
2. Even if family-work tradeoffs are eased by the extended family, child care remains a problem for many female workers, who are responsible for raising their children. Very often the younger children are left to the care of older children while the mother is at work. This situation was perceived as difficult, especially for families where there were neither older children nor elderly women left at the house to take care of the child whilst the mother was at work.
3. Management still feels that hiring female workers can involve problems created by pregnancies, maternity leave and domestic obligations; all of which might lead to absenteeism. In many instances when women have to work later than normal, they are in a hurry to get home to take care of their husbands, which can impact their output. One manager acknowledged that marital status was assessed for recruitment purposes.

To tackle the last two problems, the factories may consider offering flexible work arrangements for the women to meet personal or family needs. This would contribute to reducing absenteeism and increase the ability to retain and motivate high-performing and experienced employees. In addition, the factories need to:

1. Conduct studies on risks and health problems faced by women working in the fish factories, and identify suitable protection measures.
2. Train the women (and men) fish processors in hygiene and good practices in fish handling and processing, to improve the quality and safety of fish products.
3. Train the women working in the shrimp farming sector in basic aspects of fish culture, handling, and processing.

*Source: Interviews by the UNCTAD team with factory managers and women processors at the fish processing factories (refer to Annex 1).*

ticularly for the small-scale woman operator using domestic cooling facilities at home.

Table 10 (below) provides the NAWEC tariff for electricity. The tariff for the fisheries sector, as at July 2012, was GMD 10.40 (US\$ 0.35) per kWh, the same rate as for all industrial users. The rate for the agricultural sector was lower, at GMD 9.10 (US\$ 0.30) per kWh. High electricity rates in the industrial sector (including fisheries) thus cross-subsidize energy consumptions for other categories of users (domestic (residential), governmental, and agriculture). Given the critical role of the fisheries sector in terms of poverty alleviation and food security, the Government may wish to change the current classification and categorise the fisheries sector (currently under category 3) as agriculture (under category 4) for electricity charges. Lowering the tariff for the fisheries sector so it is at par with the agriculture sector would give greater incentives to operators within the sector.

There is no subsidy on fuel for fishing and related operations within the industry in The Gambia. In particular, the country no longer waives taxes levied on gasoline and diesel-fuel (used for power generation). The prevailing bunkering prices for diesel fuel at Banjul port

for fishing trawlers is US\$ 1.55 per litre, similar to the commercial pump price; whereas the bunkering price for fuel for fishing vessels (local and foreign) in Senegal was US\$ 0.80 in 2012. The huge differential in fuel prices between The Gambia and Senegal has two implications: that The Gambia has a lower international competitive advantage and that foreign trawlers may not choose to use the Banjul jetty facilities once they are completed (they are currently under construction).

Table 10. NAWEC Electricity Tariff, July 2012

Description	Customer Category	Band (kWh)	Tariff (GMD/kWh)
Domestic	1	0.300	9.10
		301-600	9.45
		601-1000	9.70
		Balance	10.40
Commercial	2		9.70
Hotel/clubs/industries including Fisheries	3		10.40
Agriculture	4		9.10
Area Council	5		9.70
Central Government	6		9.70

*Source: NAWEC.*

Lower cost of, enhanced supply of, and enhanced access to electricity are preconditions for industrial fisheries development in The Gambia. In addition to the measures mentioned above (lowering the electricity tariff for the fisheries sector and adding/restoring fuel subsidies), other areas of policy intervention include:

- i) Divestiture and unbundling of the utility (NAWEC Electricity Company);
- ii) Investment in generation-capacity expansion and transmission equipment, possibly channelled through public/private partnerships; and
- iii) Increasing the share of renewable energy.

Table 11. Matrix of comparative data on landing fees, tariff prices and incentives (Gambia and Senegal)

Fees	The Gambia	Senegal	Remarks
Landing fees – vessel/GRT	US\$ 21 per GRT *	US\$ 37 GRT	
Pilotage	Less than 150 GRT US\$ 15 per hour, or US\$ 31 per hour, for more than 150 GRT	N/A	
Fuel prices for fishing vessels	US\$ 1.55 per litre of diesel	US \$0.80 cents per litre of diesel	For diesel, the Gambian local pump price is US\$ 1.55 per litre. For the same, the Senegalese local pump price is US\$ 1.2 per litre
Cost of water per gallon	Per trip of 18 tons = 4000 gallons @ 275.50 Euros Per trip of 40 tons @ 750.75 Euros	US\$ 2/m3	
Electricity for the fisheries industry	US\$ 0.35 kWh	US\$ 0.35 cent kWh	No subsidy or discount in The Gambia & Senegal
Ice	US\$ 120/ton	US\$ 0.60/ton	
Tax levied on fish off-loaded - Sales Tax	No tax	18% VAT	
Incentives to the fisheries industry	Tax holidays and a duty waiver on fishing gear and equipment	Tax holidays and a duty waiver on fishing gear and equipment	

Source: Njie, 2007. \*US\$ 1.00 = GMD30

### Box 3. Tackling energy constraints: Renewable Energy

It is within this context that a project is being designed under the Enhanced Integrated Framework (EIF) Tier 2<sup>a</sup> to produce electricity by means of wind-driven turbine technology in three coastal fish landing sites. The project follows the Batokunku experience, in which wind turbine technology produces electricity and now supplies the village of Batokunku, with the excess being sold to NAWEC and transmitted through its grid. It is expected that the project will improve the lives of 80 percent of the fisher-folk in the three landing sites targeted. The reduced electricity cost will decrease the sites' operating costs by reducing the cost of inputs - including ice - by 30 percent. This will improve the shelf-life of catches, and thus help meet international fish trading sanitary and phytosanitary standards. The turbines will generate approximately US\$ 92,000 per year for the sustainable management of the sites. The project is also expected to significantly benefit women (who make up about 80 percent of fish processors and 50 percent of small-scale fish traders nationally), hence contributing to poverty alleviation within these coastal communities. This will, however, depend on whether women are able to reap the benefits of decreased inputs costs (for example, if they are able to purchase better quality fish at a lower price, or to purchase ice at lower prices).

Source: Focus group discussion and meetings with officials at the Fisheries Department and the Ministry of Trade, Industry, Regional Integration and Employment (Annex 1).

- a This project is identified in the current DTIS report. It aims to provide electricity to three artisanal fish landing sites along the Atlantic coast through wind-powered generators. The aim of this project is to enhance the livelihoods of the inhabitants of the three coastal fishing communities, and other satellite settlements.

**b) The need to import equipment and material**

All equipment and material used in the factories, including packaging material, needs to be imported. The Government may wish to consider developing some local capacity, particularly for packaging material. However, the competitiveness of local packaging versus imports would need to be carefully assessed. Critical factors in this respect would include scale issues (size of demand), and the local availability of manufacturing technologies for packaging material conforming to EU and other importing-country standards.

**c) High tax rates leading to a crippling tax burden:**

It is felt that the fiscal system is excessively burdensome. Major areas of concern include:

- i) The complexity of the tax system, with various taxes levied at the end of the year, which makes it difficult for operators to factor taxes into production costs for planning purposes;
- ii) Relatively high tax rates - 30 percent of profits if declared, or 2 percent of turnover if profits are not declared (3 percent in case of late payment);
- iii) The turnover tax, to be paid even if the business is not profitable. This tax is largely perceived as unfair and distortive, as it discourages investment in supply expansion;
- iv) Policy inconsistency – Though The Gambia’s tariff allows for duty exemption on plants and equipment used in the industry, there is evidence that requests for duty waivers supported by both the Fisheries Department and the Ministry of Trade have been rejected by the competent fiscal authorities.

**d) The cost of credit**

Fish processing plants in Gambia are frequently not in operation due to a lack of capital. Access to finance (availability and cost) - especially for Small and Medium Enterprises (SMEs) - is limited, despite a vibrant banking sector (there are more than 12 commercial banks in the country). Investment credit is hardly available, due to very high interest rates (30 percent in commercial bank lending) and collateral requirements. Furthermore, lending is mostly short-term (less than 1 month) while payments - for example for the export of sole fish - require longer periods (at least 45 days). Therefore, most Gambian enterprises prefer to use

internal funds or retained profits to finance their business operations. On the other hand, banks complain about: a lack of bankable proposals from businesses, a lack of credit information, a lack of financial statements, the poor quality of applications, the difficulty in liquidating collateralized assets - and more importantly - about poor corporate governance.

According to the World Bank, in 2010 the share of domestic credit provided to the private sector was only about 16 percent of GDP. This is very poor in comparison with the Sub-Saharan African average of 65 percent of GDP (World Bank, 2010a). This situation is not likely to change without more aggressive government monetary policy support, which would reduce the high interest rate on borrowing, and even help establish development banks.

The situation is even more difficult for women who operate in the industrial fishing sector because most of them do not have the collateral to guarantee their access to credit from the banks. In addition, their operations are less capital-intensive since they are mostly engaged in processing the low value species not required in the EU and American export markets. Thus, it is uncommon for small-scale operators to seek bank loans to invest in their businesses. Small-scale women operators largely depend on credit from family members, friends, and on their meagre savings. They also access credit through credit facilities from village saving schemes, and other non-banking institutions. There are several national apex organizations, such as the National Association of Cooperative Credit Unions of Gambia (NACCUG) and The Gambia Women’s Finance Association (GAWFA). Other Micro Finance Institutions (MFIs) include Gambians for Self-Employment (GAMSEM), Reliance Financial Services, and village saving schemes like VISACA (Village Savings and Credit Association). These all offer credits to small-scale artisanal operators in various fields of endeavour such as: horticulture, fisheries, dairy and poultry production.

In view of the above - and in an attempt to improve the business climate and foster private sector development - the GOTG has started the implementation of the Growth and Competitiveness Project, financed by the World Bank. The objective of the project is to enhance the investment environment through business registration and tax administration reforms; and also to provide support for investment promotion and facilitation, among other things. It will provide technical assistance for the drafting of the legal framework and

regulations, and for the institutional and processing design, among other things. This will be done to ease the burden in accessing bank loans.

#### **e) The costs of compliance with sanitary and phytosanitary (SPS) requirements**

Compliance with EU import requirements is not considered a stumbling block per se. What seems to be excessively onerous is the continuous upgrading of these requirements (e.g. changes in acceptable residue levels), with repeated adjustment costs for the factories (passed on to upstream actors). The frequent repeated adjustments usually occur too fast, and are sometimes cumbersome for developing countries to catch up and cope with.

It should be stressed again that industrial processing factories source their fish supply from the artisanal sector. Fish handling and preservation techniques have posed potential problems at virtually all artisanal fish landing sites. Although a few landing sites have some minimum facilities, these are inadequate, whilst other important sites do not have any facilities at all. Therefore, landing site improvement should be a priority for the government, as this is a constraint directly affecting continued access to the main export market for Gambian fishery products -the EU market. Site upgrading is costly to design and implement, given the scattered physical locations of artisanal fish landing sites, and the diverse nature of the operations at these sites.

The Fisheries Department has pointed out a number of constraints which, if not addressed, could have some negative implications for the export and local fish markets. In this regard, landing sites should be upgraded to fully meet sanitary requirements, and allow for sanitation design and hygiene control at point of first sale to improve compliance with EU regulations. Official landing sites should be designated, and provided with: energy supply, adequate facilities for ice production and cold storage, fish handling and preservation equipment and facilities, and manpower training in operational and best practices. The sites must be fenced and paved to protect the catch against vehicular movement and the indiscriminate movement of people, animals, and other sources of contamination. If the rehabilitation and/or upgrading of artisanal sites is effectively implemented, The Gambia will improve its competitiveness and maintain access to markets in the EU and elsewhere.

The Fisheries Department - as the Competent Authority (CA) - needs to increase the number of qualified fishery product inspectors. It also needs to provide training for current industry official inspectors in the management and application of the Hazard Analysis and Critical Control Point (HACCP) system principles, and related sanitary controls. The absence of a competent and accredited laboratory in the country for official testing has meant delays and high costs (given the CA's limited budget), or inability to export. Though laboratories in The Gambia are in the process of seeking accreditation, this will take some time; as will the expansion of the scope of existing labs so as to cover all the tests on fishery products necessary in order to meet EU requirements. Meanwhile, the GOTG should provide the budgetary requirements for the CA to access official testing laboratories so that continued access to European and other markets can be guaranteed. It is also important to develop national SPS strategies based on regional efforts (regional laboratories).

#### **f) The lack of adequate fish supply**

The industrial fish processors are supplied by the artisanal subsector, which struggles to meet quality requirements for export markets. On top of that, factories often have difficulties securing fish supplies, and thus tend to operate below capacity.

It is important to note that whilst a lack of fish supply is claimed to impede fish factories from operating at sufficient capacity, a large amount of high value fish is – meanwhile - being sold to Senegalese traders for processing and export from Dakar. Therefore, it is not clear whether the problem is lack of supply or high production costs. What is clear, though, is that fishermen very often find it more remunerative to land their catch in neighbouring Senegal, where payment is made on the spot. Fishermen are reluctant to sell fish to Gambian fish processing companies because the companies do not pay on receipt. They buy on credit and often default on - or are late in - their payments.

Fish factories in The Gambia used to work in partnership with groups of artisanal fishermen: they provided them with credit, equipment and other resources; and the fishermen in turn supplied all their catch to the factory. The cost of the equipment and the borrowed credit was then deducted from the fish sales at the end of an agreed period (a fortnight, a month, etc.). This arrangement was mutually beneficial to both par-

ties, for it ensured a reliable outlet and market for the catch as well as a reliable source of supply of raw material for the factories. Over time, this linkage could not be sustained, due to a variety of reasons including: non-payment of money owed to fishermen or traders, poor financial management on the side of the factories, difficulties sustaining operations due to lack of funds by the factories.

The fish processing factories are indeed trapped in a vicious cycle: given the high operating costs (electricity, taxes, imported material/equipment, etc.), to remain profitable they are obliged to exert a downward pressure on suppliers (discounted prices, deferred payments etc.); which in turn might lead to a lowering of standards in handling and post-harvest conditions at landing sites, or to supply diversion towards other countries. Given these transmission mechanisms, it is imperative to address the different issues outlined above (costs of electricity, cost of credit, policy incoherence on tax matters) that hamper the operational efficiency of the fishing industry.

The upgrading of landing site facilities, and tighter post-harvest quality control (including through community mobilization/awareness and peer pressure), are also critical to the achievement upstream of internationally acceptable standards on SPS and quality assurance.

The completion of the Banjul fisheries jetty and its ancillary facilities (ice plant, cold stores, fish handling and transport equipment) will enhance the capacity of the industrial fisheries to receive and process the fish supply from industrial vessels. This should be given serious consideration, alongside listing of the Banjul site as a designated facility for export to the EU. Given its proximity to the fish processing establishment, the jetty would ease some of the problems arising from low post-harvest handling and transport practices. Furthermore, in addition to the industrial trawlers, artisanal canoes should also be allowed at the jetty. This would encourage the jetty to function as a key official landing site and point of first sale for fishery products control, to meet required hygiene standards.

A critical element in this context is establishing a strategic alliance between the Banjul Fisheries Jetty and The Gambia Ports Authority (GPA). The Dock Yard of the GPA - once rehabilitated and the slipway revitalized - will complement the activities of the Fisheries jetty. Indeed, it will be more prudent to have the GPA manage the jetty, with technical support on issues relating to fish and fisheries technology provided by

the DOF. The GPA and the DOF signed a Memorandum of Understanding (MOU) to this end in 2001. The GPA has been mandated to manage and operate the Banjul Fisheries Jetty. With its expertise in operation of ports and harbours, the GPA will be better poised to address the overall daily activities of the jetty, and could possibly combine this with a revitalized dry-docking facility to service the industrial trawlers fishing in Gambian waters.

If the process is managed well, the dry-docking facilities could even be available to other fishing vessels plying other countries' waters in the sub-region, especially where those countries do not provide such services. The Banjul Fisheries Jetty could thus become the hub for dry-docking in the sub-region, and in the process the other facilities and ancillary services available at the jetty could be utilized by the visiting trawlers. In this way, all the catches of the foreign trawlers licensed to fish in Gambian waters would be landed in Banjul to provide the raw material requirement of the fish factories in the country. Some industrial fishing vessels of other flag states - such as Taiwanese, Panamanian and European vessels fishing in the high seas and elsewhere - may also land their catch in The Gambia, for onward export to these countries.

It is important to note that the Senegalese fisheries port is the immediate competitor, providing fish landing facilities and services for fishing trawlers operating in the sub-region. The idea of having a well-integrated fisheries jetty to provide immediate services to the fishing industry should also be one of the marketing strategies to be adopted by the GOTG and GPA, if the Banjul Fisheries Jetty is to compete effectively with the fisheries port of Dakar and become financially viable and sustainable. Moreover, Gambia and Senegal share the same fish stocks, and both export their products to the same international market. Now that the new jetty is about to become operational, the marketing strategy to be adopted is that of price competitiveness and operational efficiency, whilst at the same time not sacrificing profitability and viability. Not only should landing and bunkering fees be lower and more competitive in Banjul than what the Senegal fisheries port is offering; but Banjul should also provide the requisite ancillary facilities and services in the jetty area.

**3.1.3 Designing a Sustainable, Socially Inclusive and Gender-Sensitive Strategy**

Developing an effective national strategy for boosting the fishing industry will require a coordinated and inte-

grated approach to the various issues outlined above (energy, tax, credit, and infrastructure). If effectively designed and implemented, this strategy could contribute to expand the fish-processing sector in The Gambia, with significant job creation and poverty alleviation effects, particularly for women.

There are, however, some important concerns that should be taken into consideration.

#### **a) Tackling sustainability issues**

As a first consideration, the potential for the expansion of the Gambian fishing industry needs to be carefully weighed against sustainability issues. For example, there are concerns about the full and over-exploitation of some of the fish stocks (Mendy, 2009; Tobey et al, 2009). This is generally true of the state of the fisheries resources not only of The Gambia, but of the entire sub-region. This calls for a region-wide approach to address the issue of potential over-exploitation of the resources.

Over the last decade, artisanal fish landings in The Gambia - the source of raw material for the industrial sector - have gone up, whilst the catches of the industrial sector have dropped dramatically. The artisanal efforts (number of fishermen, fishing boats, out board motors, etc.) have risen and fishermen have ventured further out to sea in search of fish, catching lower value species. Similar situations prevail in Senegal and elsewhere in the sub-region, where the fisheries sector has been facing major problems in recent years due to over-fishing and the uncontrolled growth of fishing activities. This development has been encouraged by factors such as state subsidies, priority access to most of the coastal fishing areas, technological development - including motorization of the fishing crafts - and increased access to the more lucrative European and American markets.

One result of the fishing expansion is that many of the high value coastal demersal fish stocks (shrimps, cephalopods, sole fishes, etc.) are severely depleted and facing rapid decline; and unless effective fisheries management is introduced the entire demersal fishery will collapse and all the investments being planned for the fisheries sector will go down the drain. Unfortunately, very little is being done to redress the situation: traditional methods of local management have largely broken down and the present management regimes cannot cope with the new situation. Fish supply to the industrial sector will continue to decline unless the governments in the sub-region develop and im-

plement an effective management regime for the sustainable harvesting of the resources. From a policy perspective, this calls for management and conservation of fish stocks through the development of long-term policies. Priority actions would need to include strengthening governance of the fisheries and reducing illegal fishing in order to maintain the productivity of marine and coastal resources. Technical conservation measures also need to be implemented (e.g. minimum mesh sizes, restriction of catches or closure of fisheries). Other immediate management measures and controls should include: the systematic reduction and regulation of fishing efforts of both local artisanal and foreign fishing vessels targeting demersal fish species; improved monitoring, control, and surveillance; and a critical review of bilateral fishing agreements, including the Senegalo-Gambian Reciprocal Agreement. In this regard, the negotiation skills of Gambian government officials working on access agreements, and of those in the Sub-Regional Fisheries Commission (SRFC)<sup>7</sup>, need to be built.

These conservation measures will have to be implemented regionally - within the framework of the SRFC, through the harmonization of national policies in the areas of conservation and exploitation of living marine resources - as most demersal species are straddling and migratory fish stocks. It is also critical to raise awareness at the local (fishing communities) level, to promote effective forms of community-based management axed on peer-pressure. Particular areas known (either through scientific research or local knowledge) to be fish congregation areas, for example, could be co-managed (by government and local community-based organizations) in order to protect and/or rehabilitate them. This could involve setting up protected fishing zones with artificial reefs - or any appropriate locally available materials - to regenerate natural resources; with the community members providing labour and being heavily involved in order to facilitate local ownership.

#### **b) Promoting a gender-sensitive and socially inclusive upgrading strategy**

As a second consideration, it is important to stress that an expansion of the export-oriented fish-processing industry is likely to generate significant employment opportunities for relatively unskilled women downstream (in factory processing), with positive effects in terms of poverty alleviation. However, it may also unleash dynamics of social polarization and exclusion upstream in the chain.

As discussed, industrial fish-processing companies source their fish supply from artisanal fisheries through large scale (mainly men) dealers. Further enforcement of quality assurance and traceability requirements at the source will require focused, selective investment in landing sites and facilities designated for export to the EU. This selective upgrading and segregation of the export-oriented segment of the chain (serving mainly the EU market) may accentuate social cleavages: between the relatively empowered and the relatively disempowered, between large-scale dealers and small-scale traders, between men (who traditionally dominate the supply side of the export-oriented segment) and women (who are disproportionately present in domestic small-scale fresh fish marketing and distribution). Furthermore, while the fish species involved in the export and the domestic trades tend to be different, for those species that serve both the export and domestic markets there may be some diversion of supplies from the domestic to the export chain. Some corrective measures may be needed; for example by ensuring that facilities that serve the export-oriented sector can be effectively accessed by small-scale operators that serve the domestic market. Finally, if the processing plants are to be supplied by industrial trawlers through the Banjul jetty, measures should also be implemented to ensure that artisanal suppliers are not displaced. Two approaches might be envisaged. The first would consist in preserving dedicated facilities for pirogues at the fish landing pier at Banjul. The second is to create employment opportunities for artisanal operators in the industrial fisheries, by means of local content requirements. Specific policy interventions to empower artisanal operators, and particularly women post-harvest operators, are discussed in the following sections.

### **3.2 AQUACULTURE (COMMERCIAL AND ARTISANAL)**

Though still in an embryonic stage, aquaculture is deemed to have huge growth potential in The Gambia. The development of subsistence, small-scale and commercial aquaculture is a stated Government policy, given the nutritional and economic potential of this sub-sector. Indeed, aquaculture represents an additional source of animal protein, contributing to food security while reducing pressure on wild stocks (particularly the shrimp and oyster stocks). It can also create new jobs and generate foreign income. The country is particularly well positioned for shell fish farming, and shrimp exports command a high price in Europe.

Pilot aquaculture activities are currently being carried out by the Department of Fisheries, in co-operation with the Department of Agriculture, through an FAO Technical Cooperation Program (TCP) and a Taiwanese Technical Assistance program for the development of aquaculture in the country.

#### **3.2.1 Commercial Shrimp Farming**

Only one company (West African Aquaculture) is engaged in aquaculture on a commercial scale in The Gambia. It was established in 1988 as Scan-Gambia Shrimps Ltd, but collapsed in 1992 due to financial problems. Restarted and renamed West African Aquaculture, it is a hatchery, farm and processing establishment engaged primarily in the farming of the black tiger prawn (*P. monodon*) for export, mainly to the EU. In 2006, using only 50 hectares out of its original 200 hectares, the farm produced 50 tonnes of shrimp. Of the available 550 hectares only 40 hectares (10 ponds) were being used for production as at June 2012, with the hatchery producing 2.5 million post larvae (PL). The production cycle is 6 months (April-November). This means that there is an as-yet unexploited potential for significantly more of the available area to be put under cultivation. This could even serve as a model for production methods, which could potentially be adapted to the wider local context of the West African region.

The point was made that costs of production were too high for the business to be profitable. More specifically, the cost of energy was identified as a major constraint for commercial aquaculture development in The Gambia. Indeed, the industry is particularly energy intensive, given the energy requirements of the processing establishment (cold-chain infrastructure) and the ponds (pumping water from the estuary). While the price of fuel for power generation has increased by 900 percent over the last 10 years or so (from as low as D 5 per litre in the early 2000s, up to D 45/50 in more recent years), the export price for shrimps has increased by only 60 percent over the same period.

Aquaculture ventures are inherently risky financial endeavours. Uncertainties associated with: production yield, escalating prices of production inputs and market price variability, or failure to meet stringent standards for safety and quality -make commercial shrimp farming in The Gambia extremely risky. The slightest mistake can put a shrimp farm out of business, with significant non-recoverable costs, as the venture involves capital-intensive projects with big sunk costs



(land lease/acquisition, pond construction, hatchery and processing factory, and water pumps). If commercial aquaculture in Gambia is to become viable, the issue of escalating energy costs needs to be addressed. Also, hazard mitigating measures (price hedging, strict enforcement of hygiene and quality standards, careful environmental impact assessment, etc.) would need to be implemented.

Notwithstanding these obstacles, the commercial potential for the sector remains significant. In particular, commercial shrimp farmers in The Gambia would have some strategic advantage over their competitors, including from Asia. There are two main sources of comparative advantage. First, given the lack of significant industrial activity within the estuarine areas, and upstream along the River Gambia, shrimps could thrive in relatively clean waters with no use of antibiotics. Second, shrimps grow faster and bigger than elsewhere, given the unique climatic conditions and location; which enhances the quality of the product in terms of texture and shape. Specifically, there is significant potential for a product differentiation strategy (antibiotic-free shrimp with unique characteristics in terms of texture and size) with a focus on high-value niche markets (e.g. gourmet restaurants in Europe). Market access barriers (compliance with EU seafood import requirements) are significant, but can be met - West African Aquaculture has been re-listed and can resume exportation to Europe. This provides a great opportunity to break into the upscale market. Other market entry barriers - such as access to distribution channels by new entrants and the abuse of market power by incumbent firms - would also need to be addressed. This can be done by creating business links through chambers of commerce and trade facilitation initiatives, in collaboration with The Gambia Investment and Export Promotion Agency (GIEPA), The Gambia Chamber of Commerce, etc.

Commercial shrimp farming appears to have significant potential for employment generation and poverty alleviation in rural communities, particularly for women. At harvest, local women form the bulk of the workforce in processing and packaging for export, with important spill over effects for the local village economy. For example, shrimp processors at West African Aquaculture (86 percent of the industry workforce) were reported to be all women, while the daily management staff and shrimp harvesters (14 percent of the workforce) were men. It should be stressed that the female shrimp processors were employed during harvest period on a temporary basis; men (the daily

management staff and shrimp harvesters) were employed on a permanent basis. Workers earned salaries between D 75 (processors) and D 100 (harvesters) per day (relatively good salaries for local standards). The workforce was entirely drawn from the local village, with significant impact on the local community.

However, these socio-economic impacts need to be carefully weighed against environmental impacts and related social costs. Industrial shrimp farming projects tend to involve large-scale destruction of coastal environments, especially ecologically important mangrove forests that support a high diversity of marine and terrestrial life. Other vitally important wetland habitats and economic activities - particularly women's vegetable gardens and other subsistence farming areas - may also be adversely affected due to salt water leakage and seepage and consequent dryness. The development of commercial aquaculture should therefore be carefully planned, and due attention given to possible negative spill over effects and trade-offs. Strict adherence to environmental laws and regulations - especially the development of participatory Environment and Social Management Plans (ESMPs) - will be crucial if the Gambian process is to avoid the pitfalls and environmental catastrophes of other countries where the industry became the victim of its own success.

Clearly, in view of the above, foreign capital and expertise are needed to stimulate commercial shrimp farming in The Gambia. There are a few potential commercial shrimp aquaculture sites free from conflicting uses in the country, but their viability (including environmental) must be reviewed before any investment is made towards their development.

### 3.2.2 Oyster Culture

The Department of Fisheries conducted studies in the 1980s on the West African mangrove oyster (*Crassostrea gasar/tulipa*) which indicates great commercial potential. The competitive advantage enjoyed by this species that thrives in the Gambian estuary is: i) the fast rate of growth (relative to other commercial species harvested elsewhere); and ii) a relatively unpolluted environment (oysters thrive in the marine and brackish waters of the river and its estuarine areas, which, due to the virtual absence of polluting activities upstream, are relatively much cleaner than many estuarine areas elsewhere). However, market outlets/niches need to be adequately identified.

The commercial expansion and/or upgrading of the industry will involve a shift in current harvesting from the

wild towards oyster aquaculture, for a number of reasons: conservation purposes, as the fisheries stock is already fully exploited/over-exploited; environmental reasons, to avoid more extensive damage to the fragile mangroves ecosystem; and commercial reasons, as oysters harvested from the wild tend to be smaller and less homogeneous than oysters potentially cultured in trays and on racks.

The development of oyster aquaculture is likely to generate significant employment, particularly for poor women from marginalized communities. Two strategies merit further exploration with a view to identifying possible niche products for horizontal/vertical value-addition:

**a) Traditional Ethnic Foods of Value for the Gambian Diaspora**

Limited quantities of oysters are currently exported, mainly for family use in the diaspora in the UK and the United States. This trade targets Gambians and others from the diaspora who have an occasional preference for traditional foods. There appears to be significant potential for expanded demand in this sector, especially after The Gambia has satisfied the sanitary requirements stipulated for oysters and other bivalves.

**b) Certified Environmentally Friendly and Fair Trade Oyster Aquaculture**

Consumers in high-income countries (and tourists in The Gambia) are increasingly willing to pay for symbolic product attributes based on intangible assets and values -typically associated with the conservation of biodiversity, or with empowerment of women/marginalized communities. Environmentally friendly/fair trade oyster products may appeal to customers in high-lucrative niche markets, if food safety requirements are fully met. A key strategy is to build on the work that is being done by the TRY Oyster Women’s Association (TOWA) and on activities carried out within the framework of the USAID-funded Gambia-Senegal Sustainable Fisheries Project (Ba Nafaa).

Of paramount importance is the determination of the status of oysters and oyster harvesting grounds, in relation to occurrence of microorganisms of public health significance that could impede or enhance the marketing of oysters in niche markets. It would also be critical to seek strategic alliances between TOWA and large off-takers; for example, traders, specialized wholesalers and retailers in targeted export markets. By linking small producers to a guaranteed buyer who will also supply inputs, know-how, equipment and

finance; an off-taker-driven supply chain would help potential oyster farmers integrate into global supply chains and reach global markets. These alliances could provide the framework for the strict enforcement of SPS measures and private food safety standards. The commercial viability of this strategy is to be further studied. In particular, stringent sanitary requirements are constraints to be overcome if oysters are to be exported in the future and/or supplied to local top resorts on a significant scale.

If the process is commercially viable and well managed - with scientific certification that the waters and oysters are clean and free of pathogens - it could open a lucrative market for women oyster harvesters and for other members of local communities. Investment in this venture will, of course, require capacity building for the operators in all aspects of the endeavour -from farming techniques to management of the entire value chain.

**3.2.3 Rural Fish Pond Culture**

The Fisheries Department - in collaboration with the FAO and the Taiwanese mission in Gambia - is conducting rural fish pond culture trials in the irrigated rice fields in the Sapu swamps, in the Central River Region (CRR). Efforts concentrate mainly on the culture of the Nile tilapia (*O.niloticus*). The project established twenty earthen ponds of 286 square meters average size. It is also conducting the polyculture of the tilapia and the freshwater catfish (*C. anguillaris*), and both systems have shown promising results. A total of 383 kg of fish was harvested from 15 ponds, and fish harvests were sold on the spot at the pond site. Customers scrambled to buy this relatively cheap fish; and in fact to ensure that all customers got some fish, no customer was sold more than 2 kg. The total amount of cash brought in was D 14, 491, excluding fish consumed by farmers during communal work on the farm.

A Fish Farmers’ Association has been formed, which includes both men and women. The implementation of the project has generated significant interest and requests for expansion, particularly by the beneficiary farmers, especially in reference to the cultivation of the fresh water catfish (*C. anguillaris*). In view of this development, the women rice farmers should be encouraged to put more of their plots under fish cultivation to increase the total yield of their land. The Ministry of Agriculture<sup>9</sup> could pursue the possibility for the expansion of this scheme to include more women farmers in the CRR and other parts of the country.

#### Box 4. The TRY Oyster Women's Association

Established in 2007, the TRY Oyster Women's Association (TOWA) - a community-based non-profit organization - brings together the women cockle and oyster harvesters within the Tanbi National Park and periphery communities. Its objective is to raise the standard of living of these low-income women, who often come from marginalized communities. The TOWA comprises over 500 members from 15 communities. It has been allocated the exclusive rights to harvest cockles and oysters from the Tanbi National Park, and is responsible for the co-management of the fishery in partnership with other stakeholders - including governmental and non-governmental organizations and local authorities.

In view of the over-exploitation of the oyster populations within the Park, TRY-affiliated women are adopting sustainable harvesting practices to ensure that the Park remains a healthy mangrove ecosystem. They are closing harvesting grounds, enforcing closed seasons, and introducing new harvesting methods different from their previous methods of chopping and hacking oysters from mangrove roots and branches. This is done in an attempt to increase their productivity and income, as well as out of concern for the preservation of the ecosystem. The Association has created diversified sources of income for the daughters of the harvesters, and created micro-credit facilities for them to engage in batik making, soap making, etc. These initiatives aim to encourage young women to engage in alternative income-generating activities, in order to decrease the exploitation of the oyster stocks, and to provide a more diversified (and thus more resilient) income base for the livelihoods of community members.

In collaboration with the relevant government agencies, TRY-affiliated women harvesters also help to police the mangrove environment and report any illegal harvesting of the mangroves. They are also experimenting with oyster culture (based on knowledge gained from neighbouring Senegal) to help relieve pressure on wild stocks and limit the harm to mangroves.

*Source: Interview with TRY Oyster Women's Association*

#### Box 5. Women as a Target Group for Rural Fish Pond Culture

The pilot operations of the Fisheries Department at the Sapu rice fields in the Central River Region (CRR) point to the nutritional and economic potential of fish pond aquaculture. Major benefits include the supply of fish protein for the family, and accrued income from the sale of surplus fish. Women in the CRR are rice growers, and - especially in the Sapu area - are heavily involved in irrigated rice farming. Fish culture could be introduced either in combination with rice or alone as a single crop in rice paddies, and women could be the target for this program. There are a number of reasons which make women a good target group for fish farming development in the CRR: (i) because of their children and their crops women are less likely than men to be away from home for long periods, therefore they can give continual attention to pond husbandry if the ponds are close; (ii) because they are accustomed to a daily routine, women are more likely to provide the constant attention required for good husbandry, and can use a variety of by-products (such as kitchen wastes, weeds and crop residues) for composting; (iii) because a typical rural fish pond does not provide full employment, women can accommodate fish farming tasks to other duties (tasks which require greater labour inputs can be scheduled appropriately around others as the fish are not at risk if harvesting is delayed); and (iv) because of their responsibility towards the family, women give priority to family needs.

*Source: Information gathered through interviews with officials from the Fisheries Department and other stakeholders (Annex 1).*

### 3.3 THE ARTISANAL SECTOR (HARVESTING AND FISH-PROCESSING)

#### 3.3.1 Constraints and Opportunities

As discussed earlier, the artisanal sub-sector is a prioritized area of policy intervention in the current Fisheries Policy (2009-2013), as further elaborated in the Fisheries Strategic Action Plan (2012-2015). The many constraints and inadequacies in the artisanal

fish supply chain include: the lack of infrastructure and facilities, inadequate financing, and a need for technical support in terms of training and the application of best practices.

In terms of infrastructure and facilities, major shortfalls include: i) a lack of appropriate transport (insulated containers and handling equipment); ii) inadequate means of preserving the fish during long journeys; and

iii) a lack of cold storage facilities and adequate ice supplies in many landing sites along the coast and in inland areas. These all have resulted in losses due to spoilage, and consequent losses in financial resources. Financial constraints include: i) an inadequate access to credit and financing facilities by operators; and ii) high interest rates on borrowing. Technical constraints essentially relate to: i) a lack of technical know-how with regard to fish handling and preservation by operators; and ii) a lack of technical training in management (record keeping and business planning).

These constraints must be addressed systematically to fully unleash the socio-economic potential of the sectors in terms of food security, employment generation and poverty alleviation.

Identified opportunities that can be leveraged to upgrade the artisanal sector include:

**a) The fishery potential of pelagics:** In terms of the resource base, whilst the demersal stocks are believed to be over-exploited, opportunities for sustainable exploitation of resources exist in the still relatively abundant pelagic species. Estimates of potential sustainable yields for groups of species are within the range of 50,000 to 60,000 tonnes of small pelagics (excluding about 10-15,000 tonnes of bonga). Investment could be directed at the pelagic fishery to supply both local and international markets; taking into account particularly the sub-regional markets, which do not require regulations as stringent as those of the EU and US. There is a huge market potential for smoked and other forms of cured product to increase the exports to Guinea, Nigeria and other traditional markets in the sub-region. New markets and products need to be developed to absorb the potential of this fishery.

**b) Community Fisheries Centres (CFCs) and the Banjul Fisheries Jetty:** The CFCs and the Banjul fisheries jetty (and associated facilities) are key existing infrastructure facilities that could be leveraged to improve fish handling and processing, particularly for women operators. Established at 15 fish landing sites along the coast and inland, only 4 CFCs are equipped with ice-making facilities and cold stores, and upgraded smoking/drying facilities. With an expanded/upgraded infrastructure at these and other CFCs, artisanal fish processing and marketing (female-intensive activities) would be enhanced. In addition, as discussed, the completion of the Banjul fisheries jetty is expected to encourage local landing of industrial catch and value-addition through local processing.

**c) Scaling up renewable energy pilot projects:**

There are constraints related to lack of ice and other cold-storage facilities at virtually all artisanal landing sites; as the cost of electricity, where available, is high. In light of these obstacles, the Government may be interested in replicating the wind-driven turbine technology being designed under the EIF Tier 2 where appropriate - along the coast as well as at inland CFCs where women are equally constrained in accessing fresh and high-quality raw materials. Upgraded fish-drying facilities and improved smoking kilns - preferably with alternative forms of fuel - will ease the drudgery of fetching and splitting firewood to produce smoked fish.

**d) The availability of credit schemes/institutions:**

In terms of potential financing mechanisms, there is an established network of microcredit/saving schemes and infrastructures. Major stakeholders that can be leveraged to mobilize resources include: credit unions (such as the NACCUG), recognized microfinance institutions such as Reliance Financial Services and GAWFA, as well as community-based organizations and village bank networks (VISACAs) with a track record in savings and credit delivery.

**e) Strengthening small scale fisheries organizations:**

There is significant potential for cooperative development based on existing associations (fisheries associations, community-based organizations, collective hiring of vehicles, etc.). In particular, the creation of an apex organization to assist women artisanal operators will be one way of addressing their individual group constraints. For example, the women artisanal operators in the various specialties (fish smokers, fresh fish vendors, fish driers, etc.) could be formed into an apex organization; and assistance by way of credit could be provided to each group as and when necessary. Important progress in this direction has been made under the FAO's Sustainable Fisheries Livelihoods Programme Post-Harvest Fisheries Project (SFLP/PP3) interventions. The SFLP/PP3 initiative clustered fish post-harvest operators into legalized, village-based groups (Fisheries Post Harvest Operators (PHO) CBOs). These village-level associations have then been clustered horizontally into four Local Government Area Apex Groups (LGA PHO Apex groups); themselves grouped into a National Fisheries Post Harvest Operators Platform (FAO-IFAD, 2012). It is important to consolidate and expand this network, with due attention to gender dynamics.

### Box 6. Access to Credit by Artisanal Women

A financing mechanism worthy of emulation is the credit component of the Gambia Artisanal Fisheries Development Project (GAFDP). US\$ 1.1 million were disbursed under this credit facility between 2005 and 2011. The funds are disbursed through the Social Development Fund (SDF), which lends on to Micro Finance Institutions (MFIs) - such as GAMSEN, Reliance Financial Services, and village saving schemes - at a rate of 15 percent. The micro finance institutions then lend to artisanal fisheries operators at 20 percent, gaining 5 percent to cover administration costs and other charges. The grace period of these loans is three months, payable between one to three years depending on the amount of the loan. A total of 4,373 operators (58 percent of whom were women) benefited from the scheme; and they included fishermen, women fish processors and traders, boat builders and outboard engine mechanics. This surpassed the project's appraisal target of 20 percent of women beneficiaries. The total repayment rate so far is about 35 percent, but the recovery rate for the women is more than 95 percent.

Experience in the artisanal fishing industry has shown that women are by far better at repaying loans than their male counterparts. Consequently, they ought to have a fairer chance to access government administered loan schemes than the men. The GAFDP credit component has contributed to improving women's access to credit. More credit schemes specifically aimed at the women fisher folk will further enhance their capacity in the fight against their marginalization in the sector.

*Source: Interviews with GAFDP and SDF representatives (refer to Annex 1 for methodological details)*

### 3.3.2 Gender-specific Concerns and Corrective Measures

Women operators are the most vulnerable group in the artisanal sub-sector, and have yet to be adequately empowered to enhance the effectiveness of their operations. Even though they play a very active role in the sector, they tend to have less access to resources than men.

Observations at the landing sites of Gunjur and Brufut, for example, have evidenced women's unequal access to productive assets. There were perceivable inequalities between women smokers and men smokers in terms of access to CFC-managed facilities. Women occupied units in need of rehabilitation, for which they paid a rent with no service provided. Women fish driers, who transform fish that would otherwise be thrown away, were also faced with similar problems. The overall tendency seems to be that women tend to receive "diminished" assets, while sectors that attract investment tend to "defeminise". This imbalance, if not redressed, may negatively affect the overall prospects for sector development, as women account for about 80 percent of fish processors and 50 percent of small-scale fish traders. Corrective measures and actions need to be taken to address this marginalization of the women involved in the sector.

The integration of gender considerations into the design and implementation of fisheries infrastructure projects is, therefore, a critical issue; particularly where the rehabilitation and expansion of fisheries infrastructural facilities at both landing sites and markets is con-

cerned. The objective is to ensure that facilities used by women are upgraded, or that upgraded facilities are assigned to women. Concrete measures may include quotas, informal complaints procedure, etc. Community mobilization in the identification and enforcement of suitable measures is critical in this context, as the whole process should be endogenous, from within the community. To this end, due mechanisms should be put in place to ensure that women are fairly represented. These should include community sensitization about the socio-economic implications of women's marginalization in the fisheries sector. Community leaders, in particular, should be mobilized to support women's access to resources.

In a similar vein, measures should be implemented to avoid the excessive segregation - or dual structure - of the supply chain according to the range of markets served (export and local/regional). Indeed, the development of the export industry may result in the creation of a dual structure in the fisheries sector, with some diversion of investment from the domestic segment (domestic marketing and distribution of fresh fish and traditionally processed products) to the export-oriented segment (particularly fresh and frozen fish products serving the EU market). This dual structure of the chain is a potential source of disadvantage for small-scale women operators (driers, smokers, retailers), who mainly operate in the domestic segment. It may also be to the overall detriment of local people. Prioritized investment should, thus, continue to include domestic facilities and not only focus on export-

oriented ones. Particular attention should be paid to infrastructure catering for small-scale operators (and indirectly women) who play a critical socio-economic and nutritional role in their communities and in the larger Gambian society. This infrastructure includes: ice plant and cold storage facilities to market high quality fish products at main urban/inland markets; fish handling and processing equipment; improved processing techniques; packaging material at landing sites; and well-equipped dedicated fish markets.

Parallel action should be taken in favouring women's access to credit, to further deepen and strengthen the GAFDP experience. Affirmative actions taken to redress power imbalances may include target percent-

age of credit to be disbursed to women and dedicated lines of credit for women operators. Alongside credit, specific training should be delivered to women post-harvest operators covering three key areas: technical training on post-harvest handling and processing techniques; business education (record keeping and business plans); and the related fields of market information, market intelligence (how to use market information) and marketing (how to establish marketing links).

Finally, it is important to identify and invest in niches or products that can generate value-added for women (the Diaspora market, oyster harvesting, and specialty smoked products).

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4  
Conclusions and  
recommendations





As discussed throughout this report, the fisheries sector has significant potential to make a major contribution to national socio-economic development. The sector is a critical entry point for poverty alleviation in The Gambia: it is a source of food and protein for the population; a source of revenue and foreign exchange earnings; and has significant potential for employment generation, particularly for low-income women. It is in this regard that the Government should continue to give high priority to its development. The consideration of gender issues throughout the planning, implementation and monitoring of sectoral policies will result in a more efficient development of the sector, and will ensure that important food security concerns are met.

The Government should proactively pursue a coherent policy to spur the development of the sector. The recommendations outlined below suggest a framework of actions to move towards this objective, and which will involve: i) comprehensively tackling structural obstacles and capacity constraints that hinder the international competitiveness of the sector (section 4.1); ii) effectively tackling gender-specific obstacles that may impact on the outcome of sectoral policies, as well as addressing sustainability issues (4.2); and iii) exploring niche markets for high-value products, with a view to “dynamizing” the sector (4.3).

#### 4.1 ADDRESS STRUCTURAL OBSTACLES AND IMPROVE CAPACITY

An effective national strategy for boosting the fishing industry will require a coordinated and integrated approach to the various structural problems outlined in the previous analysis. If effectively designed and implemented, this strategy could contribute to expand the fish-processing sector in The Gambia, with significant job creation and poverty alleviation effects, particularly for women. There are several main policy areas in this regard, as outlined in table 12.

The pooling and alignment of external funds is critical to fund this strategy. Particularly in the SPS area, a number of Aid for Trade initiatives can catalyze development assistance in support of the country’s efforts to develop the basic laboratory infrastructure and capacities to ensure compliance with SPS requirements in key export markets. The key challenge is to align aid flows to the priorities expressed in the national fisheries strategies.

#### 4.2 TACKLE GENDER-SPECIFIC CONSTRAINTS AND ADDRESS SUSTAINABILITY ISSUES

##### a) Redress gender-specific obstacles

As discussed, women play a key role in the sectors, particularly in the domestic chain: an estimated 80 percent of fish processors and 50 percent of small-scale fish traders are women. If the constraints affecting women’s ability to carry out their trade are not addressed, this may negatively affect the overall prospects for sector development. Also, given women’s crucial roles in the domestic marketing chain, any efforts to reduce food insecurity must take into consideration the constraints that women face in their trade. Hence, a call for gender-specific and gender-redistributive policies in the fisheries sector, with a view to creating a more balanced relationship between men and women in access to: supplies, facilities and services. Three important intervention areas are outlined below.

##### Equal access to upgraded facilities

- Ensure that facilities used by women are upgraded, or that upgraded facilities are assigned to women. Concrete measures may include quotas, informal complaints procedure, etc.
- Prioritized investment should continue to include domestic facilities (and not only export-oriented ones) that cater for small-scale operators (ice plant and cold storage facilities to market fish products at main urban/inland markets; fish handling and processing equipment; improved processing techniques; packaging material at landing sites; and well-equipped dedicated fish markets).

##### Women’s enhanced access to credit

- Further deepen and strengthen the GAFDP experience/similar initiatives.
- Affirmative actions to redress gender inequalities may include target percentage of credit to be disbursed to women and dedicated lines of credit for women operators.

##### Women’s enhanced access to targeted support services

- Technical training in the handling, processing, and marketing of fish and fish products (fresh and cured), with a view to improving food security and quality.
- Marketing services (how to use market information and establish business contracts and alliances).
- Training in record keeping and business plan (this will help micro-finance institutions to assess creditworthiness).

Table 12. Main Policy Areas	
Constraints	Approach/measures
Poor reliability and high cost of electricity	<p>Give priority (special tariffs) to the fisheries sector, as has been done for the agricultural sector.</p> <p>Reduce the cost of fuel (through subsidies) destined for use by the fishing industry.</p> <p>Promote the use of alternative energy sources (solar, wind, etc.); with a view to reducing the sector's dependence on fossil fuels. One particularly promising way to do this would be to replicate the wind-driven turbine technology being designed under the EIF Tier 2, along the coast as well as at inland CFCs.</p> <p>Consider reforming the power sector, by enhancing competition and improving financial and managerial performance.</p>
<p><b>High tax rates and tax burden</b></p> <ul style="list-style-type: none"> <li>• Relatively high tax rates – 30 percent of profits if declared, or 2 percent of turnover if profits were not declared (and 3 percent in case of late payment).</li> <li>• The complexity of the tax system- with various taxes levied at the end of the year - makes it difficult for operators to factor taxes into production costs for planning purposes.</li> <li>• The turnover tax - to be paid even if the business was not profitable - is perceived as unfair and distortionary, as it discourages investment in supply expansion.</li> <li>• Policy inconsistency - displayed by the fact that though Gambia's tariff allows for duty exemption on plants and equipment used in the industry, there is evidence that requests for duty waivers supported by both the Fisheries Department and the Ministry of Trade had been rejected by the competent fiscal authorities.</li> </ul>	<p>Streamline the taxation system, and ensure policy coherence between different Government entities on matters of duty exemption.</p>
<p><b>The cost of credit</b></p> <ul style="list-style-type: none"> <li>• Investment credit is hardly available, due to very high interest rates (30 percent in commercial bank lending) and collateral requirements.</li> <li>• Lending is mostly short term (less than 1 month), while payments are required for a longer term (for e.g., the export of sole fish requires a period of at least 45 days).</li> </ul>	<p>Ensure effective implementation of the Growth and Competitiveness Project.</p> <p>Promote joint ventures or partnerships between processing factories and foreign partners, who may provide financial inputs and managerial expertise.</p> <p>Artisanal operators:</p> <ul style="list-style-type: none"> <li>- Provide training on record keeping and business planning (assess creditworthiness).</li> <li>- Promote the grouping of individuals into intermediate organizations (CBOs and VISACAs with track records in savings and credit delivery, etc.), to which credit can be more easily extended.</li> </ul>
<p><b>Infrastructure/supply constraints</b></p> <p><i>Industrial:</i></p> <ul style="list-style-type: none"> <li>• A lack of facilities to service industrial trawlers.</li> </ul> <p><i>Artisanal:</i></p> <ul style="list-style-type: none"> <li>• A lack of cold storage facilities and ice supply in many landing sites along the coast and in inland areas.</li> <li>• Poor fish storage facilities at landing sites.</li> <li>• A lack of appropriate transport facilities (insulated containers and handling equipment).</li> <li>• Inadequately equipped fish markets.</li> </ul>	<p>Revitalization of the Banjul Fisheries Jetty (and associated facilities), and of the Dock Yard and the slip way at the Ports Authority facility, to service industrial trawlers fishing in Gambian waters.</p> <p>The upgrading of selected CFC key infrastructure facilities (including the three fish landing sites (Brufut, Tanji, and Gunjur), earmarked for installation of wind turbines, as well as important inland fish landing sites (e.g. Bintang, Albreda, and Tendaba).</p>
<p><b>Capacity constraints (SPS)</b></p>	<p>Training to industry official inspectors (Fisheries Department) in the management and application of principles of the Hazard Analysis and Critical Control Point (HACCP) system, and related sanitary control.</p> <p>Investment in national SPS (testing/methodology) infrastructure (accredited laboratory for official testing).</p> <p>Enhancing of sub-regional cooperation on SPS matters (network of regional laboratories or central regional facility), with a view to maximizing complementarities and cost-effectiveness.</p>

### **b) Address sustainability issues**

An important constraint that needs to be addressed is the potential overexploitation of the demersal species, as this will have a direct impact on raw material supply, and consequently on the performance of the fishing companies. From a policy perspective, this calls for management and conservation of fish stocks through the development of long-term policies with a clear vision of priority actions. These include strengthening the governance of the fisheries, and reducing illegal fishing.

As most demersal species are straddling and migratory fish stocks, a sub-regional approach is required. A regional conservation policy and strategy should be devised and implemented within the framework of the Sub-regional Fisheries Commission. Working in close collaboration with research centres in the region (e.g. the Senegalese Centre de Recherche Oceanographic de Dakar, Thiaroye –CRODT, and the Mauritanian Institute of Oceanographic Research and Fisheries –IMROP), the regional strategy will involve a research and stock assessment component that will inform both the regional as well as the individual national policies. The SRFC could even be mandated, in due course, to negotiate access agreements on behalf of the member countries; in the same way that it coordinated a Monitoring, Control and Surveillance program for the sub-region.

It is also critical to raise awareness at the local (fishing communities) level, to promote effective forms of community-based management axed on peer-pressure. Particular areas known (either through scientific research or using local knowledge) to be fish congregation areas, for example, could be co-managed (by government and local community based organizations) to protect and/or rehabilitate.

In view of the apparent over-exploitation of the demersal stocks, more attention should now be focused on the under-exploited pelagics which are still relatively abundant. This will, in addition, reduce the pressure on the demersals and help them recuperate. A systematic reduction of the fishing effort on the demersal stocks is also necessary, and should involve the review of current fishing agreements, including the Senegalo-Gambian fishing agreement.

## **4.3 EXPLORE NICHE MARKETS FOR HIGH-VALUE PRODUCTS**

### **a) The development of aquaculture**

The potential for commercial and artisanal aquaculture involving shrimps and oysters is high. There is significant potential for a product differentiation strategy for shrimps (antibiotics-free shrimp with unique characteristics in terms of texture and seize), with a focus on high-value niche markets (e.g. gourmet restaurants in Europe). Artisanal oyster farming, involving the women oyster harvesters, can expand the local oyster trade and even encourage the development of the half-shell trade to supply the Gambian tourist market. The natural oyster population will also be preserved, as harvesting pressure will be reduced.

A major constraint that needs to be addressed, however, is the high cost of fuel to run the generators for both pond production and post-harvest processing. The Government may consider specific inputs subsidies targeted at resource-poor operators to ease this constraint.

The strict implementation of stringent sanitary and phytosanitary measures is also critical, particularly if the focus is on high-value niche markets. Equally important is the siting of operations, which must be chosen with due care to take potential environmental pollution into account. These issues and obstacles should be identified and addressed within the framework of public-private partnerships that include strategic buyers (traders, specialized wholesalers, and outlets in consumer markets).

### **b) The Diaspora trade**

There is a potentially important niche export market for smoked catfish and other high value fish species - including shrimps, barracuda, etc. - to the Gambian Diaspora in Europe and America. This trade is currently undertaken by individual women on a small scale. Yet, as discussed, it could be the basis for a niche market that can be developed. The government should investigate this market potential with a view to enhancing its development, and possibly diversify the product base to include the still under-exploited pelagic species.



Notes and References



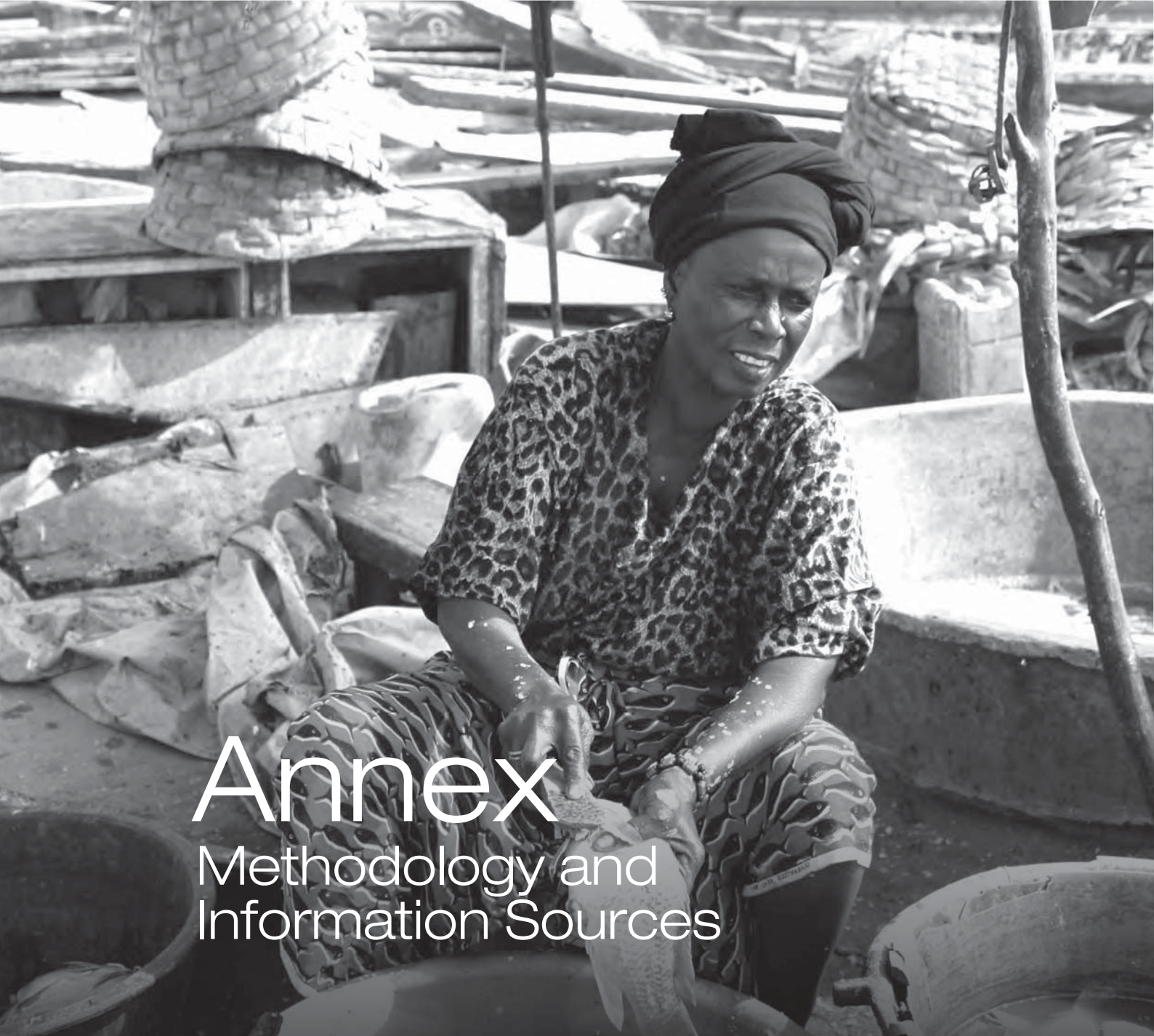
## NOTES

- 1 This is an intergovernmental organization comprising seven countries (Cape Verde, Gambia, Republic of Guinea, Guinea-Bissau, Mauritania, Senegal, and Sierra Leone). It was established in 1985 for the purpose of sub-regional integration in fisheries resources management. Based in Dakar, Senegal, the organization has three organs: the Council of Ministers, the Coordinating Technical Committee, and a Permanent Secretariat. The organization's Strategic Plan of Action focuses on strengthening resources management; harmonization of policies and legislations; research, data and information exchange; and cooperation in monitoring control and surveillance.
  - 2 The PRCM program is essentially aimed at the sustainable management of marine and coastal areas in West Africa. The process involves the member states of the SRFC and four international NGOs operating within the sub region (IUCN-International Union for the Conservation of Nature, FIBA- Fondation Internationale de Banc d'Arguin, World Wildlife Fund (WWF), and Wetlands International).
  - 3 Funded by the GEF, this project covers six of the SRFC members, plus Morocco. The overall objective of the project is to secure global environmental benefits by reversing (over time) the depletion of fisheries resources and conserving the nursery and reproductive habitats of the Canary Current Large Marine Ecosystem.
  - 4 This is a US\$ 65 million program funded by the World Bank/GEF and being implemented through the SRFC in its seven member countries. It will: support efforts to eliminate illegal fishing activities; curtail damage to resources and the loss of economic rents from the fishing sector; and create the conditions for the implementation of access rights and fishing capacity control.
  - 5 These vessels are usually European-owned, and they only fly Gambian flags to enable them to fish within the region. They are managed by Gambian agents, usually Gambian fishing companies who are remunerated in cash.
  - 6 This is the NAWEC tariff for the Hotels and industries including Fish factories.
  - 7 This is an intergovernmental organization comprising seven member countries: Cape Verde, Gambia, Guinea Bissau, Guinea Conakry, Mauritania, Senegal and Sierra Leone. It focuses on: strengthening the management of resources the harmonization of policies and legislation; research, data and information exchange; and co-operation in monitoring, control and surveillance.
  - 8 Recently the Ministry of Agriculture received US\$ 28 million from the Global Agriculture and Food Security Program (GAFSP) to upscale certain success stories through a new project - a component of which will look into the possible extension of the success of the current pilot fish farming project in the Sapu rice fields in CRR.
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# Annex

Methodology and  
Information Sources





## METHODOLOGY AND INFORMATION SOURCES

This report is the outcome of Geneva-based desk work and field research in The Gambia. Field work was carried out by an UNCTAD team<sup>a</sup> during June-July 2012. A variety of methods were used to gather relevant information. These included:

- Secondary data and reports (refer to References section) - The quantitative analysis (Geneva-based) was refined locally on the basis of data submitted by The Gambia Bureau of Statistics and the Fisheries Department
- Focus group discussions held at the Fisheries Department with key officials and experts from the Inspectorate Unit, the Extension Unit, and the Research and Development Unit (June 2012)
- Meetings with:
  - Officials from the Ministry of Trade, Industry, Regional Integration and Employment
  - Leaders of cooperatives, micro-credit and community-based organizations (Gambia Women's Finance Association, The Gambia Social Development Fund, the National Association of Cooperative Credit Unions of The Gambia, and TRY Oyster Women's Association)
  - Representatives of The Gambia Artisanal Fisheries Development Project and the European Union
- Interviews with managers and employees of fish-processing companies. Fish-processing factories and establishment visited included: Rosamond Trade; Kendaka Fishing; International Pelican; Atlantic Seafood; and West African Aquaculture.
- Field observation and structured interviews at landing sites. In-situ observation was carried out at the landing sites of Tanji, Gunjur, Brufur and Banjul. Structured interviews with about 40 stakeholders - fishers, intermediate traders and artisanal fish processors - were carried out by fisheries extension workers at Tanji (questionnaires are appended). The interviews were not for statistical survey purposes, but to earn more accurate insights into actual chain dynamics and gender aspects.

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*a The team was composed of Momodou Cham, Fisheries and Gender Specialist, and Irene Musselli, Associate Legal Affairs Officer at UNCTAD.*

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## Fishermen

NAME OF CANOE OWNER .....

LANDING SITE .....

**CANOE**

Type of engine: .....

Cost and source of found: .....

**GEAR**

Type(s) of fishing gear used: .....

Cost and source of found: .....

Number of full-time crew on board .....

Catch landed at: .....

EXPENSES	Fuel (including oil)..... litres	Cost .....	
	Food .....	Cost .....	
	Ice .....	Cost .....	
	Bait .....	Cost .....	
	Spare parts/repairs .....	Cost .....	
	Other .....	Cost .....	
	TOTAL COSTS .....	Cost .....	

INCOME	Target	Species	Weight (kg)	Value
	.....	.....	.....	.....
	.....	.....	.....	.....
	.....	.....	.....	.....

Fish given out to friends and relatives etc

	Species	Weight (kg)	Value
	.....	.....	.....
	.....	.....	.....
	.....	.....	.....

Price per species

	Species	Price
	.....	.....
	.....	.....
	.....	.....

(Based on IDAF Technical Report N. 100)

## Fish processors (men and women)

### PERSONAL DETAILS

Age .....

Sex .....

Are you married       No     Yes

N. of people in the household

Do you have children?     No     Yes                      If yes, how many.....

Where do you come from? .....

Beach/landing site.....

### FISH SUPPLY

Who sell you the fish (fishermen/middlemen)? .....

.....

Is the fisherman a relative/friend? .....

.....

Species normally bought.....

.....

Quantity bought: .....

.....

COST	Species	Weight (kg)	Price
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

### FISH PROCESSING

How do you smoke/dry the fish? .....

.....

.....

How long does it take to smoke/dry fish? .....

Do you work alone or in group? .....

When do you undertake these activities? (All year round // Seasonally (specify) //Other)

.....  
 .....

What type of materials/equipment do you utilize for your activities? .....

Are they suitable? Which problems do you encounter in processing the fish? .....

.....  
 .....

EXPENSES	Fuel (including oil) .....	litres	Cost .....
	.....	(unit)	Cost .....
	.....	(unit)	Cost .....
	.....	(unit)	Cost .....
	Spare parts/repairs .....		Cost .....

.....

DISTRIBUTION AND MARKETING

How do you transport the fish and to which markets? .....

To whom do you sell the fish? .....

Marketing costs (transport, container/package, etc.)? .....

.....

Which problems do you encounter in transporting and marketing the fish? .....

.....

.....

EARNINGS

What is your daily income?

Species/product	Weight (kg)	Value
.....	.....	.....
.....	.....	.....

What do use profit on? .....

SOURCE OF FUNDS

Own

Relatives and friends

NGOs/Cooperative (micro-credit)

Intermediaries/downward actors

Fishermen/upstream actors

Banks

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## Questionnaire for the intermediary trader (Banabana)

PERSONAL DETAILS

Age .....

Sex .....

Are you married       No     Yes

N. of people in the household

Do you have children?     No     Yes                      If yes, how many .....

Where do you come from? .....

FISH SUPPLY

How long have you been operating on this beach? .....

Is this the only beach from which you operate?     Yes     No    Other beaches.....

.....

Who sell you the fish (fishermen, fish smokers, etc.)? .....

.....

Is the fish supplier a relative/friend? .....

.....

Species bought:

1. Fresh small size pelagics
2. Smoked salted pelagics
3. Fresh large size demersal species
4. Salted/dried demersal species
5. Others

Quantity bought: .....

.....

Costs: .....

.....

Species	Unit (kg/basket, etc)	Price

**MARKETING**

How do you get to the beach and transport your fish? .....

On foot     By taxi     Other .....

How much fish (boxes/baskets/...) do you market daily?.....

Where do you market it? .....

Do you have a special agreement to sell to a particular outlet? .....

Describe the handling, preservation and storage techniques you use prior and during the marketing of fish. ....

.....

.....

Costs: .....

.....

Items	Price	Unit
Transport cost (taxi...)		Per lag
Baskets or other container		
Ice		
Licences/fees		
...		
...		
...		

What are the main problems that affect your operation in the marketing and distribution of fish? .....

.....

**EARNINGS**

What is your daily income?

Selling price:

Species/product	Weight (kg)	Value
.....	.....	.....

.....  
.....

Quantity sold .....

What do use profit on? .....

SOURCE OF FUNDS

Own

Relatives and friends

NGOs/Cooperative (micro-credit)

Intermediaries/downward actors

Fishermen/upstream actors

Banks

**TRANSPORT SYSTEM**

What kind of transport is utilized in the distribution network? .....

Do you use storage infrastructure during the operation of the transport system (before reaching final destination)? .....

What kind? .....

What is the cost operation and maintenance for a typical journey? .....

What are the main problems that affect your company in the fish distribution network?



### Women porters

Name.....

Age .....

Are you married       No     Yes

N. of people in the household

Do you have children?     No     Yes                      If yes, how many.....

Where do you come from? .....

How do you get to the beach?     On foot     By taxi     Other .....

How do you go back home?     On foot     By taxi     Other .....

During what period do you work on the beach? .....

How much fish do you carry and where? .....

How much do you earn per day?.....

What are the costs you incur and the source of funds? .....

How do you spend the money you can earn on the beach?

(Based on Anna Mbenga – Marketing and distribution of artisanal fisheries in The Gambia)

