THE REPUBLIC OF LIBERIA

NATIONAL EXPORT STRATEGY

FISH AND CRUSTACEANS EXPORT STRATEGY

2014-2018

Republic of Liberia

International Trade Centre

The National Export Strategy of Liberia was developed on the basis of the process, methodology and technical assistance of ITC. The views expressed herein do not reflect the official opinion of ITC. This document has not been formally edited by ITC.

The International Trade Centre (ITC) is the joint agency
of the World Trade Organization and the United Nations

Street address: ITC 54-56, rue de Montbrillant 1202 Geneva, Switzerland

Postal address: ITC Palais des Nations 1211 Geneva 10, Switzerland

Telephone: +41-22 730 0111

Fax: +41-22 733 4439

E-mail: itcreg@intracen.org

Internet: http://www.intracen.org

THE REPUBLIC OF LIBERIA
NATIONAL EXPORT STRATEGY
FISH AND CRUSTACEANS
SECTOR EXPORT STRATEGY • 2014-2018

Republic of Liberia

International Trade Centre

Source: © Juan Freire

ACKNOWLEDGEMENTS

The Fish and Crustaceans Strategy forms an integral part of Liberia's National Export Strategy (NES) which is an initiative of the Ministry of Commerce and Industry (MoCI) with technical assistance of the International Trade Centre (ITC) of Geneva, Switzerland.

This document represents the efforts of a number of key individuals who dedicated countless hours for the mobilization, facilitation, analysis and review of documents. Thanks to the relevant trade support institutions in Liberia that have tirelessly contributed to several consultations and deliberations on key issues and constraints in the sector and for proposing solutions aimed at addressing the hurdles.

Thanks also to the Ministry of Agriculture (MoA) for its cooperation, including relevant members of the Industry Coordination Committee (ICC) that participated in the validation of the NES.

Guidance and support were provided to the project by the following key personnel:

The coordination support of MoCI:

- **Hon. Candace B. Eastman**
  Deputy Minister, MoCI
- **Hon. Stephen Marvie**
  Assistant Minister, MoCI
- **Moses Nyenpan**
  Core Team Member
- **Alex S. Wuo**
  Core Team Member

National sector team:

- **James DOLO**
  Assistant Director BNF
- **Alfred Karwleh**
  Liberia Artisanal Fishermen Association (LAFA)
- **Yevewao Z. Subah**
  Bureau of National Fisheries (BNF)
- **Fred Johnson**
  MoCI/WTO
- **Rev. Macmillian W. Tugheh**
  COSH
- **Dismus Cupson**
  NAVAP
- **Arthur S. Massaquoi**
  USPOGUL
- **Benson Gray**
  Caroline Fisheries, Inc
- **Solomon Gofletoe**
  National Farmers Union of Liberia
- **Bill Karmo**
  Premier Consulting Enterprise, LLC
- **Emmet Crayton**
  Private sector/Independent

- Acknowledgement is also given to former Deputy Minister **Aletha Browne-Cooper** and former Navigator **Lowell Wesley** for their contributions during the sector strategy development process.

International Trade Centre:

- **Anton J. Said**
  Chief, Export Strategy
- **Rahul Bhatnagar**
  Project Manager
- **Samuel R. Monger**
  National Consultant
- **Jesús Alés**
  Graphic Design and layout
- **Marnie MacDonald**
  Editor

- Acknowledgement is also given to **Alberto González** and **Ishwar Haritas** for their contributions during the sector strategy development process.

ACRONYMS

ACDI/VOCA	Agricultural Cooperative Development International / Volunteers in Overseas
AGOA	African Growth and Opportunity Act
BNF	Bureau of National Fisheries
CA	Cooperative Assistance
CARI	Central Agriculture Research Institute
CBL	Central Bank of Liberia
CDA	Cooperative Development Agency
CSTWG	Cocoa Sector Technical Working Group
EU	European Union
FBO	Farmer-Based Organization
FFS	Farmer Field School
GAP	Good Agricultural Practices
GMP	Good Management Practices
HS	Harmonized System
ICCO	International Cocoa Organization
IITA	International Institute for Tropical Agriculture
ISO	International Organization for Standardization
ITC	International Trade Centre
LACRA	Liberia Agricultural Commodities Regulatory Authority
IUU	Illegal, unreported and unregulated fishing
LAFA	Liberia Artisanal Fishermen Association
LBA	Licensed Buying Agent
LBBF	Liberia Better Business Forum
LCC	Liberia Cocoa Corporation
LEC	Liberian Export Council
LIFE	Livelihood Improvement for Farming Enterprises
LISGIS	Liberia Institute of Statistics and Geo-Information Services
LPMC	Liberia Produce Marketing Corporation
MoA	Ministry of Agriculture
MoCI	Ministry of Commerce and Industry
MoFA	Ministry of Foreign Affairs
MoU	Memorandum of Understanding
NES	National Export Strategy
NGO	Non-Governmental Organization
NIC	National Investment Council
NSL	National Standards Laboratory
PoA	Plan of Action
STCP	Sustainable Tree Crops Programme
SUCCESS	Sustainable Cocoa Enterprise Solutions for Smallholders
TVET	Technical and Vocational Education and Training

CONTENTS

LIST OF FIGURES

TABLES

BOXES

EXECUTIVE SUMMARY

The Liberian fisheries and crustaceans sector currently operates from a very low base and concerted efforts are required to revitalize the sector, not only to develop export competitiveness but also to meet domestic demand which is currently being met through imports.

The sector was relatively well equipped and expanded significantly in the decades preceding the 14-year civil war. Available medium-sized infrastructure consisted of landing sites, mechanized trawler fleets and cold chains, among other installations. The industry was significantly affected by the civil conflict, along with other prominent sectors such as cocoa and rubber. The loss of infrastructure ranged from fishing boats, landing piers and cold chain infrastructure to 'soft' infrastructure such as human capital.

The NES consultations in the sector were especially rich given that they were conducted at the two largest fishing areas in the country, with a concentration of several thousand actors along the entire value chain at each location – namely in Monrovia (Fanti Town/Banjor Point) and in Robertsport.

The sector makes important socioeconomic contributions in terms of poverty prevention and fulfilling food security needs. In recognition of this critical function, this strategy ensures that growth enabled through the implementation of the strategy's strategic Plan of Action (PoA) will maintain the fragile balance between fulfilling food security needs and increased exports.

CURRENT CONTEXT

Liberian fishery resources comprise of different species of fish and crustaceans, many of which are traditionally consumed in the country and the sub-region, but also important high value species such as tuna, long neck cassava fish, napleh, red grouper and sharks that are not preferred in Liberia but have substantial export potential in high value markets. Early estimates of stocks in Liberia, as well as anecdotal evidence from fishing expeditions and increases in landing volumes, indicate that there is scope for significant expansion of both the scale and scope of Liberia's fish and crustaceans sector.

The industry can broadly be segmented into artisanal and industrial fishing activity. The industrial actors are engaged exclusively with marine activity, while the artisanal sector is involved with both marine and inland fishing (including aquaculture and river / lake fishing). As mentioned above, Liberia is a net importer of fish products. Domestic demand has outweighed production, especially in recent years. The country imports nearly one and half times the fish and crustaceans products that it produces at home.

The sector currently faces significant challenges in the supply-side, business environment and market entry dimensions. On the supply side, the main issues are: poor availability of input supplies (as well as high cost of input suppliers); increased competition with more sophisticated foreign operators (especially in recent years); an urgent need for investment to improve infrastructure and equipment (including fleets); and very low transformation and processing capacity.

The sector also faces significant challenges in terms of the business environment and institutional support. All players in the fish and crustaceans sector face severe challenges accessing credit and investment, and quality management training and compliance services. They also have to operate in a sector that almost completely lacks a cold chain and other basic logistics without which growth and value addition in a time-dependent product such as fish and crustaceans is simply unthinkable. The sector must therefore make a strong case for priority investment – public and private; domestic and international; from foreign sources based in Liberia and Liberian sources based overseas.

On the markets side there is an urgent need to improve in-market support through involvement of Liberian consulates and trade representations. Information gaps in market intelligence, consumer trends, and upcoming networking and deal-making events persist and pose significant restrictions.

Source: © Juan Freire

In terms of development focus, there is a strong case to be made for collective action, and for strong linkages between the small and large, and between men and women and young individuals. Gender equity and greater involvement of women in the export value chain is also an important consideration. Given that women dominate the downstream segment of the sector, increasing capacity for product diversification of the artisanal sector will achieve both growth and development targets simultaneously. A targeted investment and skills programme to especially train young women to take on more and more complex and higher value roles will help realize the substantial potential in domestic, regional and international markets. This strategy will comprehensively address the issue of increasing women's ability to influence outcomes within the sector – be they at policy/institutional or enterprise levels.

EXPORT PERFORMANCE

Liberia is a small player in the fish and crustaceans export market, exporting only about US$3 million of products in 2012, primarily to the European Union (EU) and East Asian states. Germany is Liberia's main customer in the EU. There is also significant cross-border activity, although the actual volumes and dollar values are hard to estimate due to challenges in collecting data.

OPTIONS FOR FUTURE DEVELOPMENT

In order to realize the export potential and increase the export competitiveness of the Liberian fish and crustaceans sector, the following vision has been adopted:

> "A viable sector that will boost sustainable livelihoods and export competence among small and medium-sized enterprises across the sector value chain."

This vision will be realized by the following strategic and operational objectives, which are designed to address comprehensively the overall weaknesses identified across the value chain.

Strategic objective	Operational objective
Boost productive capacity of the sector.	• Strengthen the inputs market in the fish and crustaceans sector. • Identify needs and build initial capacities in the Liberian inland fishing and aquaculture sector. • Assist the industrial sector in scaling up operations. • Increase organization in the sector. • Strengthen research and development capability and human capital development in the sector.
Improve infrastructure and the overall business environment in the sector.	• Strengthen infrastructures to create more efficiencies, reduce costs, and improve quality of production. • Improve access to credit for sector operators. • Curb illegal, unreported and unregulated fishing (IUU) activity in the sector. • Improve quality management infrastructure in the sector. • Improve infrastructure for post-harvest and processing.
Improve the institutional support framework pertaining to the sector.	• Strengthen the Bureau of National Fisheries (BNF) through technical, human capital and financial support mechanisms. • Provide strengthening support to the Liberia Artisanal Fishermen Association (LAFA) to transform its service delivery vis-à-vis all issues related to the artisanal sector.
Facilitate adequate access to trade information and in-market support to potential and existing operators in the sector.	• Improve in-market support in target markets. • Develop the domestic market in line with the emerging capacities of the sector. • Improve access to trade information and market intelligence in the sector.
Support the sector's development objectives of gender equity and environmental growth and stability.	• Support decision-making ability and opportunities for female actors along the value chain. • Ensure that sector operations maintain environmental balance.

The envisioned future state of the sector has been developed using a combination of consultations, surveys and analyses. This future state consists of two components:

- Structural changes to the value chain that result in either strengthening of linkages or introduction of new linkages;
- A market-related component involving identification of key markets in the short and medium-to-long terms for exporters.

OPTIONS FOR FUTURE DEVELOPMENT: MARKETS

Target markets identification for the fish and crustaceans sector is constrained by the current extremely small base of sector operations, as well as by the presence of larger and relatively well-established regional neighbours that have a foothold in international markets.

The analysis and the stakeholder consultations conducted as part of the NES design process have indicated that, with concerted efforts directed along the sector's value chain, the strategy will be consolidating rather than visionary in nature for the time period encompassed by this phase of the NES (2014-2018). During this period existing trade relationships and bilateral geographical distances will form the major criteria determining the markets for Liberian fish and crustacean products. Market penetration in existing markets will be the main mode of market entry. Over the short term the West African regional states, the African Growth and Opportunity Act (AGOA) market, and East Asian markets have been identified as key markets to focus on.

In the longer term it is expected that the evolving capacities of Liberian exporters – across multiple dimensions including quality management, supply capacities, product diversification, time to market efficiency, and marketing/branding, in conjunction with the improving business environment, infrastructural improvements and other export value chain improvements affected by the NES and sector PoA implementations – will allow exporters to target other markets in the medium-to-long term which seem hard to penetrate now. However, the identification of such markets now – given the low base of the sector – will be purely indicative in nature.

Over the longer term, the United States of America and EU markets have been identified. If the export value chain is indeed able to incorporate eco-labelling and other certification requirements, then these large markets can

potentially significantly boost export earnings. However, in acknowledgement of the fact that capabilities across the export value chain are extremely low at the moment, it may take at least a decade – if not more – for these markets to become more accessible to Liberian exporters.

OPTIONS FOR FUTURE DEVELOPMENT: STRUCTURAL ADJUSTMENTS TO THE LIBERIAN FISH AND CRUSTACEANS VALUE CHAIN

The projected structural changes to the sector are based on efficiency gains identified through the four gear analysis of the sector's performance, and through the identification of opportunities for improving the sector's capacity to acquire, add, create, retain and distribute value.

Product diversification is a key requirement. Given that Liberia is closely linked to its immediate neighbours in terms of consumption patterns and trade flows, this augmentation of the product mix will not only enrich the Liberian consumer but also the average consumer in the entire subregion.

- Other select areas of enhancement/adjustment to the value chain include:
- Development of a local inputs supply base in addition to the existing imported inputs supply;
- Development of a strong business support network to provide support services to sector operators;
- Increased cooperation between local and regional/international institutions (including those in the technical and vocational education and training (TVET) sphere) active in the sector;
- Increased organization levels and knowledge sharing between operators in the artisanal sector;
- Increased capabilities in areas of eco-labelling and other certifications to be applied to the sector in the medium-to-long term; and
- The enhancement of productive capacity/creation of a critical mass of installed bases of value added facilities.

IMPLEMENTATION MANAGEMENT

The broad range of activities, together with the complex nature of integrated intervention, requires careful implementation that efficiently directs resources and monitors results at both the micro and macro levels. To this end, a Liberian Export Council (LEC) will be established in order to facilitate the public–private partnership in elaborating, coordinating and implementing the NES. In particular, LEC will be tasked with coordinating the implementation of activities in order to optimize the allocation of both resources and efforts across the wide spectrum of stakeholders. Within this framework, implementation of the fish and crustaceans strategy will also fall within the purview of LEC.

Such efforts will involve directing donor and private and public sector organizations towards the various NES priorities in order to avoid duplication and guarantee maximum impact. Responsibilities will also include monitoring the results of activities and outputs, while at the same time recommending policies that could serve to enhance realization of the strategic objectives. With a 360 degree view of progress, the Council will be best placed to manage funding and provide regular reports to donors and stakeholders. Moreover, LEC will play a key role in recommending revisions and updates to the strategy so that it continues to evolve in alignment with the country's evolving needs.

In addition to LEC, a variety of stakeholders will be critical to the successful implementation of this strategy. These include public sector actors such as the Ministry of Agriculture (MoA – primarily BNF), MoCI, the Ministry of Foreign Affairs (MoFA), LAFA, the Liberian Fishermen's Union (LFU) and also private sector/civil society organizations that have a history of providing assistance to the sector and are well positioned to assist.

CONCLUSION

To drive improvements in the sector it will be important to leverage the different interventions already taking place and consolidate as many gains as possible from across policy, institutional, regional, scientific, livelihoods and conservation/adaptation perspectives to optimize the business environment within which the sector operates, so as to optimize commercial (growth) opportunities and consequently the development opportunities offered by the sector.

Liberia can use the lessons from the experience of its neighbours and other countries the world over to protect its marine and inland fishery resources, recognize and protect the criticality of the sector to maintain employment and food security for poor populations, and channel much needed foreign direct investment into creating lasting sources of competitive advantage for the sector.

CURRENT CONTEXT

HISTORICAL PERSPECTIVE

The Liberian fisheries sector currently operates from a very low base and concerted efforts are required to revitalize the sector, not only to develop export competitiveness but also to meet domestic demand, which is currently being met through imports.

The industrial fisheries sector was relatively well equipped and expanded significantly in the decades preceding the war. Available medium-sized infrastructure consisted of landing sites, mechanized trawler fleets and cold chains, among other installations. The industry was significantly affected by the 14 year civil conflict in the country, as is the case for other sectors. The loss of infrastructure ranged from fishing boats, landing piers and cold chain infrastructure, to 'soft' infrastructure such as human capital. During and since the war the artisanal sector has primarily existed for subsistence purposes, especially for communities spread near the coast.

Box 1: A brief history of commercial fishing in Liberia 1840s–1980s

Commercial fishing in Liberia was first attempted in 1848 when the erstwhile President of the country, Joseph Jenkins Roberts, converted his yacht into a fishing boat. The first fishing trawler to operate in Liberian coastal waters belonged to Woerman Company, a German company that operated in the country between 1938 and 1939. Fishing was a daily activity, with the trawlers returning to port at the end of each fishing day, and catches were sold immediately to avoid post-harvest losses because of lack of means for preservation of fresh fish. Considering the success of the Woerman Company and the realization of the potential important role of fisheries in national socioeconomic development, the Government of Liberia in 1952 requested the assistance of the Food and Agriculture Organization of the United Nations (FAO) and the United States Government to help develop its fisheries subsector. Experts were sent from FAO and the United States to assess the fisheries potential of the country. As a result of months of exploratory fishing, it was determined that a medium scale fishing industry could be established in the country.

Industrial fishery began in the mid-1950s and targeted mainly the shrimp resources within the Sherbro fishing grounds, which extend into Sierra Leone. The Mesurado Group of Companies became operational in the early 1960s and developed into the most dominant force in Liberian fisheries. The company owned and operated more than 25 vessels, including shrimpers and double rigged trawlers. The company was owned by the Tolbert family and operated its own harbour and processing facilities with 3,000 tonnes of freezing capacity. Shrimp was the company's major export commodity, with a monthly shipment of about 60 tons to Europe and Asia. The Mesurado Group of Companies is said to have been one of the largest fishing entities in sub-Saharan Africa until 1980, when it began to decline following the military coup. In fact, in the 1970s and early 1980s industrial fish processing made the country the highest value exporter of fish products in all of Africa.

Source: Briefing document on FAO FishCode-STF/CECAF/FCWC Subregional Workshop on the Improvement of Fishery Information and DataCollection Systems in the West Central Gulf of Guinea Region (title unknown), 2007. Accessed from http://www.fao.org/docrep/012/k7480b/k7480b04.pdf

Table 1: *Production statistics for the Liberian fish and crustaceans sector 1995–2011*

Land Area	Ocean Area	Species	Scientific name	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Liberia	Inland waters	Freshwater fishes	Freshwater fishes	4000	4000	4000	4000	4000	4022	4014	4014F	3614F	3213F	2813F	2413F	17558	779	766F	770F	770F
	Marine areas	Crustaceans	Crustaceans	148	28	124	177	338	93	189	303	230	457	296	281	130	90	90F	90F	90F
		Diadromous fishes	Diadromous fishes	6	124	28	63	242	110	198	200	200	242	24	4	182	57	60F	60F	60F
		Marine fishes	Marine fishes	4675	3980	4339	6384	10071	7285	6039	6454	6354	9795	8002	6198	12357	6950	7070F	7070F	7070F
		Molluscs	Molluscs	0	175	2	73	31	30	70	75	70	31	1025	11	55	30	30F	30F	30F
	Sub-total Marine areas			4829	4308	4491	6697	10682	7518	6496	7042	6854	10525	9347	6494	12745	7127	7250F	7250F	7250F
Total Liberia				8829	8308	8491	10697	14682	11540	10510	11056	10478	13738	12180	8907	14501	7908	8018F	8020F	8020F
GRAND TOTAL				8829	8308	8491	10697	14682	11540	10510	11056	10478	13738	12160	8907	14501	7908	8016F	8020F	8020F

Source: FAO Fisheries and Aquaculture Information and Statistics Service (2013).
Available from www.fao.org/fishery/topic/16140/en. Accessed 3 December 201V 3.
Note: An 'F' next to production figure indicates FAO estimates

PRODUCTION TRENDS

The sector also accounted for 12% of agricultural gross domestic product 2010-2011.[1] Production of fish and crustaceans (including aquaculture) in Liberia reached a high of 18,000 tons in the late 1970s, when the sector ranked as a leader among its peers in the region. During the civil conflict, production was mainly aimed towards fulfilling food security needs in the country. Since the end of the conflict, production has actually gone down to just above 8,000 tons in 2011 (FAO estimates). Discrepancy in data collection has led to a fair bit of uncertainty regarding actual production figures.

As indicated, marine fisheries are the main production source with more than 7,000 tons in 2011. Freshwater fish sourced from inland waters constitute the second largest source of catch. The crustaceans subsector has failed to recover since the 1970s, when production figures reached up to nearly 1,700 tons (1978 FAO figures).

STRUCTURE OF THE SECTOR

Liberia's total land mass amounts to about 111,370 km^2, of which 96,320 km^2 (86%) is dry land, drained by several rivers and streams.[2] Liberia's Exclusive Economic Zone (EEZ) is defined by its relatively long Atlantic coastline of about 570 km and a continental shelf averaging 34 km in width, which creates an EEZ area of about 20 000 km^2 of fishing ground extending to 200 nautical miles.[3]

Fish and crustaceans is an important sector which has significant regional implications owing to its strategic position in the Gulf of Guinea in particular and the Atlantic Ocean in general. The three main marine fishing areas of Robertsport, Monrovia (West Point/Banjor) and Marshall are home to about 70%-80% of the entire coastal fishing population of the country.

The industry is broadly segmented into artisanal and industrial fishing activity. Industrial actors are engaged exclusively with marine activity, while the artisanal sector is involved with both marine and inland fishing (including aquaculture and river/lake fishing). Among the main differentiating factors between the two types of actors is the type of equipment used, the distance ventured by operators away from the coast, and access to on-board/off-board post-harvest and processing capabilities.

Operations in the fish and crustaceans sector are essentially a function of the equipment/fleet size. Given the weak inputs and equipment base of the sector in Liberia, operations have been concentrated in only a few species and have primarily been limited to a 6-9 nautical mile perimeter (except for the large, primarily foreign-owned industrial trawlers).

Table 2 provides a broad segmentation of the sector operators based on their primary equipment (fleet type), and the main target species. Although the information is slightly outdated (2007), it serves as one of the more reliable sources available on the status of Liberian fisheries.

1. FAO (2007). Fishery and Aquaculture Country Profiles: The Republic of Liberia. Available from www.fao.org/fishery/countrysector/FI-CP_LR/en.

2. Briefing document on FAO FishCode-STF/CECAF/FCWC Subregional Workshop on the Improvement of Fishery Information and DataCollection Systems in the West Central Gulf of Guinea Region (title unknown), 2007.Accessed from http://www.fao.org/docrep/012/k7480b/k7480b04.pdf

3. ibid

Table 2: *Segmentation of the marine fishery sector in Liberia*

	Industrial	Fante canoes			Popoh	Kru Canoe	
Number	30-40	270			N/A	3150	
Gear type	Trawl	Ring net	Gill/Set net	Hook and Line	Beach seine	Traps	Hook and Line
Main target species	Penaeid Snappers	Herring Flying fish	Tuna Sail fish	Crookers Caranx Groupers	Herring Needlefish Poorjoe Gbapleh	Lobster Crabs	Barracuda Pike fish Snapper

Source: Briefing document on FAO FishCode-STF/CECAF/FCWC Subregional Workshop on the Improvement of Fishery Information and DataCollection Systems in the West Central Gulf of Guinea Region (title unknown), 2007. Accessed from http://www.fao.org/docrep/012/k7480b/k7480b04.pdf

ARTISANAL SECTOR

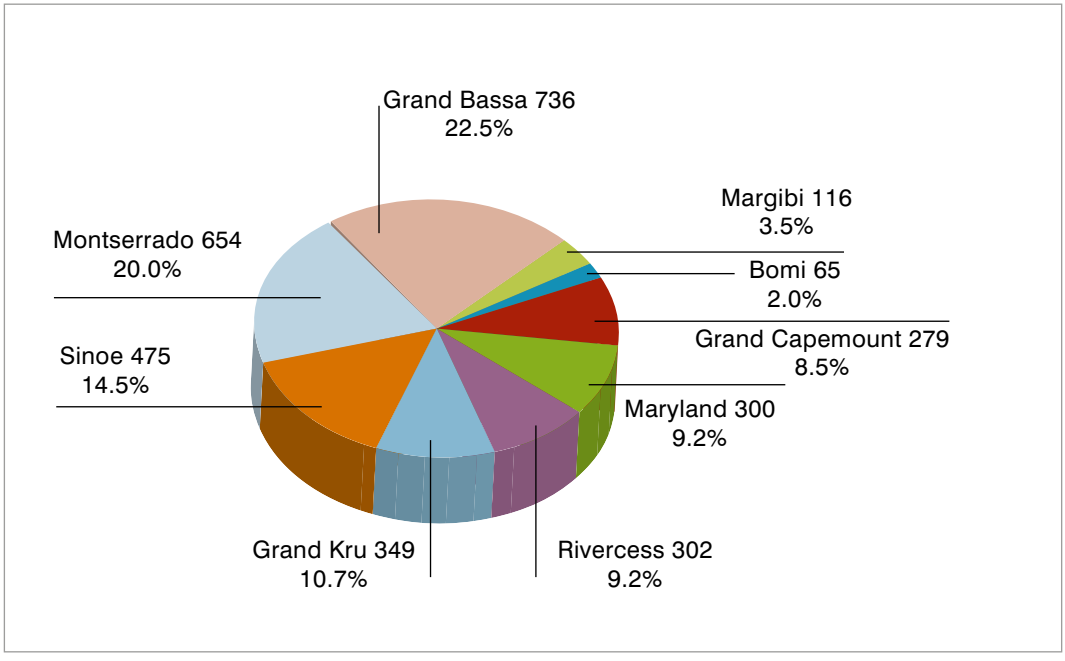
Artisanal fishing is a year round activity, though the availability of particular types of fish is seasonal and consequently so is the type of gear used as well as the scheduling of fishing cycles. For instance, artisanal purse seining is an example of type of fishing activity that takes place only in the dry season.

There are approximately 13,000 fishermen and 18,000 post-harvest handlers/processors/households active in in 139 communities along the Liberian coast.[4] The fleet size of the artisanal sector roughly amounts to 3,000 canoes, of which it is estimated that roughly 8% are motorized[5] and the majority of canoes are operating in Montserrado and Grand Bassa counties (Figure 1).

4. Briefing document on FAO FishCode-STF/CECAF/FCWC Subregional Workshop on the Improvement of Fishery Information and DataCollection Systems in the West Central Gulf of Guinea Region (title unknown), 2007. Accessed from http://www.fao.org/docrep/012/k7480b/k7480b04.pdf

5. Drammeh, O.K.L. (2007). *Fisheries and Aquaculture Policy of Liberia. Draft final report*.

Figure 1: *Canoes by county 2010*



Source: BNF Statistics.

The artisanal sector (to the extent of fishing and landing) is divided along tribal affiliations and differs considerably in the level of sophistication of methods and equipment used, and consequently the skill levels required to undertake fishing expeditions.

- The Fanti are migrants from Ghana who use canoes fitted with outboard motors and are thus able to venture anywhere between 6 and 12 nautical miles from shore.
- The Kru, Popoh and other clans rarely venture beyond the six mile exclusion zone and, in many instances, stay much closer to shore because they are restricted by their gear and techniques. There is a complete lack of adoption of new techniques and training such that catch sizes become comparable among the communities.
- The dominant clan in inland fishing is of Malian extraction.
- More recently Gambian, Senegalese and Malian fishermen have also started to operate in both marine and inland river fishing. Trends have suggested that, unlike earlier migrants, these operators primarily take the catch out of Liberia and are relatively less integrated into the local economy.

ARTISANAL SECTOR–TRADITIONAL KRU

The indigenous Kru fish with small crews from small dugout canoes of about seven metres, which are based mostly on mechanical sailing.[6] After several decades of sharing fishing grounds with the Fanti and other communities, the Kru have now started to adopt some of their techniques, including the use of motors. Their gear consists mainly of hook and line while more recently they have used nets, especially monofilament.

ARTISANAL SECTOR – SEMI-INDUSTRIAL FANTI / POPOH

In addition to the local Kru fishermen, Fanti and Popoh fishermen who migrated from the neighbouring countries of Ghana, Benin and Côte d'Ivoire currently make up the majority of the over 33,000 households that are active in the sector. The early migrants such as the Fanti and Popoh have an advantage over the local Kru communities because they use larger, sturdier boats and frequently also outfit their boats with outboard motors. This allows them to fish in considerably deeper waters and for longer periods of time per expedition.

The Fanti, of Ghanaian descent, in particular those residing in Liberia since the 1920s,[7] use larger canoes (12 m), powered by 25-50 horsepower outboard engines, with crews as large as 15. Their gear is more sophisticated. Ring and purse nets are used for small pelagic species, with large gillnets specifically adapted for different species and seasons also employed. The Fanti are responsible for about 40% of the volume of artisanal landings. It is reported that prior to the war in Liberia, Fanti fishermen were responsible for as much as 90% of the country's artisanal fish catch.

The major species harvested by the artisanal fishing communities are the following: sardinella, barracuda, croakers, sharks and ilisha africana, which make up the major commercially valuable species for the local markets and constituted 83% and 59% of local fish supply in 2004 and 2005 respectively.[8]

INDUSTRIAL FISHING

In the 1970s and 1980s Liberia's industrial fleet was considered one of the best in all of Africa and Liberia was the largest African exporter of fish and crustacean products (predominantly shrimp) by value. Almost all hard infrastructure was destroyed during the war and the conflict led to widespread outward migration of operators in the sector. This drain of technical knowhow has created a significant human capital gap in the sector.

Since the end of the conflict there has been some resumption of trawling, largely led by fishing vessels ranging in number between 20 and 45. These vessels are almost all foreign-owned and the only local component in their activity is the contracting of Liberians as deck staff and on-vessel workers. The majority of the licensed fishing vessels that until recently actively operated in Liberia are of far eastern origins, and originated from China, Japan and the Republic of Korea. While detailed information is scarce, it is estimated that the Liberian operations of these trawling companies were limited to landing catch, freezing and trans-shipping to other ships at sea.

These vessels benefited from the lax enforcement of anti-IUU regulations in the sector, which in large part were only put in place post-2009. This resulted in major losses to the government in the form of tax revenue. Based on some BNF statistics, it can be inferred that underreporting, trans-shipping and overfishing, especially of juveniles, was widespread during the 2005-2009 period.

6. Briefing document on FAO FishCode-STF/CECAF/FCWC Subregional Workshop on the Improvement of Fishery Information and DataCollection Systems in the West Central Gulf of Guinea Region (title unknown), 2007. Accessed from http://www.fao.org/docrep/012/k7480b/k7480b04.pdf

7. Marquette, C.M., Koranteng, K.E., Overa, R. and Bortei-Doku Aryeetey, E. (2002). Small-scale Fisheries, Population Dynamics and Resource Use in Africa: The Case of Moree, Ghana. *AMBIO: A Journal of the Human Environment, Vol. 31, No 4* (June 2002). Royal Swedish Academy of Sciences.

8. Republic of Liberia, Bureau of National Fisheries (2006). *Annual Report*.

The enforcement of the 2009 regulations restricting fishing grounds from the 0-6 nautical mile area to artisanal fishermen dramatically altered the situation in favour of artisanal fisheries, which were also the hardest hit by the near shore trawling. Since 2009-2010 most of these trawlers have in fact ceased to operate. Many of them have reportedly now turned to importing fish and crustaceans products so as to use their installed capacity in cold storage and landing facilities, most notably at the Freeport in Monrovia.

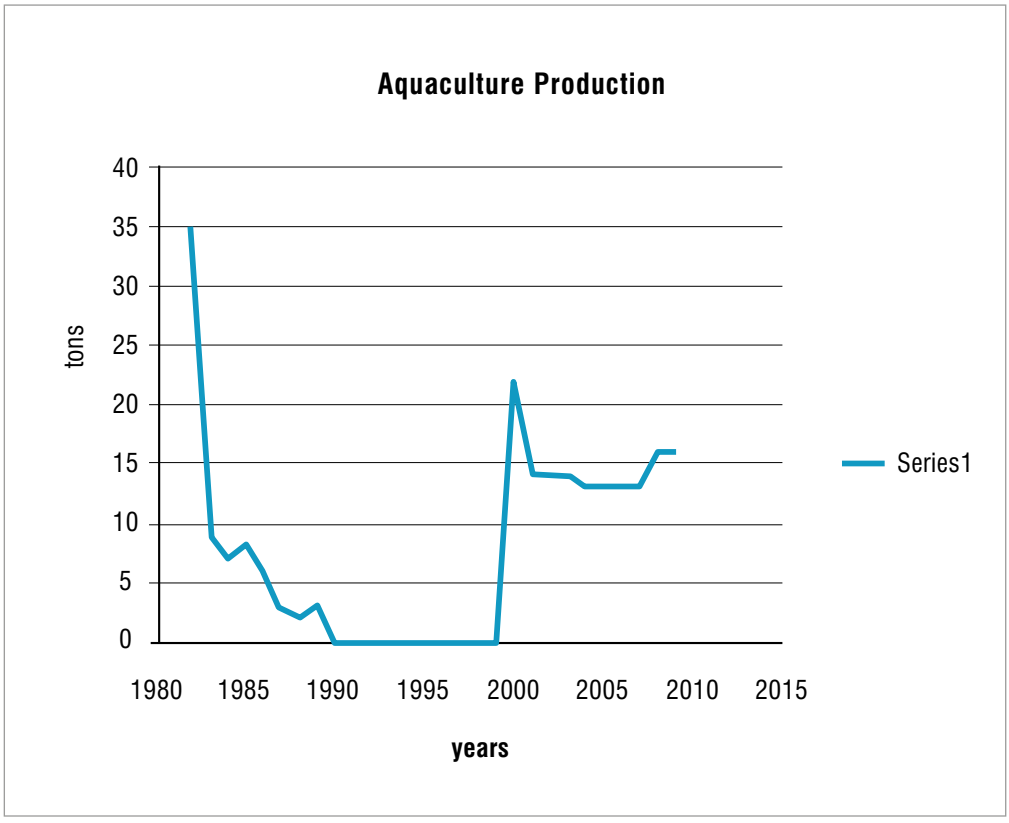
In effect, the Liberian industrial fishing sector has almost entirely collapsed at this time. While this is a matter of significant and immediate concern to the crews and their families that must be dealt with in a systematic and equitable manner, it is also an opportunity for the sector to renew its pre-war dynamism based on home-grown enterprise, intelligent planning, active and aggressive investment promotion and systematic backing from both the Government of Liberia (GoL) and other development partners.

AQUACULTURE

Aquaculture was first introduced in Liberia in the 1950s. Although conditions for aquaculture are good there has been no significant growth in the field since then. There is almost no information on the sector available at this stage except for initial studies by the aquaculture division of BNF. BNF has sought to understand the existing situation within the subsector based on standard indicators such as water, soil, topography, market (demand) and agricultural by-products. A first estimate of the geographic distribution of potential for developing this subsector has been drawn up. The major limitation from the outset is the unavailability of any information/data, and the lack of the necessary capacity and financial resources at BNF to carry out a detailed survey.

As indicated below, aquaculture production is quite low and only recently has shown signs of revitalization in Liberia. During the conflict years production reached near zero levels but there has been some recovery in recent years.

Figure 2: *Liberia aquaculture production 1985-2010*



Source: Zizi Kpadeh, BNF.

Any analysis therefore would remain limited and based on a small dataset. Some of the gaps have been mitigated on the basis of the personal knowledge of BNF experts. The results from this initial examination show that there is potential for aquaculture in the country. These reasons include:

- The abundant and perennial availability of water;
- The 75% prevalence of lateritic soils, which have a compact texture with a water retentive capacity (which is crucial for pond construction);
- Density of habitation;
- A known preference for aquaculture produce over other forms of protein, especially in the interior counties and districts;
- The dominant topography of the country which consists mostly of flat land (mainly plateaus) that is convenient for pond construction; and
- The prevalence of household livestock farmers (estimated by MoA to be over 300,000 households) points to a steady supply of animal waste, which is ideal for pond fertilization.[9]

There is identified potential for aquaculture to contribute to overall income generated by fish and crustaceans via domestic, cross-border and international trade.

INLAND FISHERIES[10]

Liberia is cut by six major rivers, which flow from the Fouta Djallon Mountains of Guinea. The Lofa, St. Paul, St. John and Cestos are within the country. The Mano River forms the border with Sierra Leone and the Cavalla runs along the southern border with Côte d'Ivoire. In total, the country has some 1,800 km of river, nearly all of which is shallow, rocky and not navigable. There are also large swamp areas and numerous coastal lagoons, including Lake Piso, one of West Africa's larger lagoons. Estimates of production from these sources are not available.

The value of inland fishery is not known but it is an important seasonal subsistence activity, using mainly traditional fishing gear and traps. Almost every woman and girl above the age of 15 in the villages has fishing nets and catch fish in rivers and creeks during the dry season. Traditionally one of the major trainings girls undergo is the manufacturing of fishing nets. About 600 fisher folk and 925 fishmongers and their families live in 16 fishing communities along the larger water bodies in the counties

Source: © jbdodane

of Bong, Lofa, Nimba, Grand Gedeh, Gbarpolu and River Gee.

SOCIOECONOMIC CONTRIBUTIONS TO THE SECTOR

The socioeconomic contributions of the fisheries sector are important for the country, most of all because of its inherent labour-intensive nature – almost 33,000[11] people are involved in various activities along the value chain. The sector employs some of the poorest populations in the country across its coast and along the many rivers and lakes that traverse the country's interior.

The sector both provides occupational opportunities and acts as an economic buffer during lean seasons by providing alternate income. The domestic demand for the sector's product is steady due to the fact that fish and crustaceans make up a prominent part of the basic food basket that Liberians spend their income on, perhaps second only to rice.

The gender (occupational) role allocation in the fish and crustaceans sector (artisanal, marine and river fishing) is, unlike in other agricultural sectors, very clearly divided and relatively equitable between men and women. Men harvest the fish and are responsible for the upstream segments of the supply/value chain and women are almost wholly and independently responsible for the post-harvest handling, processing and sale all the way to the end consumer, i.e. all the downstream segments.

9. Ziizi Kpadeh – Team Leader Subsector team – Fish and Crustaceans – Liberia.

10. Briefing document on FAO FishCode-STF/CECAF/FCWC Subregional Workshop on the Improvement of Fishery Information and DataCollection Systems in the West Central Gulf of Guinea Region (title unknown), 2007. Accessed from http://www.fao.org/docrep/012/k7480b/k7480b04.pdf

11. Republic of Liberia, Bureau of National Fisheries (2013). Artisanal Fisheries. Available from www.liberiafisheries.net/sectors/artisanal_fisheries/.

CURRENT SECTOR OPERATIONS

ARTISANAL FISH AND CRUSTACEANS

The artisanal fishing sector in Liberia is primarily organized along community (tribal) lines involving the subsistence Malian community, the semi-subsistence Kru and Popoh communities, and the semi-mechanized Fanti community. The low base in terms of product complexity and market reach means that the entire value chain is relatively compressed.

INPUTS

The inputs provision function in the value chain is, almost without exception, operated entirely based on personal kinship networks and on trust. Fish and crustaceans is inherently an inputs-intensive value chain and high input costs are currently seriously impairing efficiencies in the sector. Inputs range from boats, nets and fuel to cold boxes, outboard motors and other technical equipment.

The current species harvested and marketed are a direct function of the depths (and the distance from shore) at which fishing is carried out, which in turn is entirely dependent on the gear used (including boats, nets etc.) and the techniques employed.

PRODUCTION

Current fleets are largely suited only to subsistence level activity. The very basic level of gear used has meant that the species exploited have been those found within a maximum perimeter of approximately six nautical miles (the current exclusive artisanal zone). This has also resulted in the average Liberian consumer only being familiar with these 'near shore' species. Gear upgrades will result in product diversification and market diversification.

PROCESSING

The processing link encompasses post-harvest handling, aggregation, smoking, packaging and sale to itinerant intermediaries or 'market women'.

A clear division of labour between men and women characterizes the processing stage. Women buy the stock off the fishing boats immediately upon landing, effectively taking ownership of the product. Post-harvest / landing activities are exclusively the preserve of the communities' women, who also define roles between themselves very clearly and distribute workload / resources with men in a smooth and harmonious manner. The women are organized into self-help groups or co-ops and manage their own finances as well. The sector thus offers high potential for substantial enhancement of the competitiveness of the value chain based on women's economic empowerment. Women in the value chain also act as product managers, keeping close track of demand and relaying that information ahead of production to fishing crews.

The only transformation activity at the artisanal level currently is smoking, and this does not add value as much as enhance shelf life. It is absolutely the most basic value addition carried out and is aimed primarily at the domestic market. Smoking is meant only to make fish more widely available. There is currently no capacity to carry out any more sophisticated value addition. A processing facility that is coming up in Banjor will help start better quality smoking, drying and freezing activity.

DISTRIBUTION TO MARKET

Distribution is primarily carried about by Liberian market women, many of whom are illiterate and many of whom are well past retirement age. They negotiate prices, manage inventory, schedule logistics and supervise the entire process of intermediation. Apart from subsistence consumption, the other main domestic consumer base comprises local supermarkets and hotels.

Source: jbdodane

The main markets for cross-border trade are the neighbouring markets of Côte d'Ivoire and Sierra Leone, while Liberian products exported to regional wholesalers eventually find their way to the EU and East Asian states.

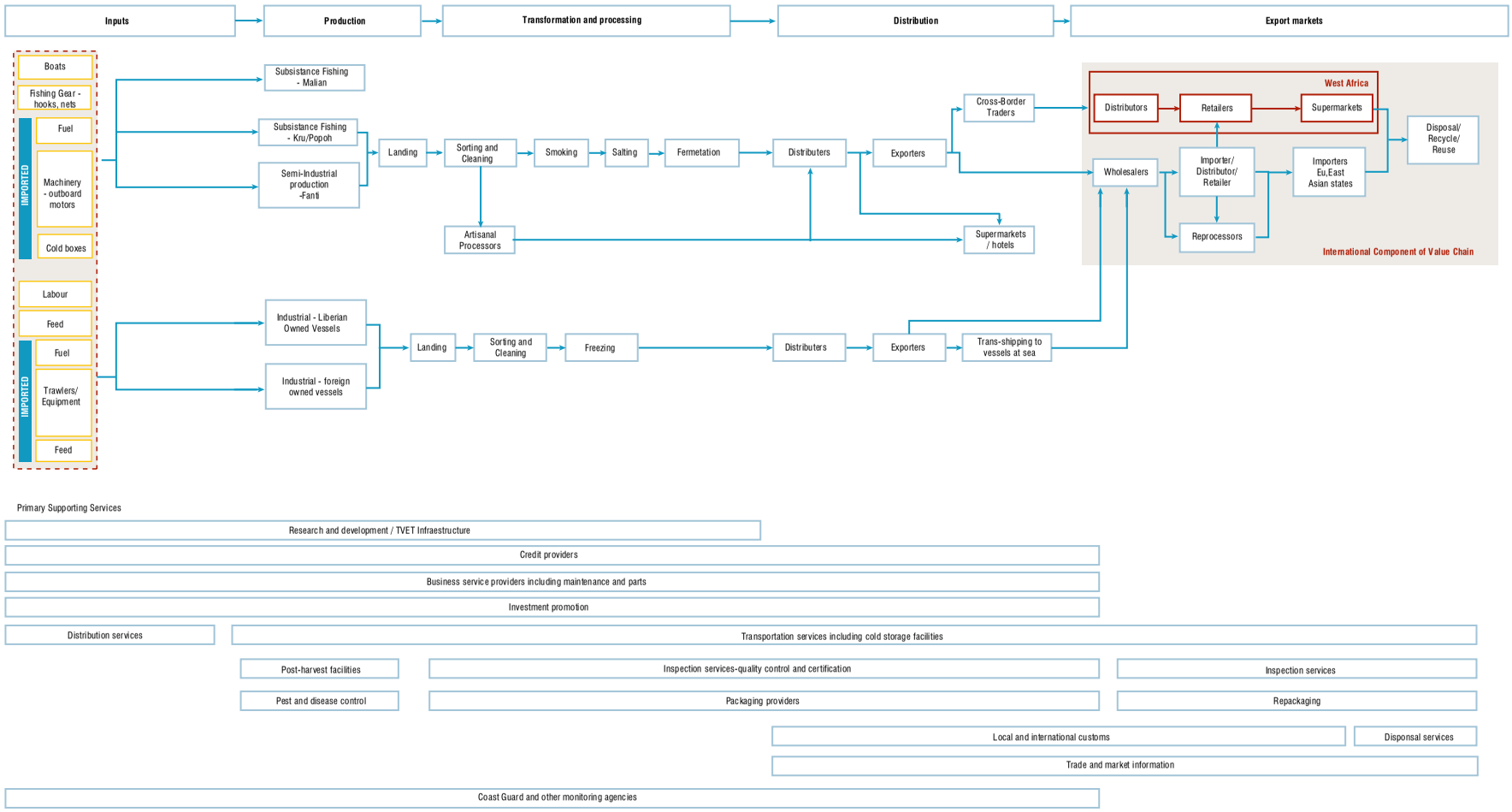
INDUSTRIAL SECTOR

There is limited activity in the industrial fisheries sector. The value chain for this sector has been relatively simple and consisted essentially of foreign vessels obtaining licences in Liberia to fish both demersal and pelagic species. In the period 2003-2010 operators in the subsector fished uninterrupted and in direct conflict with artisanal fishermen. During this time there were scores of cases of overfishing, fishing of juveniles, wholesale dumping of discards, and damage to gear. Companies have also alternated between import and export activities, or a combination based on seasonal variations in prices of inputs/catch etc.

Since the enforcement of the exclusion requirements, as many as 45 registered vessels no longer officially fish in Liberian waters. A majority of the active licensed trawlers have now exited the sector in Liberia, as they were not adequately equipped to fish beyond the six mile exclusion zone given the requirements recently put in place. This has increased their operating costs, as well as exposed existing operators to competition with bigger and more sophisticated trawlers. It has also put legal operators in direct competition with illegal trawlers, resulting in reduced catch rates as a result of large-scale IUU.

This, however, does not imply that the subsector is not an important element of the sector. In fact, the subsector has shown some resilience in operating profitably within severely constrained circumstances. On the one hand some of the companies have shifted from fish and crustaceans exports to imports, since Liberia is still a net importer. On the other hand some other companies have stayed in the export business – either via legal trans-shipment or via direct informal cross-border trade.

Figure 3: *Current value chain of the Liberian fish and crustaceans sector*



Source: sector consultations and desk research.

Source: © jbdodane

GLOBAL MARKETS–A SNAPSHOT

Table 3: *Top importers of fish and crustacean products (HS 03)*

Ranking	Importers	Value imported in 2012 (US$ thousands)	Annual growth in value 2008-2012 (%)	Annual growth in value 2011-2012 (%)	Share in world imports (%)
	World	**98 828 438**	**7**	**-3**	**100**
1	Japan	13 940 675	6	3	14.2
2	United States	13 347 119	5	0	13.6
3	China	5 488 977	13	-2	5.6
4	Spain	5 287 144	-2	-16	5.4
5	France	4 678 975	3	-10	4.8
6	Italy	4 181 093	2	-15	4.3
7	Germany	4 027 857	5	-13	3.9
8	Sweden	3 247 493	10	0	3.3
9	Republic of Korea	3 218 487	9	-6	3.3
10	Hong Kong, China	3 120 692	11	3	3.2

Source: ITC Trade Map 2013.

MAJOR IMPORTERS

FISH AND CRUSTACEANS–COMBINED

The global market for fish and crustacean products amounted to US$98.8 billion in 2012, reflecting an annual growth rate of 7% between 2008 and 2012. Overall, demand for fish and crustacean products has been rising steadily globally. The top three consumers are Japan, the United States and China. All three markets are expanding at a healthy pace, especially the Chinese market which grew at a rapid pace of 13% between 2008 and 2012. East Asia is the leading region in terms of both supply and demand for fish and crustacean products with Japan, China and the Republic of Korea all ranking among the top ten consumers. The top five importing countries alone constitute nearly 44% of the global trade. The top importers are mainly European, North American and Asian countries. There are no African countries among the top 25 consumers.

CRUSTACEANS

The crustaceans sector constitutes almost one-fifth of the overall market size of the combined fish and crustaceans sector, with a global market of US$20 billion. The sector had a growth rate of 12% between 2008 and 2012. The top five global consumers of crustaceans remain the same as in the case of the combined sector, in a different order –United States, Japan, Spain, China, and France. The United States accounts for the largest market share at 26.2%. Japan has the second highest market share at 15.3%. The currently fourth ranked Chinese market had an extremely high growth rate of 42% between 2008 and 2012.

Table 4: *Top importers of crustacean products (HS 0306)*

Ranking	Importers	Value imported in 2012 (US$ thousands)	Annual growth in value 2008-2012 (%)	Annual growth in value 2011-2012 (%)	Share in world imports (%)
	World	**20 018 473**	**6**	**-1**	**100**
1	United States	5 240 010	4	-8	26.2
2	Japan	3 071 227	6	-1	15.3
3	Spain	1 226 892	-4	-21	6.1
4	China	1 125 190	42	36	5.6
5	France	1 070 755	3	-8	5.3
6	Italy	699 223	-1	-14	3.5
7	Hong Kong, China	694 124	9	25	3.5
8	Viet Nam	681 355	91	100	3.4
9	Canada	671 013	12	-2	3.4
10	Republic of Korea	567 048	7	4	2.8

Source: ITC Trade Map 2013.

MAJOR EXPORTERS

FISH AND CRUSTACEANS-COMBINED

China is the global leader in exports of fish and crustacean products, growing at an annual rate of 9% between 2008 and 2012 and controlling a 12% share of global exports. Norway and the United States are close followers, both exhibiting high annual growth rates of 9% and 10% respectively between 2008 and 2012. These three exporting nations together account for 26% of global exports, with Viet Nam and Canada rounding out the top five list with a 4% global share each. As with the leading importing countries, African countries are conspicuously absent among the top 25 exporters.

Table 5: *Top exporters of fish and crustacean products (HS 03)*

Rank	Exporters	Value exported in 2012 (US$ thousands)	Annual growth in value 2008–2012 (%)	Annual growth in value 2011–2012 (%)	Share in world exports (%)
	World	**95 120 467**	**9**	**-1**	**100**
1	China	11 323 257	23	3	12
2	Norway	8 568 326	9	-6	9
3	United States	5 019 158	10	-1	5
4	Viet Nam	4 266 657	7	-1	4
5	Canada	3 706 173	5	0	4
6	Chile	3 459 288	6	-3	4
7	India	3 282 148	30	2	4
8	Spain	2 879 138	4	-7	3
9	Netherlands	2 872 419	8	-1	3
10	Thailand	2 844 115	4	-7	3

Source: ITC Trade Map 2013.

Table 6: *Top exporters of crustacean products (HS 0307)*

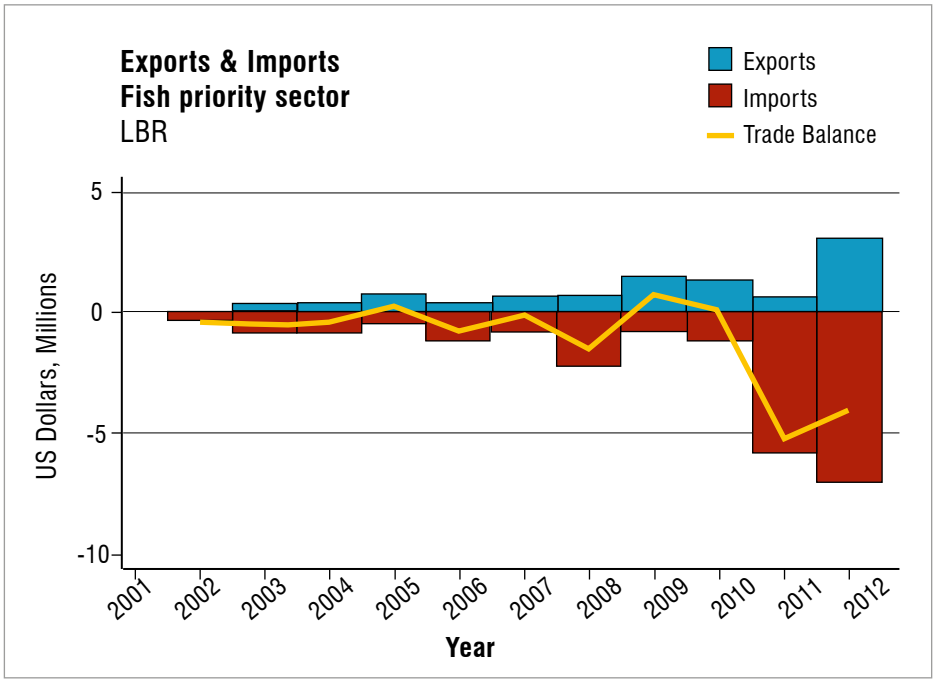
Rank	Exporters	Value exported in 2012 (US$ thousands)	Annual growth in value 2008–2012 (%)	Annual growth in value 2011–2012 (%)	Share in world exports (%)
	World	19 744 425	8	0	100
1	Canada	1 947 610	8	2	9.9
2	India	1 791 279	27	8	9.1
3	Thailand	1 534 669	5	-14	7.8
4	China	1 465 553	35	6	7.4
5	Viet Nam	1 404 127	5	-8	7.1
6	Ecuador	1 279 766	19	9	6.5
7	Indonesia	1 206 544	6	4	6.1
8	United States	899 689	13	7	4.6
9	Netherlands	595 519	10	23	3
10	Argentina	495 872	11	-6	2.5

Source: ITC Trade Map 2013.

CRUSTACEANS

The leading global players in exports of crustaceans are primarily Asian countries, including India, Thailand, China, Viet Nam and Indonesia. Canada is the leading exporter with a 10% share of the global market, followed by India.

Figure 4: *Trade balance in the Liberian fish and crustaceans sector*



Source: ITC calculations based on 4-Digit COMTRADE HS 2002 data.

LIBERIAN IMPORTS IN THE FISH AND CRUSTACEANS SECTOR

Liberia is a net importer of fish products. Domestic demand has outweighed production, especially in recent years. Liberia imports one and half times the fish and crustacean products that it produces. There is therefore significant unfulfilled domestic demand, large chunks of which, when expatriate and international consumption is taken into account, amounts to deemed export.

Additionally, exports lag behind significantly when compared to imports. As indicated in Figure 4, the trade balance is significantly biased in favour of imports, amounting to twice as many imports as exports in 2012.

A large majority of imported fish and crustaceans is consumed by Liberian and other West African populations resident in Liberia, indicated by the steady shift of imports from non-African to West African exporter countries. Tables 7 and 8 illustrate this shift. The presence of higher value imports within the Liberian fish and crustaceans import basket is possibly explained by the presence of a large expatriate community in the country.

Table 7: *Top fish (HS 03) exporters to Liberia 2011*

Exporter	Value imported in 2011 (US$ thousands)	Total value imported 2007–2011 (US$ thousands)
Senegal	341	1 268
Spain	162	162
Indonesia	128	163
Côte d'Ivoire	89	364
Peru	78	153
Netherlands	61	1 672
China	58	202
New Zealand	50	217
United States	32	78
Republic of Korea	26	26

Source: ITC Trade Map 2012.

Source: © jbdodane

Table 8: *Top fish (HS 03) exporters to Liberia 2007-2011*

Exporter	Total value imported 2007–2011 (US$ thousands)
Netherlands	1 672
Mauritania	1 340
Senegal	1 268
Morocco	558
Côte d'Ivoire	364
Canada	240
Ecuador	234
Viet Nam	221
New Zealand	217
China	202

Source: ITC Trade Map 2012.

LIBERIA'S EXPORT PERFORMANCE

FISH AND CRUSTACEANS– COMBINED[12]

Liberia is a small player in the fish and crustaceans export market. In 2012 Liberia exported US$3 million of sector products to mainly Germany, Togo, Switzerland, Hong Kong (China), and Malaysia. Germany is the main customer for Liberia, absorbing 84.5% of Liberia's fish and crustacean products in 2012.

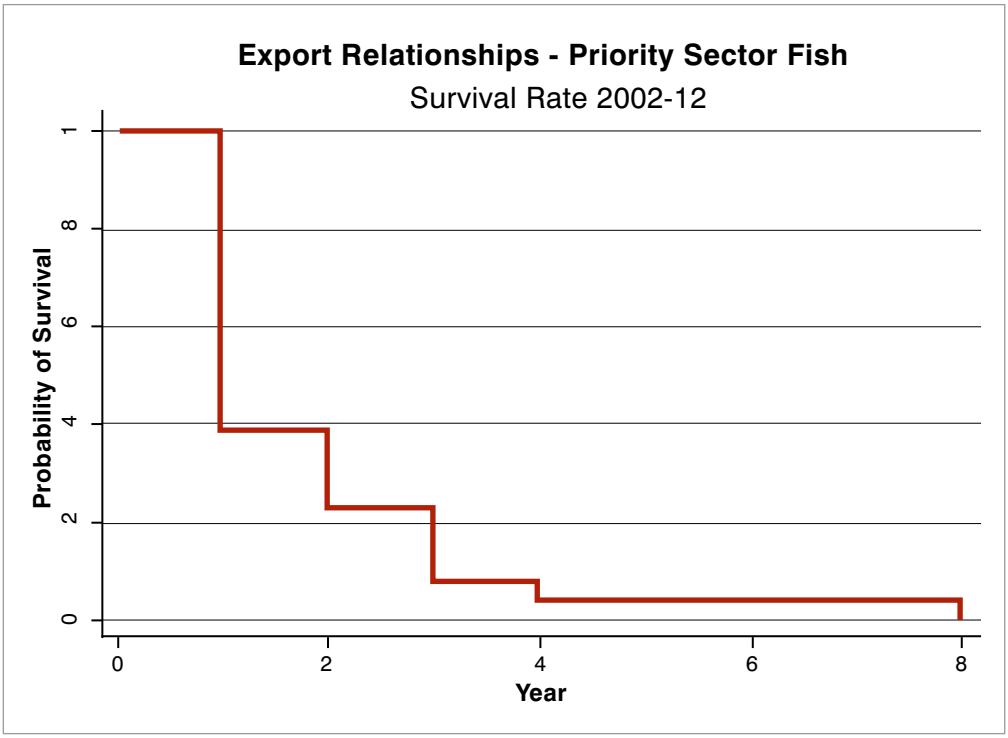
12. Liberian exports of crustaceans through formal channels are negligible and are therefore not captured here.

Table 9: *Liberian fish and crustaceans exports 2012*

Ranking	Export market	Exported value 2012 (US$ thousands)	Share in Liberia's exports (%)
	World	3 064	100
1	Germany	2 588	84.5
2	Togo	308	10.1
3	Switzerland	96	3.1
4	Hong Kong, China	70	2.3
5	Malaysia	2	0.1

Source: ITC Trade Map 2013.

Figure 5: *Export relationship trends in the Liberian fish and crustaceans sector*



Source: ITC calculations based on 4-Digit COMTRADE HS 2002 data.

TRENDS IN LIBERIAN EXPORTS

Export relationships in the fish and crustaceans sector are short-lived and unsustainable. As indicated in Figure 5, the probability of survival of an export relationship in the sector falls down to 40% after the first year. The second and third years see a sharp fall of almost 10% each. This drastic fall is one of the most pronounced across all the NES sectors.

- Liberia currently has almost no processing and proper post-harvest handling capability, which means that most export out of Liberia takes the most basic forms of fish and crustaceans, i.e. cleaned / sorted and frozen products.
- The little value added content that does exist, in smoking, salting etc. and in the small-scale manufacture of fish-based sauces, is aimed exclusively at the domestic and cross-border markets. In the absence of any data on these markets it has proved challenging to clearly identify Liberia's positioning in relative terms to, say, the other players in the region.

TRADE SUPPORT NETWORK

At the institutional level, capacities are weak in terms of human resources, funding and assets. As a consequence, fish and crustacean actors receive little support from extension services. Liberia lacks an extension system responsible for training, advisory services, facilitation of improved input supply, and providing gear related to fish and crustaceans.

There is a specific need to improve service delivery in areas such as enhanced monitoring of markets (including adequate levels of competition between intermediaries), provision of technical assistance for small players, provision of credit guarantees and building storage facilities.

The business support network likewise is in a low level of recovery, due to the lack of both investment and capacity. In the next few years as small and medium enterprise players become more active in the sector and demand becomes more specific and steady, there is potential for the creation of a strong support services network in the sector. At present, some of these functions are being performed by various development agencies as part of programmes / projects or by international NGOs.

MINISTRY OF COMMERCE AND INDUSTRY

MoCI has line jurisdiction on both imports and exports. There are currently no special departments by sector within MoCI, though this is a fundamental requirement to support development in at least the priority sectors.

BUREAU OF NATIONAL FISHERIES

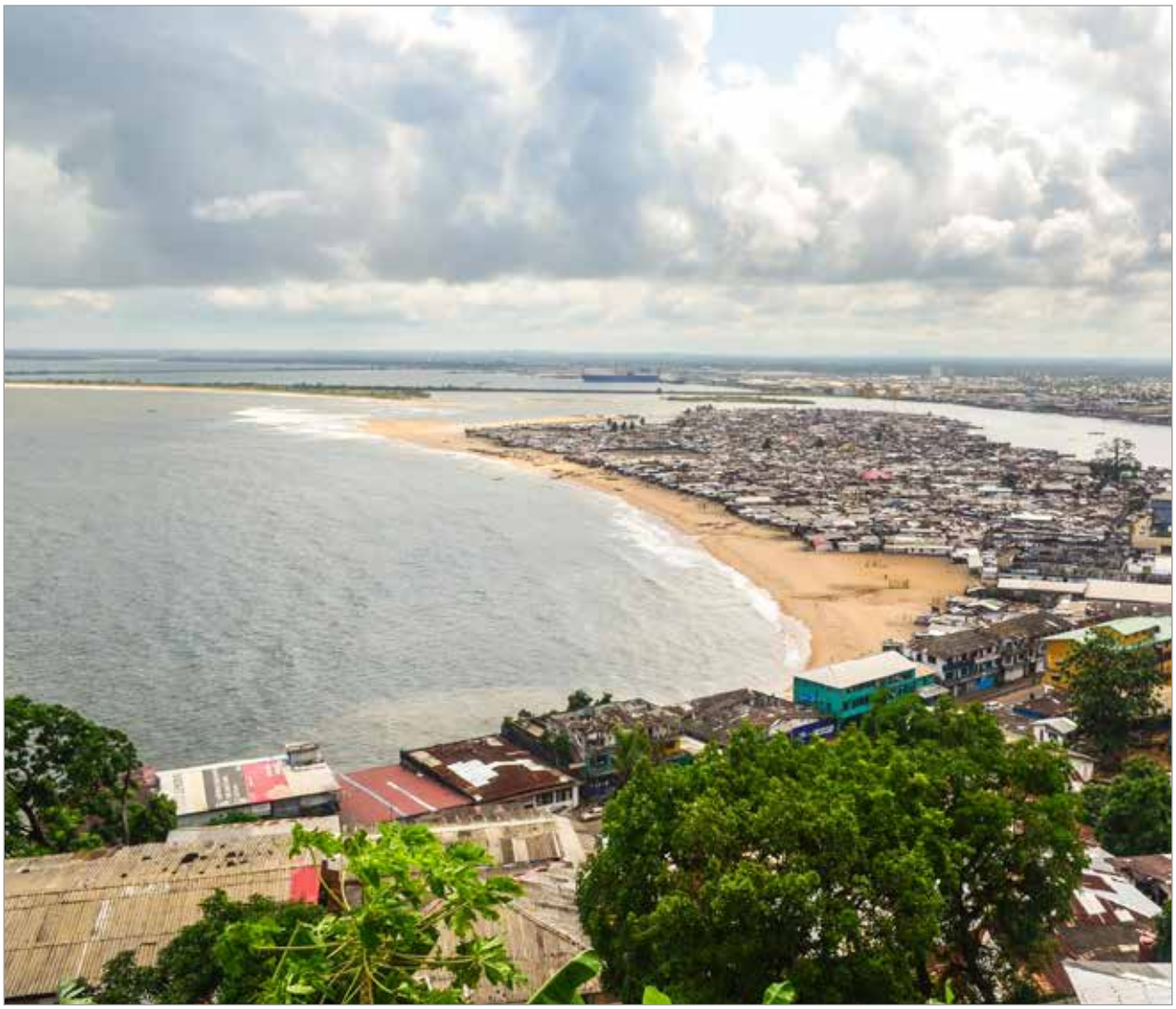
BNF is the single most important institution in the country that under one roof has the potential to drive the entire sector –whether marine, inland or aquaculture– at both artisanal and industrial levels. BNF also has a pivotal role in organizing and catalysing basic structures to provide trade support in the sector. Key heads of departments and other technical experts from BNF have now trained at some of the best institutions worldwide and are now, as a result of their training, able to give direction to their respective disciplines, although capacity is still thin. There is now a small but informed team of technical and fisheries management specialists who form the core team at BNF. This team needs the resources that will help them apply what they have learnt, as well as the support to hold their own overseas.

LIBERIA ARTISANAL FISHERMEN ASSOCIATION

The Liberia Artisanal Fishermen Association (LAFA) is the pre-eminent umbrella body in artisanal fishing. LAFA represents mainly the dominant Kru communities, but also acts as an important liaison between the different fish and crustacean communities such as the Fanti, Popoh and others. LAFA was established in December 2009 as a national umbrella body of all fishing associations representing the interests of fishing communities in the nine coastal counties of Liberia, with over 33,000 fisher folk and a total of 114 fishing communities along the coast of Liberia. LAFA's activities cover wide areas which include fishing, fish processing and preservation, and fish trade and marketing.[13]

LAFA has actively participated in the various policy and strategy formulation processes that have taken place over the years. LAFA has also been a primary partner representing the artisanal population in different programmes/projects that are active in the sector.

13. Republic of Liberia, Bureau of National Fisheries (2013). Artisanal Fisheries. Available from www.liberiafisheries.net/sectors/artisanal_fisheries/.



Source: jbdodane

LIBERIA FISHERMEN UNION

The Liberia Fishermen Union (LFU) is a recent phenomenon and represents the relatively small number of people in the skilled / semi-skilled Liberian workforce that has been employed by the roughly 50 or so vessels that have fished in Liberian waters since the end of the war. LFU has come into some prominence only in recent months, since the decommissioning of most of these vessels after the enforcement of the exclusion law. The association's future is directly connected to the future of industrial fishing in Liberia.

CENTRAL AGRICULTURAL RESEARCH INSTITUTE

The Central Agricultural Research Institute (CARI) is the pre-eminent research body in Liberia. CARI is mandated to cover all agriculture-related sectors. While CARI is receiving support (technical and financial) from many quarters, both within and outside the country, its ability to expand capacity, both physical and human, is still limited. Given the breadth of scope of its activities it will be some time before CARI can function at the same level of organization across different research areas. In fish and crustaceans there is urgent need for scientific research into species, into other allied areas and across the different types of fish and crustaceans activity ranging from marine to inland to aquaculture. CARI will require active institutional support from institutions in other parts of Africa and the world to augment its limited capacity to carry out active research.

DEVELOPMENT ACTIVITY IN THE SECTOR

Given the weak institutional capacity in the country to implement programmes supporting the fish and crustaceans sector, external parties have stepped in to assist the country in this task and to support the production of fish and crustacean products. Table 10 below provides a snapshot of the programmes currently in place in Liberia and being implemented by GoL and non-state institutions. The final goal is to build local capacity in order to enable existing Liberian institutions to conduct such programmes in the future, and to create new institutions whenever necessary.

The enforcement of fisheries regulations, especially the exclusion zones for artisanal and industrial players, have forced most if not all industrial vessels out of operation, due essentially to their being ill-fitted for deep sea fishing and the domestic market being uninterested in the species that they can catch now.

The inland fishing communities in the counties of Bong, Lofa and Nimba, and also the aquaculture communities, will be better connected by road to the capital region which is the projected hub for fish and crustacean exports, when the Monrovia-Gbarnga national corridor is complete (the country's first), in approximately five years' time. Important development partners such as FAO and the World Bank have added important infrastructure specific to the fish and crustaceans sector in Bong and Lofa counties.

Source: jbdodane

Table 10: *Programmes in support of the fish and crustaceans sector*

Programme	Implementing agency	Description
Food Security through Commercialization Project	FAO	This project aims to improve productivity and market access to farmers active in rice and vegetable production and fish raising. In Nimba and Maryland counties. The focus is on rice, vegetables, and cassava. In Grand Cru and Montserrado counties, the goal is to combine rice production with fish raising. After initial provision of tools, seeds and training, the current focus is on working down the value chain to provide storage, processing and market access. The project has already assisted farmers through one season of rice production. It has begun to work down the value chain and has constructed four units to provide cold storage, smoking facilities, and processing for fishing. Once projects are up and running, the next step is to have local community boards take over the ownership of the projects and operate them in a sustainable (business-oriented) way. The main challenge is to get farmers to internalize these ideas and to form such operating management units.
West Africa Regional Fisheries Program	BNF (Special Implementation Unit)	This is a regional programme to strengthen fishing-related governance and institutions, reduce illegal fishing and strengthen the fishing value chain. It is currently active in nine countries. In Liberia it has been planned to: create a regulatory framework for fishing; register fishermen; build a patrol unit and fisheries monitoring centre; rehabilitate the old fishing pier in Monrovia; set up a competent authority to conduct quality control for fish exports; and provide facilities (storage) for better management of the catch. The new Fisheries Act has been passed. The implementation team and office are operational as of September 2010. Nonetheless some challenges still lie ahead: i) BNF has very weak institutional capacity; ii) fisheries law is incomplete; iii) there is no landing facility for industrial fishing vessels; iv) the quality control function is lacking.
United Nations Industrial Development Organization artisanal fishing support project (project name not yet formalized)	United Nations Industrial Development Organization	This project will take a full value chain approach with the aim of supporting artisanal fishing by conducting a rough assessment of fish stocks; organizing fishermen into co-ops; helping them secure the right type of fishing gear, which will depend on the type and amount of stock identified; helping them secure appropriate cooling and storage; and enhancing their product reach (first internal markets, later export). The project faces some challenges, including the presence of widespread illegal fishing, lack of reliable electricity needed for processing facilities, and infrastructure constraints.
United Nations Development Programme Aquaculture Project	United Nations Development Programme, BNF	The project aims to build a fishpond to sell fingerlings to fish farmers. The pond has been realized and transferred to BNF, which is charging approximately 15 cents per fish. There are concerns about the sustainability of the pond.
BNF Rehabilitation and Pond Construction	BNF	BNF has submitted a proposal to the Ministry of Planning and Economic Affairs to construct and rehabilitate a total of 150 existing and new fish ponds in five counties (Lofa, Bong, River Gee, Nimba, Grand Bassa) in order to support artisanal fish farming inland. Budget and human resource constraints might limit the ability of BNF to manage the project.

Source: Compiled from various sources (programme websites and ITC).

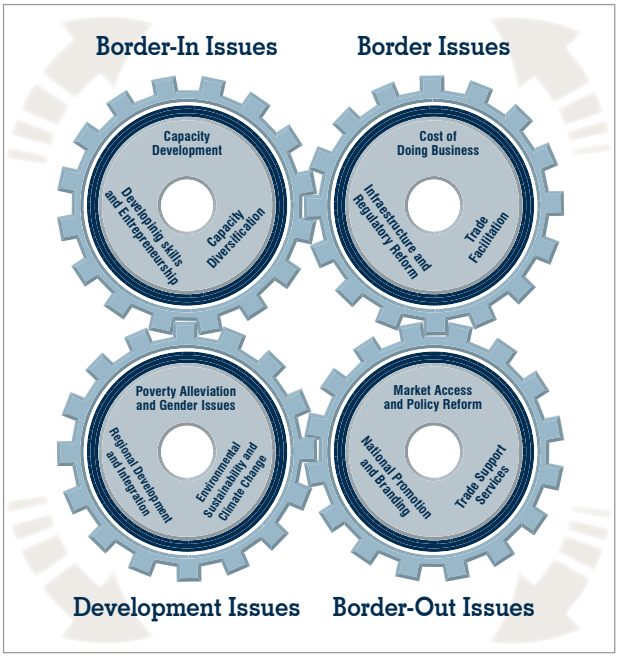
COMPETITIVENESS CONSTRAINTS

The four gears framework presented below determines the major constraints – within the country as well as outside – to export development and ways to overcome them.

- Supply-side issues affect production capacity and include challenges in areas such as availability of appropriate skills and competencies; diversification capacity; technology and low-value addition in the sector's products. This group of issues is also referred to as the **border-in gear.**

- The quality of the business environment includes issues that influence transaction costs, such as regulatory environment; export procedures and documentation; infrastructure bottlenecks; certification costs; Internet access and cost of export credit insurance. These constraints are grouped together and classified as the **border gear.**

- Market entry issues include questions of competitiveness that are essentially external to the country (but may also be manifested internally), such as market access; market development; market diversification and export promotion. These are referred to as the **border-out gear.**



Addressing these above categories would exhaustively resolve most major competitiveness bottlenecks. However, for an export strategy to be sustainable, it out to make the greatest socioeconomic impact. Issues that have a profound impact on people's lives need to be addressed in the NES design initiative.

- Social and economic concerns include poverty reduction, gender equity, youth development, environmental sustainability and regional integration. These developmental concerns form the **development gear.**

Box 2: The border-in gear (supply-side issues)

- The poor availability and high cost of input supplies is seriously impairing efficiencies in the sector as well as increasing operational costs.
- Increased competition with more sophisticated foreign operators.
- Investment in the sector is urgently required to improve infrastructure and fleets.
- Transformation and processing capacity in the sector is very low.
- There is a need to increase adoption of best practices in the sector.
- There is a need to improve collaboration and organization between the various fishing communities in the country.

The poor availability and high cost of input supplies is seriously impairing efficiencies in the sector as well as increasing operational costs

Inputs – even of the basic variety such as nets, fishing lines, hooks etc. – are in poor supply and are largely imported in the absence of a local support base. There are very few local suppliers of inputs in Liberia. The Fanti primarily depend on family and friends in Ghana to buy equipment and transport it via Côte d'Ivoire by boat. They sometimes resell the inputs to the Kru and Popoh communities, but there are high incidences of mismatch as these communities use smaller canoes and therefore cannot always use the inputs brought in by the Fanti.

In the industrial sector, trawling companies import vessels from overseas as well as almost all of their input supplies, including fuel and spare parts. The absence of an inputs sector means that – much more than for artisanal fishing communities – the industrial sector, which is so dependent on imports (including capital equipment and energy needs), is affected by: high import duties; the general unavailability of spare parts and maintenance services; the time taken to import goods; and problems related to energy unavailability.

Apart from the urgent need to develop a stronger inputs supply base domestically, there is an immediate requirement for an input needs pooling mechanism which will allow collective bargaining and the setting up of viable input import businesses.

Increased competition with more sophisticated foreign operators

The native tribes/clans do not have the gear with which to compete with foreign seasonal migrants. Anecdotal evidence suggests that most of the fish which is caught by these migrants in Liberian waters ends up in other countries – without any control or management whatsoever. This results basically from the lack of border control, as well as lack of monitoring capacity in remote interior areas. The loss is therefore not just of revenue for the country but also of direct income that Liberian fisher folk could be earning from fish exports.

Investment in the sector is urgently required to improve infrastructure and fleets

Investment activity is currently low and kept at a minimum since there is no guarantee of staying in business. Domestic and foreign investment in the sector has stayed low. Fleet development is capital intensive and as a result fleet sizes of companies have remained small.

All communities in the artisanal sector use outdated equipment and techniques, though the Fanti are relatively more advanced and use semi-mechanized fishing boats. The Kru and Popoh communities prefer immediate family ties as a basis for shared access to resources over other non-kin groupings such as cooperatives and associations.

The majority of active licensed trawlers have now exited the sector in Liberia, since they were not equipped adequately to fish beyond the six mile exclusion zone that has recently been put in place. This has increased their operating costs, as well as exposed them to competition with bigger and more sophisticated trawlers. Any diversification of capacity, therefore, will necessarily have to be based on addition of fleet capacity with the relevant technical specifications and manned by adequately skilled personnel.

Transformation and processing capacity in the sector is very low

Despite relative high quantities of high value species of fishes found in Liberian waters, including the longneck croaker, napleh, red grouper and tuna, the potential for processing and transformation has largely gone untapped. There is almost no capacity to process these high value species with extra care so that they can then be marketed at the premiums that imported fish is currently being purchased at. Currently, high value species are caught sporadically and consumed by restaurants and supermarkets. In the case of tuna, the catch takes place primarily at depths far from the coast which are inaccessible to existing Liberian fleets.

Existing pre-processing and processing facilities have had difficulty sustaining activity levels given that markets are undeveloped and primarily comprised of domestic consumers who prefer minimal value addition. Even if processing centres exist the challenge associated with unavailability of refrigerated transportation and distribution is a complementary problem that needs to be addressed.

The first basic value adding steps need to be built up on an immediate basis – such as cleaner smoking, drying, salting, filleting, freezing and packaging. Upgrades of facilities will have to be directly subsidised; made available as part of a public-private partnership mechanism between GoL and community organizations/cooperatives; or will have to be financed from debt based on business propositions.

Box 3: The border gear (business environment issues)

- Lack of solid data affects effective policymaking support in the sector.
- Lack of an efficient cold chain infrastructure results in heavy losses and loss of potential for capacity diversification.
- There is a vital need to develop infrastructure in fishing communities.
- Unreliable electricity supply affects the ability of enterprises to store / process catches.
- Weak institutional quality management infrastructure.
- Weak TVET infrastructure has led to very weak human capital in the sector.
- Stronger efforts are required to curb IUU.
- Access to finance is challenging for artisanal operators.
- Weak monitoring capacities of the Coast Guard / BNF affect ability to constrain IUU activity.

There is a need to increase adoption of best practices in the sector

Relatively simple post-harvest handling and processing, such as proper cleaning, timely preservation, sorting, filleting, smoking, salting and so on can add substantial value.

Skills training is a major challenge since literacy levels within fishing communities, and especially among women, are very low. Therefore, a focus on increasing the literacy levels in fishing communities is required over the medium to long term. In the short term, practical training courses on best practices in the sector can be used.

There is a need to improve collaboration and organization between the various fishing communities in the country

The presence of foreign and migrant fishing communities settled in Liberia has acted as a source of tension in the country for the last few decades, especially considering that some of these communities, such as the Fanti (originating from Ghana) are better equipped and have fared better than local communities such as the Kru. The Fanti are also better organized among themselves, while the Kru and Popoh communities prefer immediate family ties as a basis for shared access to resources over other non-kin groupings such as cooperatives and associations. There is an urgent need to improve organization levels among these groups so as to increase collaboration levels and exchange of best practices and technology.

Lack of solid data affects effective policymaking support in the sector

Sound policymaking is contingent on the availability of quality data – a capacity that has been severely compromised during the many years of conflict. Systems for collection, processing and analysis had all but ceased. It will be imperative going forward that the analytical basis of policymaking be significantly strengthened.

Lack of an efficient cold chain infrastructure results in heavy losses and loss of potential for capacity diversification

There is an urgent need to develop a functional cold chain that effectively connects the big hubs of Robertsport, West Point, Marshall and Harper in the south. A critical factor in the fish and crustaceans sector is the supply chain from boat to shelf. Given the product's almost zero shelf life in its natural form, fish and crustacean products have to be frozen almost straight after being harvested (even while at sea), especially given that Liberia is a tropical country with year round temperatures ranging between 25 and 35 degrees Celsius. Because of the lack of cold boxes on board canoes and boats, fish starts to putrefy already on board, which is the reason fishing trips in Liberia are typically shorter than in other countries.

Setting up cold chains is simpler said than done and requires private investment and technical management capacities. Both these being in short supply at the moment in Liberia, GoL, via its various agencies and the development community, will need to augment this substantial gap in a way that early gains are achieved and long-term local capacity is built.

The country's existing small cottage industry for fish sauce faces significant challenges in the form of lack of investment in infrastructure such as cold chains, low availability of inputs including packaging materials, lack of skilled / semi-skilled labour, and lastly the lack of information or support to enter markets.

There is a vital need to develop infrastructure in fishing communities

Fishing communities in Liberia, predominantly concentrated along the coast, are almost completely unconnected to markets by roads. Basic roads that do exist further become impassable during the long rainy season. As a result of this, getting the produce to markets (even domestic) away from the source has remained a significant challenge.

The lack of infrastructure is a challenge that is universally real for all sectors in Liberia. The fish and crustaceans sector is no exception. The list of essential infrastructure includes the big ticket items like roads and port facilities. Inputs such as energy and water supply are erratic at best and are concentrated in certain key nodes.

Unreliable electricity supply affects ability of enterprises to store/process catches

Greater Monrovia is still the only region in the country with a marginally reliable electricity grid. In terms of requirements for the fish and crustaceans sector, the majority of energy needs are in rural processing and warehousing hubs. There is a clear need for strategic policymaking to encourage investment – both public and private – in both extending the national energy grid to important rural locations and for off-grid localized energy solutions such as wind, solar or biomass-based.

Weak institutional quality management infrastructure

Liberia's quality infrastructure was almost completely destroyed during the country's 14-year civil war. While principles of quality management have gradually evolved at the policy level in post-conflict Liberia, implementation on the ground has stagnated due to financial, technical and human capital constraints. These constraints have consistently prevented standardization and growth of all the NES sectors and consequently Liberian enterprises cater primarily to the domestic market.

There is no standardization in terms of processing, quality or packaging requirements set by the government. Each player processes / packages and ships as per their own requirements, or requirements that are dictated by their primary buyer.

The National Standards Laboratory (NSL) is currently under observation by the International Organization for Standardization (ISO) and is not able to issue certificates for quality. It also suffers from severe human capital and technical weaknesses. Warehousing facilities are inadequate and tend to not be compliant with even the most basic hygiene requirements laid out by best practices.

Setting up a functional sanitary and phytosanitary regime and a compliance apparatus are both immediate needs that will give a crucial boost to the sector's prospects of opening up markets in the neighbourhood and further away in Europe and Asia.

Weak TVET infrastructure has led to very weak human capital in the sector

The curricula of universities and polytechnics is outdated and not in line with the needs of fishermen, processors and exporters. This is in line with the rest of the country's TVET infrastructure that was destroyed during the conflict and it is important to revitalize this base. Research institutions and universities alike are struggling in terms of scarcity of resources – financial and human capital as well as technical.

Stronger efforts are required to curb IUU

In West Africa a significant portion of IUU fish ends up within the region while another significant portion ends up in (relatively) nearby international destinations such as Europe. It is estimated that IUU fishing costs the West African region alone approximately US$ 300 million a year.[14] This number could be substantially bigger since it is the lack of monitoring systems that in part encourage IUU fishing in the first place. According to some studies total estimated catches in West Africa are 40% higher than reported catches.

The shelf around the Gulf of Guinea is among the most over-fished regions of the world in spite of the several fishing agreements that are already in place. One factor is the low readiness of West African countries in general to make use of the opportunities offered by technology transfer/possibilities of joint investment to develop domestic capability. Another is the difficulty of implementing clauses in recent fisheries agreements to mandate the landing of fish harvested locally, in order to give local post-harvest handling and processing industries the opportunity to participate in global value chains. While Liberia was effectively excluded from both the opportunities and shortcomings of the general direction the sector has taken in West Africa by the civil conflict between 1989 and 2003, the country has had to pay the price for increased overfishing in the region. As a result of regional overfishing, according to preliminary assessments

14. WARFP–MRAG (2010). *Estimation of the Cost of Illegal Fishing in West Africa Final Report.*

Liberia's fish stocks have shrunk by as much as 80%[15] compared to pre-conflict stocks.

The problem of porous borders is one that affects several sectors of the Liberian economy and that of its immediate neighbours to equal extents. Informal cross-border trade is an integral and crucial ingredient of food security and employment (gainful, albeit primarily informal) in the subregion, not to mention the overall stability of the subregion.

Recent studies have shown that the loss resulting from inefficient conduct of informal cross-border trade, or from the missed opportunity to serve markets in proximity formally, can lead to exploitation by illegal actors and large-scale losses can result from intraregional IUU.[16]

Access to finance is challenging for artisanal operators

The existing network of commercial banks is limited to the Monrovia region, which leaves out smallholders in the rest of the country. Banks are also unwilling to accept land in rural areas as collateral due to liability issues in case there is a need for foreclosure of defaulting accounts. Even in Monrovia, access is restricted for smaller players who are often unable to meet minimum collateral requirements or demonstrate creditworthiness.

The costs of borrowing vary depending on the type of lender approached. Microfinance institutions, which are active in rural areas, are able to lend at lower standardized rates while other private party lenders can be exploitative, providing loans at exorbitant rates.

Access to credit is not just a supply-side issue. Enterprises seeking credit are unable to demonstrate adequate levels of creditworthiness due to reasons both within and outside their control. Small-scale exporters are unable to secure firm orders from clients that they can present to banks. Additionally, historic distrust of the banking system has prevented the majority of rural Liberians from opening a bank account, which further prevents lending officers from gauging the risk levels associated with a loan application.

15. http://www.eaf-nansen.org/nansen/en

16. WARFP–MRAG (2010). *Estimation of the Cost of Illegal Fishing in West Africa Final Report.*

Weak monitoring capacities of the Coast Guard/BNF affect ability to constrain IUU activity

As discussed earlier, the six mile exclusion requirements recently put in place require trawlers to operate farther out at sea. This has increased their operating costs, as well as exposing existing operators to competition with bigger and more sophisticated trawlers, some of which are involved in IUU activity. There is a crucial need to improve the monitoring capacities of the Coast Guard by fleet augmentation, as well as by training more officers and staff involved in monitoring at the BNF and the Coast Guard. In the case of the artisanal sector, the weak capacities of BNF staff to effectively monitor the catch affects compliance with quality management.

High competition from neighbouring countries

As is the case with other sectors, other countries in the region have a significant advantage in terms of a foothold in international markets. The increased competition makes it more challenging for Liberian operators to penetrate target markets.

Lack of access to trade information

Along with the logistical and financial challenges that prevent potential exports from expanding their scope to international markets, operators lack reliable and timely trade information. The comprehensive lack of trade information is primarily driven by the domestic orientation of the sector. As capabilities across the value chain improve, access to quality trade information will be needed.

There is a need for greater engagement from Liberian representations in international markets

There is also an imperative for international Liberian representations to ramp up activity in international markets. Trade representations and embassies are among the best entities for providing market intelligence and other valuable information. A feedback loop can be created between Liberian representations and institutions such as BNF and MoCI to provide information about sector-related trends in specific markets.

Box 4: The border-out gear (market entry issues)

- High competition from neighbouring countries.
- Lack of access to trade information.
- There is a need for greater engagement from Liberian representations in international markets.

Box 5: Market access

World

The weighted average rest of the world tariff imposed on Liberia's exports is a low 0.3%, indicating favourable access conditions relative to the averages of 3.5% and 3.9% for sub-saharan Africa and least developed country comparators, respectively. The country's agricultural exports have easier access to international markets with a tariff of 0.04%, compared with the tariff of 0.3% on its non-agricultural exports.*

Economic Community of West African States

As a member of the Economic Community of West African States (ECOWAS), Liberia has generally committed to adopting its Common External Tariff and to a phased reduction and gradual elimination of tariffs and nontariff barriers on products of community origin. It currently has tariffs ranging from 0% to 25% but with the adoption of the Common External Tariff the maximum tariff will be reduced to 20%.

EU/United States

Negotiations to replace the expired trade preferences of the Cotonou Agreement and complete a regional Economic Partnership Agreement (EPA) between West Africa and the EU did not conclude by the end of 2007, as initially planned. At the time of drafting the NES the EPA had not been finalized. A negotiation round at technical and Senior Official level took place in April 2012 to proceed in drafting the text of the agreement. This was followed by another meeting in June where negotiators concentrated on issues related to market access.**

Although the EPA has not been finalized, Liberia's exports remain eligible for duty-free access to the EU under the Everything But Arms initiative for least developed countries. As a Generalized System of Preferences beneficiary with a number of industrialized countries, Liberia's exports enter the United States duty free under AGOA.***

In spite of the relatively favourable access conditions, Liberia's exports have been generally affected by severe supply-side constraints that keep them from effectively surpassing the non-tariff measures (NTMs) that characterize international trade.

* World Bank (2009). *World Trade Indicators 2009/10: Liberia Trade Brief.*
Available from http://info.worldbank.org/etools/wti/docs/Liberia_brief.pdf.
** European Commission (2013). Overview of EPA Negotiations.
Available from http://trade.ec.europa.eu/doclib/docs/2009/september/tradoc_144912.pdf.
*** World Bank (2008). *Liberia Trade Brief.*
Available from http://info.worldbank.org/etools/wti/docs/wti2008/brief108.pdf.

Box 6: The development gear (development issues)

- Inadequate involvement of young people in the sector's value chain.
- Increased unemployment stemming from regulatory changes.
- Environmental damage as a result of open waste disposal.

Source: ◌ jbdodane

Inadequate involvement of young people in the sector's value chain[7]

As a post-conflict society, it is essential to involve Liberian youth in activities that provide them with gainful employment. With 50% of the population in the age range of 15-25, positioning the sector as a promising career/occupational option for young people is crucial. Young people in the sector face much the same challenges as the other demographics, i.e., to transform a primarily subsistence sector into a viable and profitable job generating sector: to train a whole generation of young Liberians for a sector that is future oriented and focused on creating assets both natural and intellectual to create competitive advantages for the long term.

Increased unemployment stemming from regulatory changes

As a direct result of the exclusion zone regulation the majority of licensed (industrial) vessels seem to have stopped operations. According to the LFU the regulation has created widespread unemployment in the industrial sector.[17] The social downside of taking skilled and semi-skilled workers out of the workplace – i.e. unemployment of employable individuals – will affect the sector in particular and the Liberian economy in general.

In a skill-restricted environment such as the fish and crustaceans sector it is incumbent and important to preserve and foster the stock of productive knowledge that exists. These workers should form the base from which the industrial sector will re-emerge, in a non-confrontational symbiotic relationship with the artisanal sector.

Environmental damage as a result of open waste disposal

There are currently no requirements laid out under law for specific recycling of fishery waste, As a result, large-scale open waste disposal is a problem.

17. Allafrica.com (2012). Liberia: Fishermen Union – 'WARFP's Regulation Affects Fish-Market'. *Heritage*, 22 March. Available from www.Allafrica.com/stories/201203220975.html.

WHERE WE WANT TO GO

The following vision has been developed towards the goal of increasing the export competitiveness in the Liberian fish and crustaceans sector:

> "A viable sector that will boost sustainable livelihoods and export competence among small and medium-sized enterprises across the sector value chain."

The vision statement for the sector was developed as a result of in-depth consultations with a wide range of stakeholders representing GoL, the industrial fishing economy, the artisanal economy, LAFA, input importers and manufacturers, and providers of logistics and other critical support services. This vision reflects the comprehensive scope of the strategy and its strategic intent to transform the sector so that it will be an engine of inclusive growth, a vehicle for greater regional integration, and a promoter of the 'Made in Liberia' brand in markets.

The scope for improvements in the fish and crustaceans sector is immense and extends along the value chain. In some cases it involves strengthening existing linkages, while in other areas structural modifications to the sector are required. Both these types of improvements must lead to *market penetration* (increasing exports in existing markets), *product development* (increasing exports of new products in existing markets), *market development* (increasing exports of existing products in new markets), and *full diversification* (increasing exports of new products in new markets).

This envisaged future state of the fish and crustaceans sector is discussed in greater detail below.

Market and strategic options

As indicated in the introduction, the envisioned future state of the sector has been developed using a combination of consultations, surveys and analyses. This future state consists of two components:

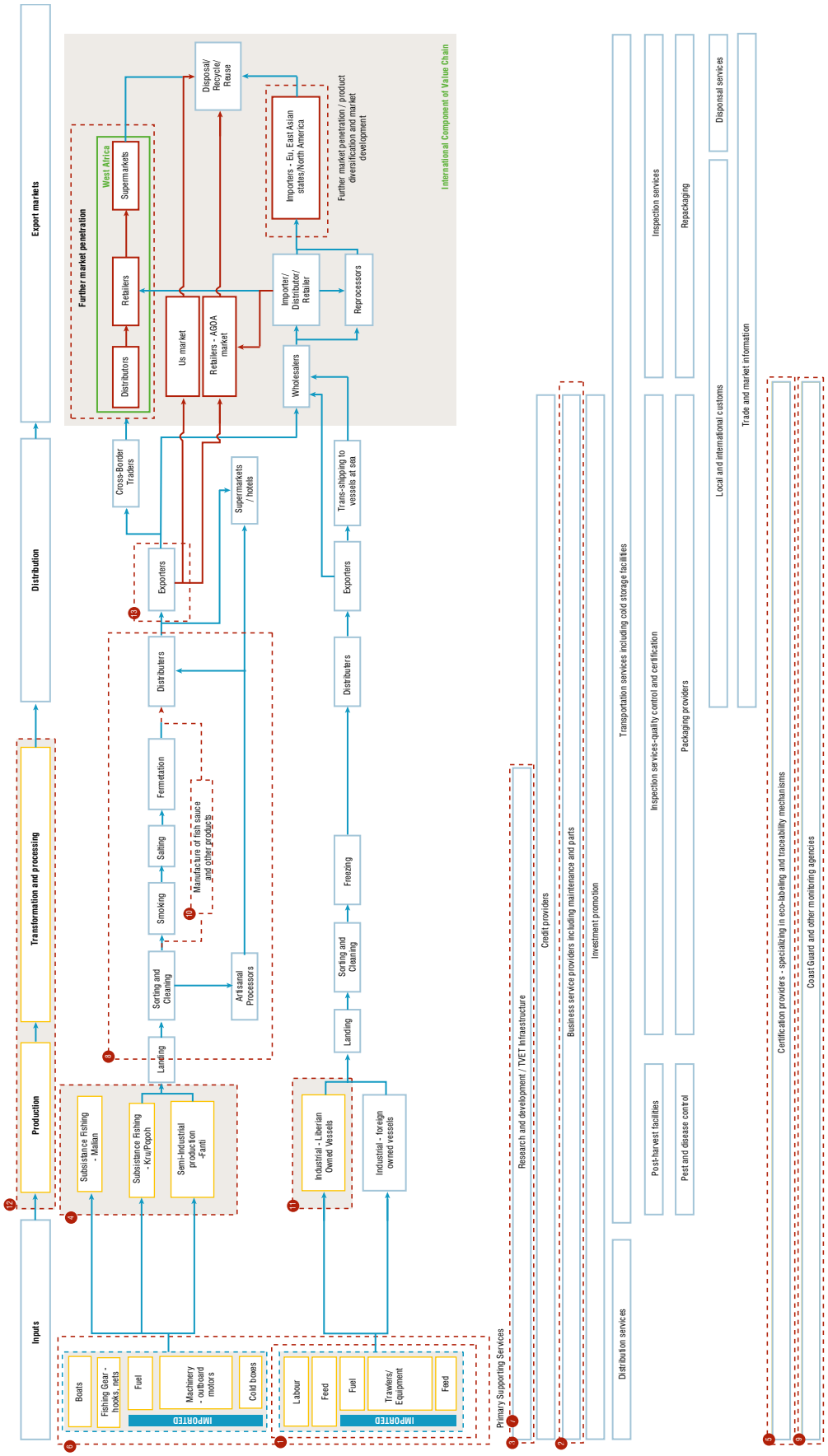
- Structural changes to the value chain that result in either strengthening of linkages or introduction of new structural linkages; and
- A market-related component involving identification of key markets in the short and medium-to-long terms for exporters.

The market identification was based on a combination of trade analysis conducted by ITC for identifying potential target markets and consultations with sector enterprises. Both short-term and medium-to-long-term target market options are assessed.

The projected structural changes to the sector are based on efficiency gains identified through the four gear analysis of the sector's performance and through the identification of opportunities for improving the sector's capacity to acquire, add, create, retain and distribute value.

Figure 6 indicates the proposed future value chain for the sector.

Figure 6: *Future value chain of the Liberian fish and crustaceans sector*



Source: Sector Consultations.

STRUCTURAL ADJUSTMENTS TO THE VALUE CHAIN

The following are key areas of structural adjustments to the sector value chain that will occur through the implementation of this strategy.

1. Development of a local inputs supply base in addition to the existing imports supply

While maintaining the imports supply route, efforts will be made to develop a local supply base for important inputs such as better fishing gear (e.g. poly filament nets of optimum, legally allowed sizes) etc. There is an immediate and urgent need for an input needs pooling mechanism which will allow collective bargaining and the setting up of viable input import businesses. The inputs market is completely foreign-owned and as such represents a major source of value leakage for the sector.

2. Development of a strong business support network to provide support services to sector operators

Trade support services by their very nature can be applied across sectors and as such will have multiplier effects across sectors. Important support services such as cold storage facilities, maintenance and parts supply, inspection services and quality control are also currently provided by foreign-owned companies.

3. Increased cooperation between local and regional/international institutions active in the sector

In the last few years, BNF has benefited from the specialized training received by selected staff members at various leading fisheries management programmes ranging from graduate work on value added activity to PhD work at the United Nations Fish University in Iceland. This level of cooperation is expected to increase and will augment the human capital of the sector. Specifically, this initiative will result in the development of the solid middle management layer which is currently lacking.

4. Increased organization levels and knowledge sharing between operators in the artisanal sector

In recent years there have been growing levels of collaboration between the migrant and Liberian communities. There is a growing realization among the various communities that collaboration is more beneficial than competition for scarce resources. Efforts will be made through recommendations in this strategy document aimed at supporting these initiatives. Cooperation levels between the different migrant / foreign communities that are active in the Liberian fisheries sector (such as the Fanti), and indigenous tribes such as the Kru will be strengthened. This cooperation will take the shape of knowledge transfer, cross-pollination of ideas and resources etc. Specific focus will also be on positioning women in the various communities as conveners and key influencers.

5. Explore eco-labelling and other certifications to be applied to the sector in the medium-to-long term

Eco-labelling is an important development that allows consumers around the world to modify their purchasing behaviour based on rejecting products that have uncertain origins. This is especially important to curb overfishing. Eco-labelling offers a clear opportunity not just to transform the fish and crustaceans sector systematically but also to pitch the 'sourced in Liberia' brand around the world. Given the low existing base of the sector, the application of eco-labelling as well as other certifications will only be possible over the medium-to-long term.

Box 7: Eco-labelling and types of eco-labels

Eco-labels are defined as 'seals of approval given to products that are deemed to have fewer impacts on the environment than functionally or competitively similar products', the rationale for basic labelling information at the point of sale being to link fisheries products to their production process.

- First party labelling schemes: These are established by individual companies based on their own product standards. The standards might be based on criteria related to specific environmental issues known to informed consumers through the media or advertising. This form of eco-labelling can also be referred to as self-declaration.
- Second party labelling schemes: These are established by industry associations for their members' products. The members elaborate certification criteria, sometimes by drawing upon external expertise from academia and environmental organizations. Verification of compliance is achieved through internal certification procedures within the industry, or employment of external certifying companies.
- Third party labelling schemes: These are usually established by a private initiator independent from the producers, distributors and sellers of the labelled products. Products supplied by organizations or resources that are certified are then labelled with information to the consumers that the product was produced in an 'environmentally friendly' fashion. The label (seal) is typically licensed to a producer and may appear on or accompany a product derived from a certified fishery or producer. Producers are usually expected to track the 'chain of custody' of their products in order to ensure that the products derived from the certified fishery are in fact those that are so labelled. In some instances the private initiator accredits other organizations to be the certifier. An accrediting body provides some degree of assurance that the certifier has been trained by an accredited training programme and is qualified to perform an evaluation against a specific set of criteria in a given field. While the criteria may be established through a negotiation process among the various interested parties, they are often motivated by the environmental objectives of the private initiators of such schemes.

Environmental organizations and consumers generally prefer eco-labelling schemes of this type because they give heightened confidence that private commercial interests will not compromise the criteria applied to the schemes and strict compliance with them based on verifiable and impartial certification procedures.

Source: Deere, C. (1999). *Eco-Labelling and Sustainable Fisheries* p. 6. FAO / IUCN.

6. Gear upgrades, especially at the artisanal sector, will help develop capacity diversification in the sector

Diversification of species caught in the sector based on use of better/more powerful gear and better techniques would result in dealing with products (new species) which are relatively unknown in Liberia and therefore primarily constitute diversification of productive capacity.

7. Significant efforts to revamp the TVET infrastructure, aimed at developing the human capital in the sector in line with the following skills identified by the National Capacity Development Strategy

- Fishery biology
- Marine biology
- Benthic ecology
- Aquaculture / restocking bodies of water with fish
- Fish stock assessment
- Fisheries economists and statisticians
- Microbiology
- Fish pathology
- Fish nutrition
- Chemical analysis of nutritional content of fish
- Provision of fishing gear
- Boat building
- Dock management.

Efforts will focus on developing programs, both at the university / technical institutional level and at the field level, to enable significant augmentation of specialized skills in all the above areas.

Source: jbdodane

8. Focus on mainstreaming involvement of women in the sector value chain

Given that women dominate the downstream segment of the fish and crustaceans sector, increasing capacity for product diversification of the artisanal sector will achieve growth and development targets simultaneously. A targeted investment and skills programme to especially train young women to take on more and more complex and higher value roles will help achieve the substantial potential in domestic, regional and international markets. A focus on increasing the literacy levels in fishing communities is required over the medium-to-long term. In the short term, practical training courses on best practices in the sector can be run.

Interventions in the fish and crustaceans sector, especially those aimed at downstream activities, will ensure that women maintain their strong role in the sector and build on the functional distribution system that they have so painstakingly built and maintained through some really tough times in Liberia's recent history.

9. Provision of support to existing efforts to curb IUU in the sector

Efforts to educate fishing populations on the impact of IUU will be of immense importance. IUU in the artisanal sector is a more complex issue to deal. This will require fresh approaches to educate and empower poor fish and crustaceans communities from within and outside Liberia both to recognize activity that is clearly harmful and illegal and to work with the authorities to regulate the sector to mitigate small-scale IUU that can adversely affect the entire sector when the effects are agglomerated.

Conservation is another important factor. If the sector is to be managed successfully, there is an important need to recognize the rights and needs of both present and future generations. Conservation of resource wealth should be a priority, using the precautionary management approaches –wherein information on the abundance, distribution, and productivity of the target species as well as the policies for decision making are developed efficiently. Equitable sharing of the responsibility of resource management and sustainability, in compliance with the conservation standards and guidelines is also important.

10. Product diversification, including manufacture of fish sauces

Processing of products to be more consumption ready through filleting, salting, cocktails and manufactured sauces is one way which will not just add immediate value but also lay the basis for the creation of better and longer lasting skills.

The manufacture of fish sauces is an important first step to consolidate a cottage industry that already exists –mostly in the informal space– and can with fairly basic support be organized to better access (enter) domestic and cross-border markets. A select few examples exist of local entrepreneurs setting up basic manufacturing units to supply supermarkets and restaurants/hotels across Monrovia and some other major urban centres such as Buchanan, Robertsport and Ganta. Most other sauces available on the market are manufactured in homes and hand packed in basic packaging for sale in supermarkets and regular daily/weekly markets, mostly in the Greater Monrovia region.

Box 8: Fish post-harvest technology platform

The FAO-led Food Security through Commercialization of Agriculture program has provided a 'Fish Post-Harvest Technology Platform' for the Banjor Beach Community. With this new fish processing facility, fishermen may no longer need to hurry off on their fishing trips again as there will now be opportunities to preserve their fish, both at sea and through the on-shore facility. The project has an outboard motor that will be used to help fishermen bring their catch to shore. This is in addition to a facility which produces ice flakes that fishermen buy and package in ice containers for their fishing trip. In this case, fish caught while at sea are preserved until the trip ends. Back on shore, the catch is taken to the processing facility where it is cleaned, cut up, iced or smoke dried, and packaged. This provides a better presentation to attract customers, who come in to purchase or order the delivery of processed fish.

The programme is community-led and includes a number of women and youth in the management structure. The Deputy Minister of Agriculture, Dr. Moses Zinnah, sees this as significant because it plays into the larger policy programmes of the government. At the launch of the facility on 25 May 2012, the Secretary of the Banjor Progressive Fishing Organization said they have already registered with the Cooperative Development Agency and have deposited more than $30,000 in a bank account.

The fish processing facility is an effective follow up to the West African Regional Fishery Project (WARFP), which is a World Bank funded project 'to strengthen the capacity of Liberia to govern and manage targeted fisheries, reduce illegal fishing and increase local value added to fish products.'

Source: FAO sector report 2010.

11. Upgrade of fleet capacities in the industrial sector

To build the high degree of export competitiveness levels that are envisioned for the sector it will be essential to upgrade the capabilities of the industrial fisheries subsector significantly. This will be achieved through a variety of measures, one of which will include the provision of funding/credit at flexible terms for suitable enterprises that wish to procure trawling vessels/equipment/inputs and enter the sector. Capability will also be developed through an overhaul of the TVET infrastructure aimed at developing human capital for the industrial subsector. The development of an effective inputs supply chain (involving an increased domestic suppliers' presence) will also be an integral part of the strategy.

12. Additional support to develop the aquaculture and inland fisheries subsectors

The aquaculture and inland fisheries subsectors are still in the nascent stages of development, and the latter is especially focused on subsistence harvesting. While this strategy is primarily aimed at the marine fisheries sector, the aquaculture and inland fisheries subsectors will also benefit from the initiatives laid out in the PoA. The strategy also includes specific interventions such as upgrading of aquaculture ponds.

13. Improved trade information and in-market support for the sector

As discussed earlier in the four gears competitiveness constraints section, there is an important need to improve access to trade information for sector operators who are potential/existing exporters. The strategy proposes interventions involving BNF, MoCI and foreign Liberian representations to develop a solid feedback loop which will feed information on consumer preferences, market trends, import/export requirements etc. to operators in the sector.

MARKET IDENTIFICATION

Target markets identification is constrained by the current extremely small base of the Liberian fish and crustaceans sector, as well as the presence of larger and relatively well-established regional neighbours who have a foothold in international markets.

The analysis and the stakeholder consultations conducted as part of the NES design process have indicated that, with concerted efforts directed along the sector's value chain, the strategy will be consolidating rather than visionary in nature for the time period encompassed by this phase of the NES (2014-2018). During this period existing trade relationships and bilateral geographical distances

will be the major criteria determining the markets for Liberian fish and crustacean products. Market penetration in existing markets will be the main mode of market entry.

In the longer term it is expected that the evolving capacities of Liberian exporters – across multiple dimensions including quality management, supply capacities, product diversification, time to market efficiency, and marketing / branding, in conjunction with the improving business environment, infrastructural improvements and other export value chain improvements affected by the NES and sector PoA implementations – will allow exporters to target other markets in the medium-to-long term which seem hard to penetrate now. However the identification of such markets now – given the low base of the sector – will be purely indicative in nature.

SHORT-TERM TARGET MARKETS

DOMESTIC MARKET

Given Liberia's position as a net importer of fish products, domestic markets are an important mode of market penetration for operators in the sector. Improving operations in the domestic market – with dedicated focus on maintaining quality and supply consistency levels – will help operators build capabilities that can be translated to building export relationships over the medium-to-long term.

The demand for quality fresh fish and other processed products such as fillets and smoked fish in the premium retail sector, as well as in the tourism/hospitality sector, is relatively significant. Additionally, the expat community in Liberia represents a relatively strong and stable market segment, offering operators in the sector access to a consumer base characterized with diverse preferences. Any expansion of production of species not preferred by local populations or surpluses from local sources can first service this internal 'export' demand – which represents a captive and growing market given the large investments and development projects taking place in several sectors in the country.

AGOA MARKET

The high demand for fresh cassava fish in the AGOA market stems from a large number of West African nationals who have exhibited high consumption rates of the product. There is high potential to penetrate this market through existing retail distribution channels and relationships.

WEST AFRICAN REGIONAL STATES (CÔTE D'IVOIRE, GHANA AND NIGERIA)

There is considerable demand for fish-based pepper sauces from Liberia in the subregion and as far away as Nigeria. This offers significant potential to the still nascent fish processing cottage industry in Liberia. As the capabilities of sector operators become more sophisticated, and combined with the growing access to business support services such as packaging etc., Liberian exporters will also be better positioned to export fresh/frozen/processed fish to regional neighbours such as Côte d'Ivoire and Ghana.

CHINA, JAPAN AND THE REPUBLIC OF KOREA

The majority of the licensed fishing vessels that actively operated until recently in Liberia are of far eastern origins, and originated from China, Japan and the Republic of Korea. While detailed information is scarce, it is estimated that the Liberian operations of these trawling companies were limited to landing catch, freezing and trans-shipping to other ships at sea. This is a good opportunity for the sector to consolidate its position and systematically re-establish export relationships with these important fish consuming markets in East Asia, especially for the high value premium species, that have no (or negligible) domestic demand.

MEDIUM-TO-LONG TERM TARGET MARKETS

UNITED STATES

While the U.S. market is currently inaccessible, there is potential over the long term to reach this market when quality and supply consistency levels improve. Dried fish (unsalted) has a high demand in United States markets, especially from the African diaspora based there. There is potential to develop relationships with wholesalers in specific markets and gradually move to other modes of entry.

EUROPEAN UNION

The West African region as a whole, and Liberia by deduction, is a prominent supply destination for the EU, as evidenced by the presence of active EPAs with every country in the region with the sole exception of Liberia, particularly for certified eco-labelled niche products such as sustainably harvested tuna for high premium retail markets in the EU 27.

If properly nurtured, there is an opportunity in the long run to capitalize on the high demand in European markets, especially for barracuda, which is native to Liberia. One of the leading EU importers for fish products – Germany – is the main consumer of Liberian fish. This relationship can be strengthened through increased market penetration efforts. Another leading importer, Spain, has a high demand from crabfish due to consumer preferences among both citizens and foreigners living in Spain.

Source: jbdodane

HOW TO GET THERE

STRATEGIC OBJECTIVES

Five strategic objectives are considered necessary for realization of the sector vision. Accompanying each of the strategic objectives are operational objectives that will support the realization of the strategic objective and the overall vision.

Strategic objective	Operational objective
Boost productive capacity of the sector.	• Strengthen the inputs market in the fish and crustaceans sector. • Identify needs and build initial capacities in the Liberian inland fishing and aquaculture sector. • Assist the industrial sector in scaling up operations. • Increase organization in the sector. • Strengthen research and development capability and human capital development in the sector.
Improve infrastructure and the overall business environment in the sector.	• Strengthen infrastructures to create more efficiencies, reduce costs, and improve quality of production. • Improve access to credit for sector operators. • Curb IUU activity in the sector. • Improve quality management infrastructure in the sector. • Improve infrastructure for post-harvest and processing.
Improve the institutional support framework pertaining to the sector.	• Strengthen BNF through technical, human capital and financial support mechanisms. • Provide strengthening support to LAFA to transform its service delivery vis-à-vis all issues related to the artisanal sector.
Facilitate adequate access to trade information and in-market support to potential and existing operators in the sector.	• Improve in-market support in target markets. • Develop the domestic market in line with the emerging capacities of the sector. • Improve access to trade information and market intelligence in the sector.
Support the sector's development objectives of gender equity and environmental growth and stability.	• Support decision-making ability and opportunities for female actors along the value chain. • Ensure that sector operations maintain environmental balance.

IMPORTANCE OF COORDINATED IMPLEMENTATION

The broad range of activities, together with the complex nature of integrated intervention, requires careful implementation that efficiently directs resources and monitors results at both the micro and macro levels. To this end, a Liberian Export Council (LEC) will be established in order to facilitate the public-private partnership in elaborating, coordinating, and implementing the NES. In particular, LEC will be tasked with coordinating the implementation of activities in order to optimize the allocation of both resources and efforts across the wide spectrum of stakeholders. Within this framework, implementation of the fish and crustaceans strategy also falls within the purview of LEC.

Such efforts will involve directing donor, private, and public sector organizations towards the various NES priorities in order to avoid duplication and guarantee maximum impact. Responsibilities will also include monitoring the results of activities and outputs, while at the same time recommending policies that could serve to enhance realization of the strategic objectives. With a 360 degree view of progress the Council will be best placed to manage funding and provide regular reports to donors and stakeholders. Moreover, LEC will play a key role in recommending revisions and updates to the strategy so that it continues to evolve in alignment with the country's evolving needs.

IMPLEMENTATION PARTNERS – LEADING AND SUPPORTING INSTITUTIONS

In addition to LEC, a variety of stakeholders will be critical to the successful implementation of this strategy. These include public sector actors such as MoA (primarily BNF), MoCI, MoFA, LAFA and LFU and also private sector/civil society organizations that have a history of providing assistance to the sector and are well positioned to assist.

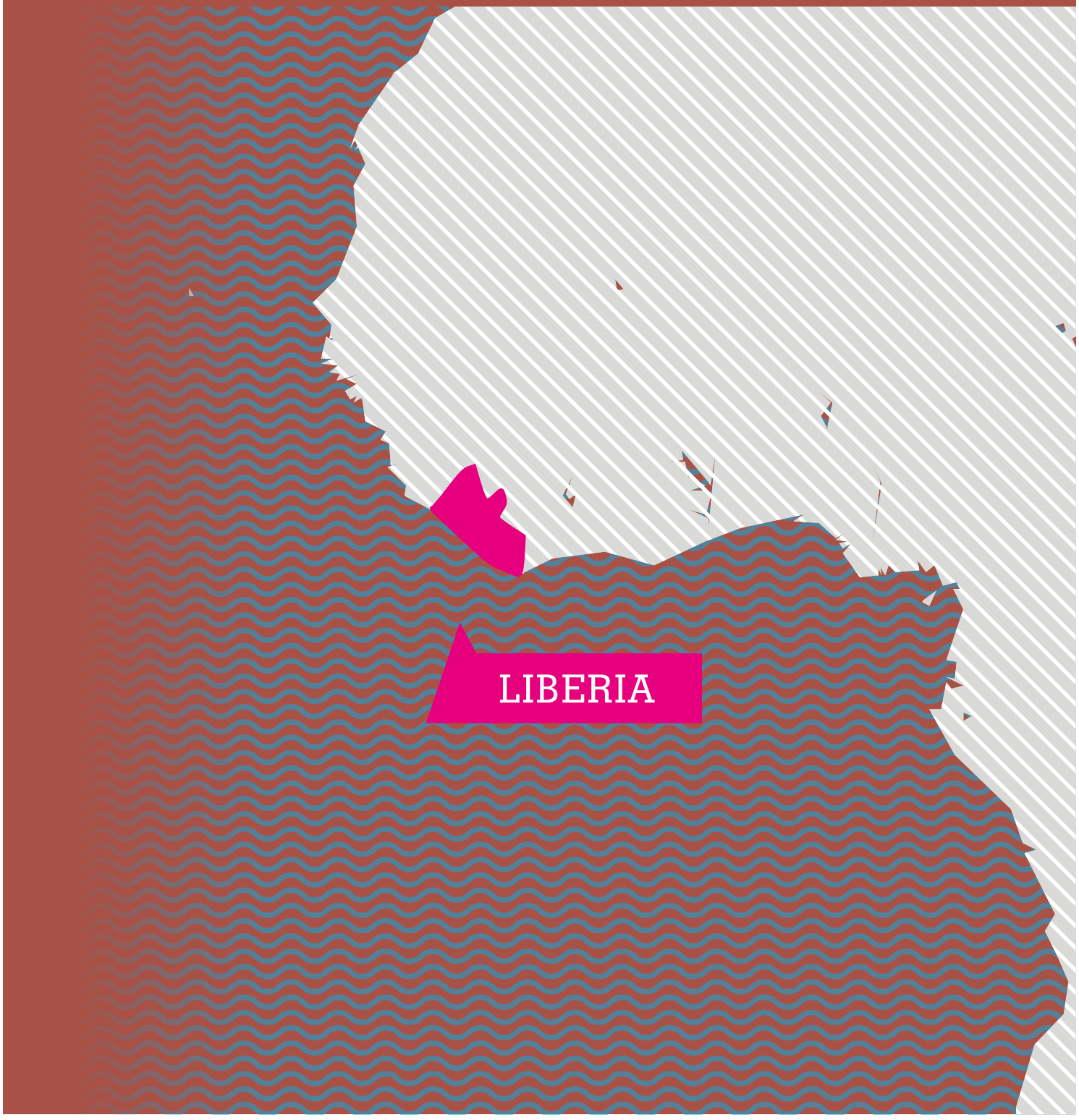
CONCLUSION

To drive improvements in the sector, it will be important to leverage the different interventions already taking place and consolidate as many gains as possible from across policy, institutional, regional, scientific, livelihoods and conservation/adaptation perspectives to optimize the business environment within which the sector operates. This will then optimize the commercial (growth) opportunities, and consequently the development opportunities, offered by the sector.

Liberia can use the lessons from the experience of its neighbours and other countries the world over to protect its marine and inland fishery resources; recognize and protect the criticality of the sector to maintain employment and food security for poor populations; and channel much needed foreign direct investment into creating lasting sources of competitive advantage for the sector.

THE **REPUBLIC OF LIBERIA**
NATIONAL EXPORT STRATEGY

SECTOR STRATEGIC PLAN OF ACTION



Strategic objective 1: Boost productive capacity of the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
1.1 Strengthen the inputs market in the fish and crustaceans sector.	1.1.1 Establish a gear upgrade facility in a public–private partnership with commercial lenders / development partners that will: » On a priority basis finance the replacement / upgrade of Liberia's outdated canoe fleet, specifically outfitted to exploit particular species; » Extend the upgrade to net replacement - from mono to poly filament, to outfitting canoes with 3-bhp outboard motors, ice boxes to freeze catch while at sea, ice flaking chisels, life jackets, first aid kits, seaworthy plastic sheets, nylon ropes and radio sets / mobile smart phones for recording important readings - fish migration, species presence, presence of debris and presence of pollutants, and for reporting IUU.	3	S	Producers	» Gear upgrade facility setup by mid-2015 » Canoes upgraded and outfitted in each of the three nucleus communities (30 per community as an initial pilot basis) » Vessels upgraded / outfitted: 10 in 2014/2015, 15 in 2016/2017	BNF	Development partners, MoCI	M
	1.1.2 Advocate for a simpler import regime on fish and crustacean (FandC) inputs and accord FandC across the board exemption as per the executive order on imports in the agriculture sector: » Add a specific, detailed list of FandC inputs to the exemption list; Create awareness among existing inputs suppliers and among fishermen to use the exemption; » Monitor exemption usage rates and address additional barriers as they arise due to procedural difficulties in using the facility.	2	S	Producers	FandC list explicitly added to executive order on agricultural imports	BNF, MoCI		L
	1.1.3 Develop a supply base of service providers who will cater to the FandC sector: » Establish an FandC business services support programme. » Identify private sector players in all nodal areas with either existing input (or related) businesses or with potential to receive support to set up inputs businesses. Compile a sector business service providers directory; » Establish a business service providers association for the sector; » Train business service providers to create business plans based on revenue forecasts and signed contracts so as to be able to borrow against receivables and booked orders; » Establish an incubator programme for businesses.	3	S	Entire value chain	Deliverables for a - d to be finalized by end-2014 e – Incubator programme launched by mid-2015 for first batch of enrolled businesses	BNF	Seamen Union, LAFA, LFU, Ministry of Education, MoCI	M
1.2 Identify needs and build initial capacities in the Liberian inland fishing and aquaculture sector.	1.2.1 Finance projects to upgrade boats to harvest Liberia's rich inland fish resources. Upgrading will be facilitated through the gear upgrade facility discussed in activity 1.1.1.	2	S	Operators in the inland fishing sector	Boats for inland fishing outfitted – 10 per year between 2014 and 2017	BNF	Development partners, MoCI	M
	1.2.2 Conduct a study to identify technological enhancements and other key requirements for developing the inland fishing sector.	2	S	Operators in the inland fishing sector	Study conducted by end-2015	BNF	MoCI	L
	1.2.3 Finance project proposals in nodal areas to augment Liberia's productive capacity in the aquaculture subsector, especially as an alternate income source for farmers, particularly during lean seasons. Develop a pilot initiative to upgrade ponds.	2	M	Operators in the aquaculture subsector	Ponds upgraded – 15 per year between 2014 and 2017	BNF	Development partners, MoCI	M
	1.2.4 Conduct a study to identify technological enhancements and other key requirements for developing the aquaculture sector.	2	M	Operators in the aquaculture subsector	Study conducted by end-2015	BNF	MoCI	L

Strategic objective 1: Boost productive capacity of the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
1.3 Assist the industrial sector in scaling up operations.	1.3.1 Create an FandC industrial sector development fund that will serve medium and large operators to procure equipment / inputs and scale up operations. Project finance business plans in industrial fishing that will target the 7–200 mile zone for different medium / high value species. Financing to include vessels meant for demersal and pelagic deep sea fishing – vessel length ranging from 20 to 50 metres.		M	Industrial sector	» Fund set up and capitalization by mid / end 2016 » Submission of business plans and project financing to start early 2017	BNF, Central Bank of Liberia (CBL), Ministry of Finance (MoF)	MoCI, National Investment Commission (NIC)	H
	1.3.2 Commission a comprehensive study for identifying large-scale value added products that can be developed through the industrial sector, in sync with demand in international markets. The study will also conduct a parallel assessment of indicative infrastructural improvements / investments required to build capacity of operators to develop the identified products.	2	S	Industrial sector	Study conducted by end-2014	BNF, LFU	MoCI	M
	1.3.3 On similar lines as LAFA (operating for the benefit of the artisanal sector), establish an industrial operators alliance that will act as a formal networking platform for medium / large-scale operators. As an alternative to creating a new organization, explore the role / capabilities of LFU to fulfil this mandate.	2	M	Industrial sector	Alliance / platform set up by end 2014	BNF, LFU	LAFA, MoCI	M
	1.3.4 Ramp up capacities of LFU as an important representation of the interests of industrial operators: » Constitute an interim management committee to draft a formal Terms of Reference for the Union. Conduct a needs assessment of human resource needs and infrastructural requirements of LFU to fulfil its day to day operations; » Formalize LFU's role as an accredited NGO.	2	M	Industrial sector	» LFU formally constituted as an NGO by mid-2014 » Terms of Reference developed by mid-2015	LFU, BNF	MoCI	M
	1.3.5 Develop and formalize an investment promotion team specifically for the fishery sector at NIC that will, together with relevant stakeholders, design and manage a marine fisheries anchor investment promotion programme based on a detailed and factual (updated statistics) benefit cost analysis.	3	M	Industrial sector	» Team formalized and set up by end -2014 » Technical investment proposal developed by mid-2015	NIC	BNF, MoCI	M
	1.3.6 Launch an incentive package for investment in the industrial FandC subsector – including tax breaks and time-bound concessions in the 7–200 nautical mile zone, with clear minimum thresholds for Liberian ownership and Liberian employees at all levels – aimed at both recently discontinued businesses and potential new entrants, importers and otherwise.	3	M	Industrial sector	» Incentive package approved: 2014/2015 » Concessions awarded - 2015/16	NIC, BNF	MoCI, MoF, CBL	H
1.4 Increase organization in the sector.	1.4.1 Conduct a study to identify the potential of co-management associations to increase organization levels and enable an influx of best practices and technology. The study will also contain a needs assessment for scaling up operations using the recently established co-management association in Robertsport Grand Cape Mount County as a basis.	2	S	Fisherman / processors	Gap analysis and identified requirements in the short, medium and long terms related to co-management associations.	BNF, LAFA	MoCI	L

Strategic objective 1: Boost productive capacity of the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
1.4 Increase organization in the sector.	1.4.2 Create a networking / skills transfer / grievance resolution mechanism / platform for the main communities active in the sector (Fanti, Kru, Popoh, Ewe communities), as well as between all artisanal communities as part of a larger umbrella organization that will bring together all artisanal communities and the industrial fishing sector: » The mechanism will create a pan-Liberian community dialogue for debating, recording, and resolving issues and grievances in a harmonious manner; » It will also transfer best practices from the relatively sophisticated Fanti community to other community operators such as the Kru / Popoh and will focus on using outboard motors, nets, handling techniques etc.; » One of the key focus areas of the mechanism will be strengthening contacts between fishermen, fishmongers, processors and exporters; » The mechanism will take shape as a consultative forum that takes place on a regular basis. An important feature will be institutionalization of cross-mentoring by elders from the main communities.	2	S	Operators from all communities active in the artisanal sector	Platform, schedule developed for regular dialogue between the various communities involved at the artisanal / aquaculture level	LAFA, Fanti, Kru, Popoh associations	BNF, Cooperative Development Agency(CDA), Co-Management Association at Robertsport	L
	1.4.3 Set up an indigenous / foreign / migrant workers knowledge systems repository project that will: » Undertake a formal documentation study of the various traditional knowledge systems, tools and other stocks of productive knowledge that exist within the various fishing communities that have made Liberia their home. The focus will be on communities indigenous to Liberia as well as migrant / foreign tribes (such as the Fanti) that have exhibited a high degree of resilience and innovation across the West Africa region; » Capture the knowledge and best practices associated with communities, both indigenous and foreign / migrant, operating in the artisanal sector; » Create joint-community project proposals for fostering greater community to community cooperation.	3	S	Operators from all communities active in the artisanal sector	Survey / workshop based exercise to begin in mid-2014 and end by mid-2015	LAFA	BNF, MoCI	M
1.5 Strengthen research and development capability and human capital development in the sector.	1.5.1 Conduct a feasibility study to explore addition to the mandate of CARI, or setting up a new fisheries research institution (close to the coastal areas). Depending on the results of the study, draft a technical proposal for either establishing a fisheries division within CARI or establishing a new institution.	3	L	Entire value chain	» Feasibility study conducted by end 2014 » Technical proposal developed by end-2015 » Funding identification and development of facilities / recruitment of staff begins mid-2016 / early-2017	CARI / MoA	MoCI, MoF	M
	1.5.2 Establish 'twinning' programmes with leading fisheries research universities and institutions: » Set up a fund to sponsor the above programme and involve the diaspora and international fishery enterprises active in Liberia for assistance in setting up the fund; » Set up a talent search programme to attract young Liberians interested in the fisheries sector and sponsor young scholars to undertake undergraduate / graduate research work.	2	M	Young Liberians interested in undertaking entrepreneurial activities in the sector	» Memoranda of Understanding and modalities of collaboration between institutes established by end-2014 » Fund set up by mid / end 2015 » Programme initiated in early 2016, with an initial batch of 10–20 scholarships awarded	MoA	MoCI, University of Liberia (among other universities)	M

Strategic objective 1: Boost productive capacity of the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
1.5 Strengthen research and development capability and human capital development in the sector.	1.5.3 Develop educational instruments aimed at increasing fisheries / crustaceans / aquaculture specialization in Liberia: » Inclusion of major universities within an existing working group or through BNF to discuss TVET needs of the sector including curricula overhaul etc.; » Develop specialized graduate level courses / degrees to be offered at key Liberian universities (on a pilot basis); » Implement new methods of managing and monitoring shrimp farming to ensure sustainable exploitation of shrimp reserves / fisheries; » Develop educational programmes (masters and postgraduate certificate levels) in collaboration with Liberian universities as well as potential regional / international partners.	3	L	Entire value chain	» Regional / international partners identified and Memoranda of Understanding signed by mid-2015. » Curriculum development, staff recruitment, procurement of equipment, and required accreditation of specialization completed by mid-2016 at select universities on a pilot basis. » First batch of candidates to initiate coursework by mid-2017	BNF, Ministry of Education	University partners (Liberian, regional and international), MoCI, LAFA, LFU, Bureau of Maritime Affairs	H
	1.5.4 Establish a 'Fishermen Field Schools' pilot initiative that will share knowledge, techniques and opportunities through field trainings conducted on-boat and at landing sites. » Set up a formal quality management programme covering the industrial players, key artisanal communities across the Kru, Fanti, Ewe and Popoh communities. » The schools will also focus on providing support to the nascent field of aquaculture.	3	S	Entire value chain	» Pilot program established in end-2014 » Training to be conducted across the main pilot hubs including Robertsport, West Point, Banjor, Marshall, and Grand Kru	LAFA	BNF, Co-management association, Bureau of Maritime Affairs	M
	1.5.5 Set up an artisanal FandC post-harvest handling and processing skills development programme to cover all major fishing clusters in marine and inland / aquaculture fishing in the following areas of activity: post-harvest hygienic handling, modern drying techniques, ice plant handling / servicing / flaking, and sorting and filleting.	3	S	Operators active in the processing centre	» Programme setup by end 2014 » On a pilot basis, 500 candidates trained in key hubs	BNF	LAFA, MoCI	M
	1.5.6 Explore the possibility of procuring a used fishing vessel from Amsterdam / regional centres and converting them to a training vessel for use by BNF / Bureau of Maritime Affairs.	2	M	Entire value chain	» Feasibility study conducted by 2014 » If deemed viable, funding will be secured across 2015, and vessel to be procured by end-2016	BNF, Bureau of Maritime Affairs	MoCI and Seaman Union	H

Strategic objective 2: Improve infrastructure and the overall business environment in the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
2.1 Strengthen infrastructures to create more efficiencies, reduce costs, and improve quality of production.	2.1.1 Upgrade key existing landing sites in all three regions, including: » Provision of privately operated toilet facilities; » Running potable water and child care facilities for the fisherwomen who carry out post-landing handling and processing.	3	S	Processors	Upgrade completed by end-2015	BNF, NIC	CBL, MoCI	H
	2.1.2 Establish a processing centre at Marshall based on a formal three way collaboration between community / BNF / investor: » Construct / install a landing pier, weighing stations, washing area, drying room, rooms for smoking, filleting, marinating and packaging, and a cold storage facility; » Create a refrigerated distribution chain complete with pickups / trucks.	3	S	Processors	Marshall centre operational in 2016, with processing facilities established and development of an efficient cold chain	BNF, NIC	CBL, MoCI	H
2.2 Improve access to credit for sector operators.	2.2.1 Develop specialized financial instruments specific to the needs to various actors in the sector value chain and ensure that banks make these instruments available, including microfinance products, micro insurance, short-term bridging financing and medium term capital investment products.	3	M	Entire value chain	Financial instruments developed	CBL, BNF	Banks, MoCI	M
	2.2.2 Develop a simplified guide in appropriate languages explaining provisions for credit access to operators across the sector so that information on accessing credit is readily available.	2	M	Entire value chain	Guide developed by end-2014	CBL	BNF, MoCI	L
2.3 Curb IUU activity in the sector.	2.3.1 Enforce fisheries regulations with regard to the artisanal subsector so as to mitigate / eliminate IUU in the artisanal subsector and by illegal immigrant populations.	2	M	Entire value chain	Artisanal IUU decreased by 50% by 2018	BNF	Coast Guard	M
	2.3.2 Set up a joint monitoring and surveillance system between Mano River Union countries, including information sharing protocols between the respective coast guards; aligning surveillance inspector selection / training; and outfitting surveillance vessels with adequately sophisticated radio equipment, video equipment and protective gear etc.	2	L	Entire value chain	Monitoring system set up and joint surveillance system operational 2017	Coast Guard, Manu River Union secretariat	BNF	H
	2.3.3 Commission a detailed stock assessment of the main pelagic, demersal and shrimp species and establish clear maximum sustainable yield levels for the industrial operators and the various fishing communities that share the EEZ. Agree on specific targets for specific species at specific times during the harvest season.	3	S	Artisanal and Industrial operators	Assessment to be completed on a regular basis	BNF, Liberia Institute of Statistics and Geo-Information Services		M
2.4 Improve quality management infrastructure in the sector.	2.4.1 Conduct a gap analysis of required quality standards relevant to the fishery sector with a focus on marine, inland and aquaculture subsectors, and develop quality requirements / standards based on identified gaps.	3	S	Entire value chain	Industry specific requirements / standards issues by end-2014	MoCI, BNF		L

Strategic objective 2: Improve infrastructure and the overall business environment in the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
2.4 Improve quality management infrastructure in the sector.	2.4.2 Add laboratory facilities in the three nucleus locations to reduce the need to send samples overseas. Increase local testing knowhow and help organize recognition from international quality compliance accreditation agencies.	3	M	Entire value chain	Technical proposals finalized by end-2014 » Request for proposal and tenders issued by mid-2015 » One lab each for the three nucleus locations setup by end-2016 / mid-2017	BNF	NIC, MoCI, NSL	H
	2.4.3 Setup a Training of Trainers (ToT) program to train trainers who will conduct community-based coaching sessions related to best practices. Curriculum development will be a logical first step: » Trainers will be members of communities that are being targeted to ensure local ownership and buy-in; » Community-based trainings will target processors and quality control technicians within enterprises to gain and apply industry-leading quality best practices.	2	S	Artisanal operators across the value chain	» Program set up by end 2014 » Curriculum and ToT trainings completed by mid-2015 » Pilot trainings conducted by trainers in each of the main communities starting mid-2015	LAFA	BNF, MoCI, Co-Management Association	M
	2.4.4 Develop the country's first market-driven quality manual for the sector, in all relevant local languages. Disseminate the manual through established networking platforms / community hubs.	2	S	Entire value chain	» Manual developed by mid-2015 » Separate manuals developed for cross-border trade markets, emerging markets (Southeast Asia), and United States / EU	LAFA, BNF	MoCI	L
	2.4.5 In an effort to target the EU / United States markets, conduct a comprehensive study on integrating eco-labelling and other certification capabilities within the sector: » Market research on key markets, along with identification of key requirements; » Development and issuance of relevant quality standards by authorities; » Develop a national roadmap for developing traceability mechanisms in the sector; » Solicit support from international certification firms (who are accredited in terms of eco-labelling etc.) to develop a national roadmap for integrating eco-labelling and other certification requirements within the sector, including provisions for building capacities at both enterprise and institutional levels.	3	L	Entire value chain	» Market research on key markets, along with identification of key requirements, conducted by end-2014 » Quality standards issued by NSL / BNF / MoCI and other relevant authorities by end-2015 » International consulting / certification firms contracted; roadmap completed by end-2016	BNF	MoCI, NSL, LAFA, LFU	H
	2.4.6 Speed up the accreditation of the newly inaugurated metrology laboratory in Monrovia to enhance credibility of measurement instruments and reduce overall cost of doing business.	3	M	Entire value chain	Accreditation complete	BNF	NSL, MoCI	M
	2.4.7 Develop an awareness-raising campaign aimed at the Coast Guard and the marine inspection cadre focused on the responsibilities and punitive action associated with: » Irregular behaviour, acceptance or facilitation of informal payments, abetment of non-compliance or non- / under reporting.	2	S	Coast Guard and marine inspection cadre	Campaign developed and deployed by end-2014	Coast Guard / marine inspection cadre, BNF	MoCI	L

Strategic objective 2: Improve infrastructure and the overall business environment in the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
2.4 Improve quality management infrastructure in the sector.	2.4.8 Follow up on compliance related to recent definition and classification of areas earmarked for artisanal fishing, in order to exploit the increased stocks that will presumably ensue from the demarcation. Ensure adequate monitoring levels and identify gaps in monitoring and requirements for resource augmentation.	2	S	Artisanal operators	» Compliance levels identified on a rolling basis starting mid-2014 » Resource gaps identified on a rolling basis starting mid-2014	Coast Guard / marine inspection cadre, BNF	MoCI	M
2.5 Improve infrastructure for post-harvest and processing.	2.5.1 Implement pilot projects around Mesurado and Buchanan aimed at post-harvest handling and storage compliance, specifically for the small and medium enterprise sector, as per international standards for shared infrastructure in fish processing: » Development of infrastructure (including wharfs, storage facilities) to support / improve the quality of artisanal fishing products that are meant for further processing and export.	3	M	Entire value chain	» Project proposals finalized by mid-2015 » Project financing needs completed, and implementation to begin early-2016	BNF, MoCI		H
	2.5.2 Construction of cold storage facilities at major fishing ports to allow producers and exporters to temporarily store products in a hygienic manner.	3	M	Producers, processors and exporters	» Project proposals finalized by mid-2015 » Construction to begin early-2016	National Port Authority, BNF	MoCI	H
	2.5.3 Construction and restoration of fishing ports in Greenville and Harper to allow lower cost access to fishing vessel owners relative to commercial port usage.	3	M	Entire value chain	» Project proposals finalized by mid-2015 » Construction to begin early-2016	National Port Authority, BNF	MoCi	H

Strategic objective 3: Improve the institutional support framework pertaining to the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
3.1 Strengthen BNF through technical, human capital and financial support mechanisms.	3.1.1 Set up a core team with specific 'desks' within the fisheries policy unit to facilitate representation and specialization for all subsectors including: » Marine; » Inland; » Aquaculture, artisanal and industrial fisheries; » Domestic / foreign enterprises; » Women-owned enterprises / female operators along the value chain. Develop Terms of Reference for the specific desks in terms of policy analysis and research.	2	S	BNF	» Units / 'desks' established by mid-2014 » Terms of Reference developed by mid-2014	BNF	MoCI, MoF	M
	3.1.2 Systematize data / statistics collection, documentation and dissemination within the different divisions / units / desks at BNF.	2	S	Entire value chain	Process mapped out and communicated to all responsible parties in the BNF	BNF	MoA	L
	3.1.3 Develop a comprehensive human resources skills development programme related to general management skills and fisheries policy analysis and formulation for senior management.	2	S	Senior management / policymakers, BNF	» Training launched in end-2014 » 10 graduates by mid-2015	BNF	MoCI, MoA, MoF	M
	3.1.4 Conduct a requirements analysis for the fisheries policy unit to identify needs for office equipment and quantitative / qualitative research software and related hardware: » Create an information / multimedia resource / library centre for the policy unit with instructional / research material from around the world on overall fisheries management; » Fulfil identified requirements either through annual budget allocations or through donor support.	2	S	BNF	» Fully equipped unit (hardware and software) by end-2014 » Information centre equipped and running by mid-2015	BNF	MoCI, MoA, MoF, development partners	M
	3.1.5 Implement the recommendations of the National Capacity Development Strategy specific to the sector in partnership with the United Nations University Fisheries Training Programme and other such leading providers of research and training in the sector: » Maintain support to BNF staff members for pursuing higher education (masters and PhD work) at the UN Fish University in Iceland through scholarships and grants.	2	S	BNF	» Support funding secured by end-2014 » Application process formalized by end-2014 » First batch of selected candidates (up to five) deployed for one year periods beginning in the 2015 academic year.	BNF / United Nations Fish University	MoCI, Ministry of Education	M
	3.1.6 Augment the monitoring capacity of BNF through increased staff levels: » Rationalize the 'observer' model put in place by BNF to monitor foreign vessels, which has led to conflicts of interest / illegal activity in the past.	2	M	BNF	» Assessment of human capital requirements related to monitoring staff completed by mid-2014. » 'Observer' process studied and rationalized » Budgetary allocation / funds secured through development partner support by mid-2015. » Additional monitoring staff hired by end-2015.	BNF	MoCI, MoF	M
	3.1.7 Set up BNF's sector promotion website to offer relevant business opportunities and market information for producers and exporters as well all relevant information and contacts for interested importers.	2	S	Entire value chain	Website design initiated in early 2014, and completed by end-2014	BNF	MoA, MoCI	L
3.2 Provide strengthening support to LAFA to transform its service delivery vis-à-vis all issues related to the artisanal sector.	3.2.1 Develop a multi-year strategic / operational plan for LAFA which clearly spells out a detailed vision, strategic objectives and outcomes: » Provide training to the LAFA senior management team to develop the operational plan as well as identify resource needs over the strategy timeframe; » Identify promising candidates for a middle management layer that will provide support at the village / community / cluster levels. Carry out a comprehensive training for this layer in the fundamentals of management related to: » MSME development; » Facilities / infrastructure management; » Supply chain management.	2	M	LAFA senior and middle level management	» Participatory exercise involving LAFA senior management launched mid-2014 » Strategic / operational plan developed by end 2014 » Five middle management level candidates identified for each of the three pilot hubs by early 2015. Training imparted by mid-2015	LAFA	BNF, MoA, WARFP	M

Strategic objective 4: Facilitate adequate access to trade information and in-market support to potential and existing operators in the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
4.1 Improve in-market support in target markets.	4.1.1 Develop a trade support function within key regional and international missions / representations: » Institute an in-market support service at the missions in Dakar, Accra, Abuja, Freetown and Conakry; » Initiate a sector promotion initiative in key existing (until recently) markets where tariff-free access exists – i.e., China, the Republic of Korea and Japan – via the mission in Beijing; » Institute an in-market support service at the trade and information office in Philadelphia, and the missions in Berlin / Rome and London for the EU market segments; » Facilitate increased participation in international trade shows by consulates and trade representations to provide greater promotion and visibility for Liberian marine products.	3	S	Exporters	» Trade support functions established / strengthened by early-2015 » Tools / modalities for in-market support service finalized by mid-2015 » Services instituted on an ongoing basis starting mid-2015	MoFA, BNF	MoCI	M
	4.1.2 In an effort to re-establish market positions with former destinations such as China, the Republic of Korea, Japan etc. in frozen fish export for direct consumption, conduct detailed market access and non-tariff measures studies for key fish consuming markets in Southeast Asia: China, the Republic of Korea and Japan, as well as in the EU and United States.	2	S	Exporters	Studies conducted by end 2015	MoCI, BNF		M
	4.1.3 Organize a delegation of Liberian exporters to key target markets, or vice versa, to facilitate networking and deal-making with large-scale procurement agents (related to direct consumption retail markets for frozen fish).	2	S	Exporters	Event organized by end-2014	MoFA, BNF	MoCI	M
	4.1.4 Conduct a study to establish the current level of compliance with the requirements of the impending EPA being negotiated, as well with other fishing agreements that are already in place or in need of being negotiated with major non-EU markets such as the United States, China, the Republic of Korea and Japan.	2	S	Exporters	Study completed and recommendations submitted by end-2014	BNF	MoCI	L
4.2 Develop the domestic market in line with emerging capacities of the sector.	4.2.1 Conduct a study to improve access to national markets for operators in the sector as their supply capacities increases: » The study will focus on mechanisms to optimize market share of food security markets (with regard to FandC needs) in all major fishing areas in the country / other consumption hubs away from major landing sites, and connected food-insecure areas in the subregion. » The study will further identify supply chain needs to facilitate better connections (roads / transportation) and market development.	2	M	Entire value chain	» Improved supply of FandC products (Liberian suppliers) to food-insecure regions / markets in the country as well as to previously » Improved share of local FandC products in the overall supply of sector products, vis-à-vis imports.	BNF	MoCI	L
	4.2.2 Improve linkages between the sector and tourism operators, specifically hotels and restaurant: » Organize an event to facilitate business deals between sector operators / organizations and local restaurants and hotels; » Initial focus on facilitating business deals in Monrovia.	3	S	Fishermen / processors	Event held in mid-2014	LFU / LAFA, BNF	Ministry of Information, Culture and Tourism, MoCI	L

Strategic objective 4: Facilitate adequate access to trade information and in-market support to potential and existing operators in the sector.								
Operational objectives	Activities	**Priority** 1=low 2=med 3=high	**Entry point of intervention** S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
4.3 Improve access to trade information and market intelligence in the sector.	4.3.1 Generate regular bulletins on the changes in stock levels; opportunities for alternate income sources via new species exports; cross-border trade; and market trends in international markets.	2	S	Exporters	Bulletins produced / disseminated via radio to cover all major communities – 2014	BNF	WARFP, MoCI	L
	4.3.2 Generation of market intelligence reports by Liberia Institute of Statistics and Geo-Information Services / MoCI / NIC to cater to the trade information and investment information needs of the sector: » Develop a dissemination mechanism to ensure regular dissemination of reports to stakeholders.	2	M	Entire value chain	First iteration of reports finalized by mid-2015	Liberia Institute of Statistics and Geo-Information Services, MoCI	NIC	M
	4.3.3 Carry out a detailed segment by segment assessment of the best markets for the Liberian FandC products sector, based not just on market preferences but primarily the possibilities to negotiate better market access agreements: » Development of country-specific market entry plans for high value / opportunity target markets identified by the market attractiveness analysis.	2	S	Exporters	Assessment and market entry plans developed by mid-2014	MoFA, BNF	MoCI	M

Strategic objective 5: Support the sector's development objectives of gender equity and environmental growth and stability.								
Operational objectives	Activities	Priority 1=low 2=med 3=high	Entry point of intervention S – short term M – medium term L – long term	Primary beneficiaries	Target measures	Leading implementing partners	Supporting implementing partners	Estimated costs (high, medium, low)
5.1 Support decision-making ability and opportunities for female actors along the value chain.	5.1.1 Improved training among women operators/ market women in the fishing communities on: » Price negotiation » Management practices » Increasing literacy levels.	2	S	Women operators in the sector	Training curriculum developed by mid-2015 Trainings integrated in existing / planned field / on-site training mechanisms by mid-2016	Ministry of Gender and Development, BNF	LAFA	L
	5.1.2 Establish BNF women's unit chapters at all processing hub locations to support across the board increase in value added by women and young fishermen / FandC entrepreneurs.	2	S	Female operators along the value chain	Chapters established by end-2014	BNF, Ministry of Gender and Development	MoCI	M
5.2 Ensure that sector operations maintain environmental balance.	5.2.1 Create a curriculum around ecosystem approach principles and techniques with local language versions: » Focus on minimizing unsustainable practices such as using dynamite, pesticides and other such destructive practices in FandC harvesting; » Incorporate the curriculum within interventions across the board including within 'Fishermen Field Schools' discussed earlier.	2	S	Entire value chain	Curriculum finalized by end-2014 Pilot trainings (through integration within existing / planned trainings) conducted in early-2015	BNF	LAFA, LFU, Environmental Protection Agency	M
	5.2.2 Develop regulations concerning fishery waste and requirements for disposal.	2	S	Entire value chain	Regulations drafted by mid-2014 and submitted for approval	MoCI, BNF	LAFA, LFU	L

BIBLIOGRAPHY

Allafrica.com (2012). Liberia: Fishermen Union - 'WARFP's Regulation Affects Fish-Market'. Heritage, 22 March. Available from www.Allafrica.com/stories/201203220975.html.

Béné, C., Hersoug, B. and Allison, E.H. (2010). Not by Rent Alone: Analysing the Pro-Poor Functions of Small-Scale Fisheries in Developing Countries. Development Policy Review, Vol. 28, Issue 3, pp. 325–358.

Deere, C. (1999). *Eco-Labelling and Sustainable Fisheries.* FAO / IUCN.

DFID / MRAG (2009). Policy Brief 7: *Fisheries and International Trade.* Available from www.mrag.co.uk/Documents/PolicyBrief7_International_Trade.pdf.

Drammeh, O.K.L. (2007). Fisheries and Aquaculture Policy of Liberia. Draft final report.

EAF Nansen initiative - Strengthening the Knowledge Base for and Implementing an Ecosystem Approach to Marine Fisheries in Developing Countries. Accessible at http://www.eaf-nansen.org/nansen/en

European Commission (2013). Overview of EPA Negotiations. Available from http://trade.ec.europa.eu/doclib/docs/2009/september/tradoc_144912.pdf.

FAO Fisheries and Aquaculture Information and Statistics Service (2013). Available from www.fao.org/fishery/topic/16140/en. Accessed 3 December 2013.

FAO (2012). *The State of World Fisheries and Aquaculture 2012.* Rome.

FAO (2007). Fishery and Aquaculture Country Profiles: The Republic of Liberia. Available from www.fao.org/fishery/countrysector/FI-CP_LR/en.

FAO (2007). *Title unknown* Available from www.fao.org/docrep/012/k7480b/k7480b04.pdf.

Marquette, C.M., Koranteng, K.E., Overa, R. and Bortei-Doku Aryeetey, E. (2002). Small-scale Fisheries, Population Dynamics and Resource Use in Africa: The Case of Moree, Ghana. *AMBIO: A Journal of the Human Environment,* Vol. 31, No 4 (June 2002). Royal Swedish Academy of Sciences.

Republic of Liberia, Bureau of National Fisheries (2013). Artisanal Fisheries. Available from www.liberiafisheries.net/sectors/artisanal_fisheries/.

Republic of Liberia, Bureau of National Fisheries (2006). *Annual Report.*

Republic of Liberia, Ministry of Planning and Economic Affairs (2011). *The Socioeconomic Achievements of the Government of Liberia 2006–2011.*

Republic of Liberia (2009). *2008 National Population and Housing Census Final Results.*

Republic of Liberia (2008). *National Adaptation Programme of Action 2008.*

United Nations Environment Programme (2009). *Certification and Sustainable Fisheries.*

WARFP–MRAG (2010). *Estimation of the Cost of Illegal Fishing in West Africa Final Report.*

World Bank (2009). *World Trade Indicators 2009/10: Liberia Trade Brief.* Available from http://info.worldbank.org/etools/wti/docs/Liberia_brief.pdf.

World Bank (2008). *Liberia Trade Brief.* Available from http://info.worldbank.org/etools/wti/docs/wti2008/brief108.pdf.

Republic of Liberia

International Trade Centre

Street address: 54-56, rue de Montbrillant
1202 Geneva, Switzerland
Postal address: Palais des Nations
1211 Geneva 10, Switzerland
Telephone: +41-22 730 0111
Fax: +41-22 733 4439
E-mail: itcreg@intracen.org
Internet: www.intracen.org