



Government of Sierra Leone (GoSL)
Ministry of Fisheries and Marine Resources (MFMR)

**DEVELOPMENT STRATEGY FOR FISHERIES
AND AQUACULTURE IN SIERRA LEONE**

April 2016

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Acronyms and Abbreviations

AF	Artisanal Fisheries
AGO	Attorney General’s Office
AS	Aquaculture Sector
A4P	Agenda for Prosperity
CBO	Community Based Organization
CBD	Convention on Biodiversity
CC	Climate Change
CCA	Climate Change Adaptation
CMAAs	Community Management Associations
CSO	Civil Society Organisation
DfID	Department for International Development (UK)
DTIS	Diagnostic Trade Integration Studies
DRM	Disaster Risk Management
EEZ	Economic Exclusion Zones
EU	European Union
FAO	Food and Agriculture Organisation
FMPs	Fisheries Management Plans
GoSL	Government of Sierra Leone
GWG	Governance Working Group
HDI	Human Development Index
IBP	International Best Practice
IEZ	Inshore Exclusion Zones
IMBO	Institute of Marine Biology and Oceanography
INGO	International Non Governmental Organization
ISFM	Institutional Support for Fisheries Management
IUU	Illegal Unreported and Unregulated Fishing
LFA	Logical Framework Approach
LGA	Local Government Act
MCS	Monitoring Control and Surveillance
MEY	Maximum Economic Yield
MoFED	Ministry of Finance and Economic Development
MoP	Members of Parliament
MSY	Maximum Sustainable Yield
MFMR	Ministry of Fisheries and Marine Resources
MFR	Management Functional Review
MPA	Marine Protected Areas
NEPAD	New Partnership for Africa’s Development
NFF	National Fisheries Forum
NGO	Non Governmental Organization
NRA	National Revenue Authority
PAF	Partnership for African Fisheries
PSO	Private Sector Organisation
PSRU	Public Service Reform Unit
PRSP	Poverty Reduction Strategy Papers
RBFM	Rights Based Fisheries Management
SLEPA	Sierra Leone Export Promotion Agency

SLFAC	Sierra Leone Fisheries and Aquaculture Council
SSSF	Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication
SWOT	Strength, Weaknesses, Opportunities, Threats
TURF	Territorial Use Rights in Fisheries
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security
VME	Vulnerable Marine Ecosystem
WARFP-SL	West African Regional Fisheries Programme in Sierra Leone
WB	World Bank
WBFM	Wealth-Based Fisheries Management

Acknowledgement

This development strategy benefited from NEPAD-PAF programme in Sierra Leone. Under the said programme, the MFMR contracted the NEPAD Governance Working Group (GWG) in 2012 through 2014 to review the fisheries policy (of 2010) and develop strategy in order to accommodate international best practice and emerging effective and contemporary stewardship paradigms. We are grateful to DfID through NEPAD-PAF for providing the needed resources in support of the review process and to the NEPAD-GWG led by Dr. Arthur Neiland of IDDRA Limited (UK) for their dedicated service. The Programme Implementation Unit of the NEPAD-PAF programme in Sierra Leone during the GWG study (headed by Mr. Sheku Sei) was very supportive and deserves our gratitude.

The development strategy has been aligned to the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) and the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSSF). The resultant strategy has been thus strengthened to provide guidance for improved governance of tenure of fisheries in general; and to provide harmony, principles and guidance in governing small-scale fisheries in particular. We register our sincere appreciation to FAO for these guidelines and for supporting their alignment to this policy framework under the ‘Support for Country Level Implementation of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests’ Project.

The staff of MFMR under the leadership of the Honourable Minister Allieu Pat-Sowe and Deputy Minister Honourable Charles Rogers, has been very keen and committed to the review process which engendered the conducive collaborative environment under which this development strategy has been developed. We salute them for service to the nation.

We appreciate all stakeholders of the fisheries and aquaculture sector in Sierra Leone whom we have not been mentioned by name but contributed in diverse ways to the fulfilment of the development strategy.

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1.0. Introduction

1.1. Sectoral Synopsis

Sierra Leone is located in West Africa and has a coastline of 330 km in length. The marine Exclusive Economic Zone (EEZ) covers 205,611 sq km. The total land area covers 71,740 sq km and there is a population of over 5 million people.

Sierra Leone has a Gross Domestic Product (GDP) of USD 6 billion; USD 2069 per capita –PPP; USD 868 per capita-current prices; and a low value (0.374) on the Human Development Index (HDI) (ranked at 183 out of all 187 countries).

The country has a diverse and rich natural environment and abundant resources. There is potential for sectors such as agriculture, forestry and fisheries to increase and diversify the national economy in the future, and contribute to employment and income, food supply and trade.

The fisheries sector of Sierra Leone currently produces about 150,000 tonnes fish per year, with an estimated first sale value of USD 125 million. A majority of this catch (120,000 tonnes) is taken by small-scale vessels, which helps to underpin the livelihoods and food security of thousands of coastal communities in particular. There is also a smaller domestic industrial-scale fleet and sector. A number of foreign industrial-scale vessels operate under agreed licences, mainly exporting their catches to Asia, often involving trans-shipment at sea. Both inland fisheries and aquaculture are relatively under developed in Sierra Leone, but also have considerable potential.

However, despite the current diverse array of fisheries activities, there are also serious concerns about the long-term sustainability of the benefit flows. The fisheries operate largely under a regulated open access regime, with minimal control of fishing operations. It is also suspected that there is significant illegal, unregulated and unreported (IUU) fishing taking place within the EEZ and offshore. Although information is very limited, the annual value of the IUU catch is estimated at USD 30 million.

Overall, therefore, there is a high risk that the fisheries will become overexploited, economically and biologically, in the future, leading to a significant reduction in the overall benefit stream to Sierra Leone.

This ‘Fisheries Development Strategy to 2030’ including a more detailed Five Year Plan (Appendix 2) has been prepared in order to capitalise and address the aforesaid opportunities and challenges respectively. This is so because, fisheries governance is equally about seizing opportunities as it is about solving problems.

1.2. Objectives

The general objective of this document is *‘To outline a Fisheries Development Strategy for Sierra Leone to 2030’*

The strategy enables the implementation of the Policy Framework for Fisheries and Aquaculture in Sierra Leone for the realisation of the underlying policy goal, expected overall outcome and stated policy areas as follows:

Policy Goal:

“Economically viable fisheries that optimise wealth creation squarely within the ambit of biological sustainability and social stability in good governance fashion”

Expected Overall Outcome:

“Ecologically sustainable and economically efficient fisheries in stable societies of Sierra Leone”

It is expected that the fisheries of Sierra Leone would achieve a biologically sustainable fisheries resources that are robust and diverse, contribute to poverty reduction and wealth generation, are managed on the basis of good governance, are sustainable and economically viable, contributing to the economic base of coastal and riverine communities, and effectively involve all interest groups in appropriate fisheries management.

Policy Areas:

Policy Area 1. Conservation and Sustainable Resource Use

Policy Area 2. Sustainable Artisanal Fisheries Management

Policy Area 3. Sustainable Aquaculture Development

Policy Area 4. Competitive Fish Trade and Marketing

Policy Area 5. Fisheries on the High Seas

Policy Area 6: Regional and Sub-Regional Cooperation

Policy Area 7: Human Capital Development in Fisheries and Aquaculture

Policy Area 8. Cross-Cutting Issues in the Fisheries of Sierra Leone

The objectives of the policy areas as outlined in the policy framework would be realised by taking a situation analysis of the fisheries sector of Sierra Leone using a Strengths-Weaknesses-Opportunities Threats (SWOT) framework; identify the ways in which both the positive attributes (strengths, opportunities) and negative attributes (weaknesses, threats) of the sector can be capitalised upon and addressed respectively; and by proposing a programme and roadmap for fisheries development in Sierra Leone using a logical framework approach (LFA).

1.3. Arrangement of the Development Strategy

The development strategy is presented in four Sections. The introductory Section 1 gives a brief sectoral synopsis of the fisheries of Sierra Leone and outlines the objectives of the strategy. Section 2 specifies the approach and methodology used in developing the strategy - incorporating international best practices whereas; Section 3 deals with the actual business of fisheries development strategy. In this Section, the strategy goal and indicators; the purpose of the strategy; framework for activities and outputs including issues of implementation have been specified. The activities and outputs which could support the purpose of the strategy are divided into four broad thematic categories addressing issues of maximising opportunities (through increased stakeholder capacity); establishing systems for sustainable fisheries and aquaculture management; encouraging trade and finance; and acquiring and using information, infrastructure and technology. Section 4 offers the concluding remarks to the strategy development

process emphasising the importance of gradual and measured process of implementation, building upon existing knowledge and experience in the sector, encouraging the support and participation of a full range of stakeholders, and working in collaboration with national, regional and international organisations as appropriate. We also included three Appendices for presenting the expanded logical frame matrix for fisheries and aquaculture strategy in Sierra Leone 2015/16-2030 in Appendix 1 and Appendix 2 depicts the five year plan whereas; model fisheries system developed to identify gaps in the fisheries and aquaculture sector which the strategy should address is given in Appendix 3.

2.0. Approach and Methodology

The so-called ‘best practice’ approaches to fisheries development and management has been adopted comprising of the following components:

- Key factors and issues which characterise the fisheries sector in Sierra Leone have been identified and analysed using a Strengths-Weaknesses-Opportunities-Threats (SWOT) framework.
- Possible ways in which the “Opportunities” presented by the fisheries sector can be exploited (or capitalised upon) have been identified.
- Options by which the “Challenges” to the fisheries sector can be addressed have been identified
- Economic value of fisheries in Sierra Leone calculated, and compared under strong and weak management conditions.

In our analysis, the ensuing policy outcomes from the eight policy areas listed in Section 1.2 and also outlined in the policy framework, underpin the framework for activities and outputs of this strategy presented in Section 4. The principles of the policy framework - both substantial and procedural must be invoked in rolling out this strategy. These will link up with the SWOT analysis below in constructing a comprehensive strategic road map for fisheries development in Sierra Leone. This was enabled by developing a Model Fishery System. Using this ‘model framework’ (Appendix 3), a strategic assessment has been made of the fisheries sector in Sierra Leone by addressing the following key questions:

- What is the current status?
- What are the current interventions applied?
- What are the future priorities?

The results of this audit exercise have been used to help underpin the design of Strategic Plan for Fisheries Development to 2030, along with the Five Year Plan.

2.1. Fisheries Sector: Situation Analysis

The key factors and issues which characterise the fisheries sector of Sierra Leone are presented in a Strengths-Weaknesses-Opportunities-Threats (SWOT) framework below (Table 1).

Table 1. Fisheries in Sierra Leone: SWOT Analysis	
Strengths	Weaknesses
<ol style="list-style-type: none"> 1. Abundant and diverse fisheries and aquatic resources; 2. Workforce skilled in traditional practices; 3. Strong local and international market for fish, and livelihood opportunities; 4. Support for investment in sector (private, donors); 5. Long-established fisheries administration and research; 6. New fisheries policy; 7. Initiatives to improve governance 8. High consumer preference for Sierra Leone fishery products 9. Adequate political mandate for regulation and governance 	<ol style="list-style-type: none"> 1. Some fish stocks threatened by high fishing pressure; 2. Conflict between sub-sectors and at maritime boundary with Guinea; 3. Inadequate landing site infrastructure; 4. Low level of organisation and business skills; 5. No access to EU markets for fish trade; 5. Fisheries policy has been revised, but implementation approach requires attention 6. MFMR is under-resourced to perform its role; 7. Foreign IUU and illegal exports; 8. Weak capacity for the middle level staff 9. Lack of fish harbour complex hinders value addition and fisheries investments 10. Focus on production-oriented management framework. 11. Sierra Leonean ownership and participation in industrial fisheries sector is weak. Benefits accrue to vessel owners and capital repatriated
Opportunities	Threats
<ol style="list-style-type: none"> 1. Some fish stocks are underexploited; 2. Possibility of enhancing existing fishing activities through effective management, technology transfer and onshore processing; 3. Expansion of inland fisheries and aquaculture for improved food security and employment of rural poor and wealth; 4. Access to EU markets and fish trade; 5. Government and donor support for sector development; willingness of stakeholders and CBOs; 6. Role of artisanal fisheries in rural economy; 7. Inland water bodies and valley swamps supporting Aquaculture growth 8. Positive development in regional cooperation in sector development and management 9. Private sector investment in industrial fish processing and storage facilities exist 10. Fish landing, processing and storage facilities have been constructed at Goderich, Tombo, Shenge and Bonthe will value addition for artisanal fishery and expand fish trade 11. Fast fisheries patrol vessel available to police the EEZ 12. Sector GDP contribution to the economy exceeds 10% 	<ol style="list-style-type: none"> 1. Overexploitation if fisheries expansion overrides fisheries management system development, including MCS; 2. Fisheries policy not aligned with A4P; fisheries management not prioritised; inadequate status of MFMR is not addressed; 3. Change in policy/ management may adversely affect employment and food security for the population of Sierra Leone; 4. Uncertainty/risks of investment; 5. Infrastructure is underdeveloped (electricity, roads and water supply); 6. Lack of donor coordination; 7. Threats to biodiversity conservation (illegal methods of fishing and by-catch problem) 8. Limited capital investment for the industrial fisheries sector and limited loan facilities for the artisanal fishery sector 9. The absence of fish reception centres and storage facilities at the port, airport and border areas hinder the export of fishery products 10. Coastal erosion and disaster prone Islands 11. Vulnerability to climate change 12. Political economy issues

Most notably, the *Strengths* represented especially by the valuable, and probably underexploited fish resources, and both public and private interest to capitalise upon this guided by a new fisheries policy framework.

The **Weaknesses**, most importantly, include the current status of the fisheries management framework i.e. production centric system; and high levels of IUU which, unless addressed in the near future, will inevitably lead to overexploitation and continued theft of fisheries wealth through IUU fishing.

The **Opportunities** include the possibility of enhancing the sector through better fisheries management and securing access to international markets, especially the EU fish market. Also aquaculture and inland fisheries development.

The **Threats** include the risk of fisheries overexploitation; the need to better align fisheries policy with national policy and a lack of recognition of the contribution of the sector in the national economy; possible adverse impacts on livelihoods and food security from especially climate change and disaster risks, and a general underdevelopment of infrastructure.

2.2. Capitalising on Strengths and Opportunities

In this section, the aim is to examine how the strengths and opportunities presented by the sector could be used in the future.

Increasing wealth and benefits from fisheries and aquaculture

First, Sierra Leone has productive fish stocks, which have the potential to generate an increased flow of national wealth and benefits for the people of Sierra Leone. Direct benefits could be generated through increased employment and livelihoods for coastal communities. Indirect benefits (for citizens outside the sector) would include the re-investment of wealth, extracted by government as taxes on fishing enterprises, in other parts of the economy. Overall, this will depend on existing fisheries being better managed, and new fisheries being identified and developed, including both offshore and onshore components.

Capitalising on stakeholders skills and experience

Second, the sector has a wide range of stakeholders – fishers, fish processors, traders, gear-makers and suppliers, along with government officials and university experts, and many more – at different levels of activity (small to large scale). They encompass many traditions, skills, expertise and experiences. It will be important to build upon and enhance these positive attributes to help underpin the process of fisheries development for Sierra Leone into the future.

Using strong market demand

Third, there is a strong demand for fish from Sierra Leone fisheries, both domestically and internationally. Both sub-sectors require further significant development – a lack of infrastructure (e.g. fish landing facilities) is a major constraint, and access to international markets is denied by failing to meet quality assurance standards. Under conditions of effective management (to be established), the strong market for fish would provide the opportunity and incentive to develop profitable private enterprises within the sector – leading to the generation of a wide range of benefits on a sustainable basis. This would require specialist assistance to help entrepreneurs establish and develop both fishing and onshore (processing and trading) firms, operating on a commercial basis and contributing to the national economy. There also exists a base of traditional local skills and people upon which to build further capacity and expertise.

Linking to national development initiatives

The fisheries sector must not be viewed in isolation. Like every other natural resource-based sector, it can make a valuable contribution to the national economy and to sustainable development in general. The importance of the sector as part of the wider West African marine and aquatic environment and its value as a source of economic diversification is recognised by government. In addition, the sector has an important role in food production and in contributing to the rural economy and livelihoods. Overall, it is important to capitalise on political support for the sector and realise the contribution which the fisheries sector can make to the national A4P.

2.3. Addressing Challenges

In this section, the aim is to examine how the challenges (weaknesses and threats) presented by the sector can be addressed in the future.

Enhance fisheries development by enabling all stakeholders

First, the future success of the fisheries sector will be determined by the performance of the ‘policy processes – the mechanism by which the agreed ‘vision’ for the sector is realised through the implementation of fisheries policy, and guided by the legal framework, particularly through appropriate fisheries management systems. To be effective it will require the active participation of all stakeholders – government, private sector and civil society in general. An important pre-cursor to start this process will be capacity-building within stakeholder groups and organisations. Furthermore, the process will require leadership and coordination through the establishment of a forum such as a “national fisheries development council”. Such an organisation would include representatives from all stakeholders, and support from national and international technical assistance as required. At the same time, it will be important for the roles and responsibilities of all stakeholders to be defined and understood. In general, international fisheries best practice shows that the success in fisheries development tends to occur where the private sector takes the lead (in business and running fishery enterprises) , and where government provides the enabling environment.

Design and implement new fisheries management systems

Second, the lack of effective fisheries management has put many commercial fish stocks at risk of overexploitation in recent years. In overcoming the challenge of weak management, the policy framework indicates that a wealth-based fisheries management system be implemented. In addition, specific technical skills and experience will be required to design appropriate fisheries management plans (FMP) for specific fisheries over time. This can be achieved through a programme of international technical assistance and collaboration, drawing on international best practice.

Facilitate trade and investment

Increased fish trade offers great potential for Sierra Leone, at national, regional and international levels. The current World Bank DTIS proposed action in three areas - demand-side interventions (to build capacity in the private sector at all levels to take up opportunities, plus provision of a national certification process to allow access to EU markets), supply-side interventions (to create incentives to encourage investment and development), and entrepreneurial interventions (to facilitate integrated approaches). Overall, the sector requires major investment – both public and private – in order to realise its potential, but investors must be assured that the current threats (and risks) to the sector are being addressed.

Using appropriate information, infrastructure and technology

Future decision-making in the sector will need to be underpinned by appropriate information. There is a need to upgrade knowledge through dedicated research programmes. Furthermore, the sector should be supported by infrastructure development (e.g. harbours) and access to appropriate technology (e.g. for catching, processes and trading fish products).

2.4. Fisheries Valuation and Management Scenario

In this section, comparison is made of the potential value of marine fisheries in Sierra Leone under strong and weak management systems. There are two objectives:

- To estimate the value of the fisheries sector to the national economy
- To highlight the importance of effective fisheries management

Throughout the world, there are many theoretical and empirical case-studies which demonstrate that fisheries tend towards both economic and biological overexploitation unless there is an appropriate and strong fisheries management system in place.

In the case of Sierra Leone, an estimation of the potential value of the fisheries sector under two different management regimes (strong versus weak) is shown in Table 2.

Table 2. Sierra Leone - Hypothetical Comparison between Strong and Weak Marine Fisheries Management¹				
	(i) Strong fisheries management		(ii) Weak fisheries management system	
	Annual Production (tonnes)	Value (USD millions) (wholesale price)	Annual Production (tonnes)	Value (USD, millions, wholesale price)
Artisanal catch	46,860	41.50	30,000	26.60
Industrial small pelagic	70,000	62.00	25,000	22.10
Industrial large pelagic	15,000	19.50	10,000	13.00
Industrial demersal	18,000	30.20	10,000	16.80
Shrimp	2,600	20.80	2,000	16.00
Other industrial	10,000	22.00	10,000	22.00
Total	162,460	196.00	87,000	116.50
Resource rent		59.00		USD 0 (ZERO)
Economic Capital Value		735.00		USD 0 (ZERO)
Notes: Source - DFID, World Bank, FAO Report (2007); Resource rent calculated at 40% annual turnover; Capital value (8% discounted value over 10 years)			Notes:	

¹ A 'strong' management system would deliver a high level of sustainable benefits (e.g. economic profits, employment and social stability, and healthy fish stocks). A 'weak' system would inevitably allow the economic and biological overexploitation of the fisheries (and little or no delivery of sustainable benefits). For examples of fisheries management systems with high levels of performance (see Cunningham, S., Neiland A.E., Arbuckle, M., and Bostock, T. (2009). Wealth-based Fisheries Management: Using Fisheries Wealth to Orchestrate Sound Fisheries Policy in Practice. *Marine Resource Economics* 24: 271-282).

The comparison above assumes that under ‘strong’ management, the major fish stocks would be highly productive and generate sustainable benefits through an active commercial sector. The potential economic value of the fisheries under strong management is over USD 700 million, producing an annual resource rent of USD 59 million.

Under a weak management regime, with fisheries overexploited economically, there would be no resource rent (or economic value) generated. In the hypothetical scenario presented above (ii), the fisheries have been intensively fished, with almost no control under a so-called ‘regulated open access’ fishery system. For example, in a situation where access to a fishery is limited by licence, but thereafter there is no attempt to regulate fishing effort. The fish stocks have been reduced in size and productivity, and are probably edging towards collapse.

2.5. Budget and Investment Appraisal

The likely cost of implementing the strategy above is difficult to estimate – there is almost no information of this type in the international literature, and of course, any costing will be specific to a particular country or region.

However, in order to provide some indication, it is worthwhile considering a number of bi-lateral and international fisheries programmes which are currently underway or in preparation as follows:

- Ghana (World Bank) USD 50 million over 10 years
- India (Tamil Nadu)(UN FAO estimate) USD 148 million over 5 years (initially)

Of these, Sierra Leone has a similar fisheries potential to Ghana, in terms of the size and value of the fisheries sector. The other example (India) has much larger fisheries.

Therefore, it can be estimated that a new fisheries development programme in Sierra Leone would need a budget of about USD 50 million over 10 years (initially), or an investment of USD 5 million per year.

The second key question – is this a worthwhile investment? – would also require careful analysis in the future.

However, the initial valuation of the fisheries of Sierra Leone, operating under effective management and with good economic conditions, gives a capital value of USD 700 million.

In other words, for an investment of some USD 50 million, a renewable fisheries asset worth USD 700 million would be created for Sierra Leone.

While this appears to be a very good investment, this initial assessment would need to be analysed very carefully in the future.

The likely cost of implementing the strategy over the first five years is presented in Appendix 2.

3.0. Fisheries Development Strategy

In this section, a future strategy of fisheries development for Sierra Leone is presented. The objective is to identify the interventions which are needed to 2030 to enable the fisheries sector to realise its full potential and to contribute to sustainable development.

The strategy design is based on a number of key assumptions as follows:

- The strategy is consistent with the broad policy goals of the Government of Sierra Leone and with the national Policy Framework for Fisheries and Aquaculture;
- The fisheries environment of Sierra Leone, while showing some signs of degradation and overexploitation, has the potential to recover;
- The valuation of the fisheries sector is a preliminary estimate (Section 2.4), and will need to be analysed and improved upon further in the future;
- The strategy design is based on approaches being used in other countries worldwide, and the associated methods are relevant to Sierra Leone also;

The strategy design is presented in two ways as follows:

- A logical framework approach (LFA) which identifies and summarises the key components, and the inter-relationships between them;
- A Gantt Chart which summarises the time-line (or road-map);

A preliminary costing and investment appraisal is given in Section 2.5.

3.1. Strategy Goal and Indicators

The strategy goal, which provides the overarching aim, is:

'The Fisheries Sector makes a positive net contribution to sustainable development in Sierra Leone'

This goal expresses the logical outcome of the expected overall outcome of the policy framework for fisheries and aquaculture in Sierra Leone. i.e. *"Ecologically sustainable and economically efficient fisheries in Sierra Leone"*.

The achievement of the goal will be measured from a strategic perspective, by four indicators as follows:

- Fisheries sector will achieve an annual turnover of over USD 190 million by 2030 and make a net positive contribution to the national gross domestic product.
- Sustainable economic or employment base secured for 1,000,000 people
- Fish exports will be valued at over USD 50 million per year.
- Domestic fish supply and per capita consumption are high (17 kg/person/year);

These indicators have been proposed to monitor the role of the fisheries sector at the macro-economic level, where comparisons of performance will be made with other sectors of the economy. At the level of the fishery management systems, in order to assess the performance of the management approach and the instruments used, the following indicators will be used;

- Catch of target species maintained at the Maximum Economic Yield (MEY)
- Profitability of the fishery is the largest obtainable at MEY
- Fleet capacity maintained at levels number required to harvest at MEY
- Average target fish size at capture is high relative to optimum capture size
- Protected area as a % of total area increased from protection
- Over 70% major fish stocks are healthy and maintained at sustainable levels
- Number of fisheries management plans completed

3.2. The Purpose

A strategy goal requires a purpose to underpin its achievement. This also represents the mechanism for promoting the future growth and enhancement of the fisheries sector in Sierra Leone. It is defined as:

‘Frameworks, processes and capacities established and operational in public and private sectors, and civil society, which facilitate the planning, design and implementation of appropriate fisheries development and management policies – as the basis of a new governance framework for the sector’.

The successful achievement of this purpose will be characterised by the following four elements:

- a) Enablement of fisheries stakeholders (fishing communities, private companies, civil society) to maximise opportunities and develop the sector;
- b) Fisheries and aquaculture management systems established;
- c) Trade and Finance relevant to fisheries sector in place;
- d) Information, Infrastructure and Technology are acquired and operational;

It should be noted, of course, that the main thrust for successful fisheries policy implementation will be the establishment of a co-management framework – with fisheries stakeholders and the government working together albeit with different roles and responsibilities.

The first element helps to better equip government with the frameworks and mechanisms to enable non-government fisheries stakeholders (fishers, processors, traders etc) to develop the sector through participation in the design and implementation of effective fisheries management systems.

Table 3: Sierra Leone – A Fisheries Development Strategy to 2030

Table 3: Sierra Leone – A Fisheries Development Strategy to 2030		
	Narrative Summary	Indicators / Comments
GOAL	<p>Fisheries Sector makes a positive net contribution to sustainable development in Sierra Leone.</p> <p>Overall Policy Outcome: “Ecologically sustainable and economically efficient fisheries in Sierra Leone”</p>	<ul style="list-style-type: none"> - Fisheries annual turnover of USD 190 million (making a positive contribution to GDP) - Employment and earnings stabilised for 1000,000 fisheries workers; - Fish exports valued at over USD 50 million per year; - Fish supply and per capita consumption is increased (17 kg/person/ year); - Over 70% major fish stocks are healthy and operating sustainably; - Catch of target species maintained at the Maximum Economic Yield (MEY) - Profitability of the fishery is the largest obtainable at MEY - Fleet capacity maintained at levels number required to harvest at MEY - Average target fish size at capture is high relative to optimum capture size - Protected area as a % of total area increased from protection - Over 70% major fish stocks are healthy and maintained at sustainable levels
PURPOSE	Frameworks, processes and capacities established and operational in public and private sectors, and	(A) Enablement of fisheries stakeholders (fishing communities, private companies, civil society) to maximise opportunities and develop the sector;

	civil society. This enables the planning, design and implementation of appropriate fisheries development and management policies – the basis of a new governance framework;	(B) Fisheries and aquaculture management systems established; (C) Trade and Finance relevant to fisheries sector in place; (D) Information, Infrastructure and Technology are acquired and operational;
INPUTS / OUTPUTS M O S T F I T	(A) Maximising Opportunities for fisheries development through increased stakeholder capacity;	(A1) Institutional, operational and human capacity-building ; (A2) Creation and strengthening of stakeholder partnerships;
	(B) Systems for sustainable fisheries and aquaculture management;	(B1) Fisheries Management Systems designed and implemented; (B2) Aquaculture Management Systems designed and implemented;
	(C) Trade and Finance are encouraged and put in place;	(C1) Increase trade and access to markets; (C2) Secure finance and investment in fisheries/aquaculture;
	(D) Information, Infrastructure and Technology are acquired and made operational;	(D1) Information flows for decision-making increased; (D2) Appropriate technology and infrastructure is made available.

Table 4. Gantt Chart: Fisheries Development Strategy in Sierra Leone to 2030					
Years	2016-18	2019-2021	2022-2224	2025-2027	2028-30
Components					
(A) Maximising Opportunities through stakeholder enablement/capacity					
(B) Systems for sustainable fisheries and aquaculture management;					
(C) Trade and Finance encouraged;					
(D) Information, Infrastructure and Technology in place;					
Note: Dark shading = highest priority					

Concurrently, by building capacities and skills among stakeholders in general, this will enable them not only to participate in fisheries management systems, but to also bring out and harness their entrepreneurial ambitions, and to avail themselves of the many different opportunities which will arise as fisheries performance and sustainability improves.

In addition, it is intended that more generic capacities and skills will allow fisheries stakeholders to take up opportunities in other sectors (alternative livelihoods), while at the same time building adaptive mechanisms to cope with change and threats.

3.3. Framework for Activities and Outputs

In order to identify and prioritise the inputs and activities required to activate an effective process of fisheries development in Sierra Leone (through the realisation of the ‘purpose’ mechanism in the log-

frame [Table 3]), a ‘Model fishery system and strategic assessment framework’ (Appendix 3) was prepared which helped to identify the existing gaps and priority inputs.

Activities and Outputs which could support the Purpose are divided into four broad thematic categories - summarised by the acronym – ‘**MOST FIT**’ – as follows:

- MO - Maximising opportunities (through increased stakeholder capacity);
- S – Systems for sustainable fisheries and aquaculture management are established;
- TF - Trade and Finance are encouraged;
- IT – Information, Infrastructure and Technology are acquired and used;

The roles of government and non-government stakeholders and the relationship between them are defined within an emergent co-management process.

Activities and Outputs under theme (A) Maximising Opportunities for fisheries development through increased stakeholder capacity:

The First Activity (A1) focuses on *institutional, operational and human capacity building*. This consists of three inter-related components:

(A1.1.) in order to further *update the national Fisheries Policy(2010) and legal framework*; to provide a series of key policy briefs to highlight key issues and action points for implementation, plus the design of new legal amendments to support policy reform;

(A1.2.) to *increase the operational capacity of the Ministry of Fisheries and Marine Resources (MFMR)*, in particular through the on-going implementation of the recommendations of the Management and Functional Review (MFR), specifically the creation of new and specific staff posts (with defined roles and responsibilities, with reference to activities and services), and the operation of a mentoring scheme and relevant training courses through international technical assistance to ensure that the roles and services provided by the ministry staff are relevant and of a high standard;

(A1.3.) for non-government fisheries stakeholders (private sector and civil society) a focus on *training and development for capitalising on fisheries opportunities* - an expert review of future opportunities will be undertaken; - followed by training and mentoring in business, finance and marketing; - also training and skills transfer for the catching sub-sector including fisheries and aquaculture enterprise development and management; - and training concerning the development and operation of products, marketing and exports including quality assurance schemes;

The Second Activity (A.2.) focuses on *the creation and strengthening of stakeholder partnerships*. This consists of three inter-related components:

(A.2.1.) in general, *the identification, design and preparation of a stakeholder partnerships across the sector*. This would involve consulting with a full range of stakeholders in both the public and private sectors and civil society to understand how best they could benefit from these relationships and how they might be constructed and work;

(A2.2.) in the private sector, *the creation of an overarching national organisation* – which might be called the “Sierra Leone Fisheries Council” (SLFC) - that will represent (‘one voice’) all commercial fishing activities and participants, both nationally and internationally, and at all scales, including both the large-scale (industrial) and small-scale operators;

(A2.3.) at a national level, *the creation of a National Fisheries Forum*, to enable an effective level of engagement and the building of a partnership between government and non-government

stakeholders, with particular reference to the implementation of the fisheries and aquaculture strategy;

Activities and Outputs under theme (B): Systems for sustainable fisheries and aquaculture management:

The first activity (B.1.) focuses on *fisheries management systems designed and implemented*. This consists of three inter-related components:

(B.1.1.) *the definition of a fisheries management approach*. A framework and process will be established by the MFMR, involving collaboration between government, private sector and civil society, definition of roles and responsibilities, the clarification of these relationships with both the national fisheries policy and the law (also linked to A1.1. above), design of activities and services to be provided, definition and identification of fisheries and fisheries management units;

(B.1.2.) *the development of a 20-year fisheries master plan*. This one major activity will involve all stakeholders working together to outline a master-plan for the sector, identifying the major fisheries and considering how they can be developed and managed in the future, in line with the new fisheries policy (above), and in which sequence (prioritisation), since it is unlikely that all the fisheries can be worked on at the same time. The work involved here will be underpinned by relevant up to date information, facilitated by the policy advice services within the MFMR;

(B.1.3.) *the development and implementation of fisheries management plans for major fisheries*. This consists of two-related components – fisheries management plans will be developed for five major priority fisheries initially; - the five fisheries management plans will be implemented; - implementation to be underpinned by the roles and services provided by the reformed MFMR (e.g. specification of catching opportunities, allocation, licencing, vessel registry, gear and other regulations, MCS, quality standards);

The second activity (B.2.) focuses on *aquaculture management systems designed and implemented*. This consists of three inter-related components:

(B.2.1.) *the definition of an aquaculture management approach*. A framework and process will be established by the MFMR, involving collaboration between government, private sector and civil society, definition of roles and responsibilities, the clarification of these relationships with both the national fisheries policy and the law (also linked to A1.1. above), definition and identification of aquaculture systems and management units;

(B.2.2.) *the development of a 20-year aquaculture master plan*. This one major activity will involve all stakeholders working together to outline a master-plan for the sector, identifying the major opportunities (locations, farms, species, markets) and considering how they can be developed and managed in the future, in line with the new fisheries (and aquaculture) policy (above), and in which sequence (prioritisation), since it is unlikely that all the aquaculture opportunities can be considered at the same time;

(B.2.3.) *the development and implementation of management plans for key aquaculture opportunities and options*. This consists of two-related components – management plans will be developed for five major priority aquaculture opportunities; - the five aquaculture management plans will be implemented.

Activities and Outputs under theme (C): Trade and Finance for fisheries development:

The first activity (C.1.) focuses on *increasing trade and access to markets*. There are three inter-related components:

(C.1.1.) *the gathering and dissemination of market information*. Initially, a stock-take of existing market information will be undertaken, followed by focused market research in key areas; the results will be disseminated to potential users (e.g. commercial companies and sectoral organisations);

(C.1.2.) *the development of a sector-wide product quality mark* based on an international standard quality assurance process. This will require the effective creation and functioning of a Competent Authority for certification/accreditation of fishery products wholly acceptable in the international markets. All producers will have to put in place the necessary facilities and processes to ensure product handling and quality;

(C.1.3.) *the development of a sector-wide strategy to enhance and modernise the onshore sector and fish export trade, including the promotion of Sierra Leone fish products and markets*. This will involve upgrading the structures, processes and technologies within the onshore sector, working closely with relevant stakeholders, and enhancing the relationship to current markets, and to identify and access new markets in the future;

The second activity (C.2.) focuses on *securing finance and investment* in the sector. There are three inter-related components:

(C.2.1.) *Strengthening of fiscal relations (private sector and government)*; by ensuring a good understanding of value and contribution of sector to national economy; by ensuring that MFMR and other sector representatives actively engage with other areas of government, especially Ministry of Finance, through appropriate government committees and decision-making fora and mechanisms; a focus on the sharing of fisheries wealth generated between government and other stakeholders;

(C.2.2.) *the creation and maintenance of a legal and regulatory regime which offers appropriate incentives to the private sector* to invest in the long-term future of the fisheries (long-term rights and regulations); sector organisations to monitor and review the performance of the sector, and engage with relevant government mechanisms to ensure that legal and regulatory regime is continually updated as appropriate;

(C.2.3.) *the enabling of opportunities for appropriate public-private partnerships* in the sector.

Activities and Outputs under theme (D): Information, infrastructure and technology for fisheries development.

The first activity (D.1.) focuses on *information flows for decision-making*. There are three inter-related components:

(D.1.1.) *the identification and specification of information needs* for decision-making within the sector by different organisations and stakeholders; to work through the 'National Fisheries Forum' to agree how a sectoral information system would operate, including institutional arrangements, technical facilities, capacities and funding (e.g. catch and vessel registry);

(D.1.2.) *the building of capacity to both generate and utilise information* relevant to decision-making in fisheries; to include human capacity in terms of skills across all stakeholders in the sector; to also

include the use of modern information technology to increase the efficiency and effectiveness of information usage; to underpin a new set of decision support services, including a new information centre and the formation of a ‘policy advice group’, involving a range of stakeholders, to address key issues and questions;

(D.1.3.) *the design and operation of a fisheries and aquaculture research programme* to meet the information needs identified above; to specify the objectives of the research and the options for delivery; to commission the research on a yearly basis, and to review performance;

The second activity (D.2.) focuses on appropriate *infrastructure and technology*. There are three inter-related components:

(D.2.1.) *the identification and specification of infrastructure and technology needs* for the sector by different organisations and stakeholders; to work through the ‘National Fisheries Forum’ to agree a coherent approach, including institutional arrangements, technical facilities, capacities and funding; to link with, and underpin the proposed ‘decision support services’ (D.1.2);

(D.2.2.) *the design and implementation of appropriate infrastructure* relevant to the future needs of the sector; including large-scale projects (e.g. harbours, water, electricity services), and other more localised projects (e.g. small landing sites, village markets);

(D.2.3.) *the identification and adoption of appropriate technology* at all stages of the fisheries and aquaculture production process, including catch utilisation, marketing and trading; fisheries and aquaculture enterprises will be made updated on technology innovations and options; the same enterprises will make the choice to adopt particular technologies in line with their business activities, and the relevant national regulations.

3.4. Implementation

The implementation of the Fisheries Reform Strategy to 2030 in Sierra Leone will need to be a gradual and measured process, building upon existing knowledge and experience in the sector, encouraging the support and participation of a full range of stakeholders, and working in collaboration with national, regional and international organisations as appropriate. It is anticipated that the coordination of the overall process will lie with the leaders of key stakeholder organisations, involving both government (e.g. the newly reformed MFMR) and non-government groups.

A proposed implementation schedule for the Fisheries Strategy is shown in the Gantt Chart (Table 4). The initial priority is to build the capacity of the government and non-government stakeholders and their organisations to be able to participate in the co-management process, which focuses on the development of a sector-wide fisheries master plan, and then the prioritisation of five fisheries to design and implement appropriate fisheries management plans which will now benefit from a refined new fisheries policy and legal framework and a supporting policy advice programme to aid decision-making within government.

Overall there will be a high level of integrated and synergistic activity between the different components. This will be essential if the co-management process – involving a full range of stakeholders working together within an agreed policy and management framework – is to be well-established and perform effectively.

3.5. Means of Verification, Data Sources and Assumptions

The logical framework outlining the proposed Fisheries Strategy for Sierra Leone to 2030 (Table 3.) has been elaborated to include the means of verifying the performance of implementation, plus a list of assumptions at each level in the following Appendix 1. At the Goal level, progress could be measured

against indicators such as macro-economic contributions mentioned in Section 3.1. Specific activities would require lower-level indicators more closely related to fisheries sector performance such as the number of fisheries management plans completed, and the changes in employment and livelihood opportunities.

There are a wide variety of data available on the fisheries of Sierra Leone from different sources (e.g. research centres), but it would be important to set up monitoring and evaluation systems and build supporting information systems where appropriate, using existing sources of data supplemented with new sources which would have to be considered and developed to fill any gaps.

4.0. Conclusion

The activities and outputs which could support the purpose of the strategy are divided into four broad thematic categories addressing issues of maximising opportunities (through increased stakeholder capacity); establishing systems for sustainable fisheries and aquaculture management; encouraging trade and finance; and acquiring and using information, infrastructure and technology. Overall there will be a high level of integrated and synergistic activity between the different components mentioned above. We have come to the conclusion that the implementation of the Fisheries Reform Strategy to 2030 in Sierra Leone will need be a gradual and measured process, building upon existing knowledge and experience in the sector, encouraging the support and participation of a full range of stakeholders, and working in collaboration with national, regional and international organisations as appropriate. But it was a consensus by stakeholders that the initial priority is to build the capacity of the government and non-government stakeholders and their organisations to enable them to participate in the co-management process. This will enhance the establishment of systems for sustainable fisheries and aquaculture management for the successful policy and strategy implementation.

Appendix 1. Logical Framework for Development Strategy for Fisheries and Aquaculture in Sierra Leone 2015/2016-2030

Activity A. Activities and Outputs under theme (A) Maximising Opportunities for fisheries development through increased stakeholder capacity:

Activity A1. Institutional, operational and human capacity building (In conformity with outcomes of policy area 7).

Activity - Activity to be carried out and in what sequence	Intervention logic - General objective	Expected results - Output envisaged	Verifiable Indicators - Key indicators related to general objectives	Assumptions/risks - Necessary conditions to achieve objectives	Timeframe - Period during which activity takes place or is projected to occur
Activity A1.1. Update the national Fisheries Policy (2010) and legal framework developed with full participation of users in all tenure arrangements	Fisheries operations and conduct be guided by policy and legal framework incorporating international best practices	Fisheries policy/strategy and legal framework updated & approved by the appropriate authorities and made operational	Approved documents in the MFMR and used to conduct resource stewardship	Funds available with a stable political and health circumstance	2016
Activity A1.2. Increase the operational capacity of the MFMR. Implement recommendations of the Management and Functional Review (MFR) - create new positions and operate mentoring scheme and relevant training courses through international technical assistance In this process those losing out should be considered for restitution/compensation.	The MFMR staffed with capable personnel to perform roles with respect to identified relevant activities	MFR implemented - new positions created and filled with staff doing defined roles and responsibilities, with reference to activities and services to ensure that the roles and services provided by the ministry staff are relevant and of a high standard.	Relevant staff at post and judged to be performing to high standards	Resources available and the human capital status of staff (e.g. health) remain robust with adequate incentives to retain trained staff	2016-2018
Activity A1.3. Undertake expert review of future opportunities. Train private sector and civil society in business, finance and marketing. Transfer skill for the catching sub-sector including fisheries and aquaculture enterprise development and management. Train in product development/operation, marketing and exports including quality assurance schemes Implementing agencies should have the human, physical, financial and other forms of capacity	Private sector and civil society stakeholders should be trained to capitalise on fisheries opportunities	Stakeholders adequately trained to capitalise on opportunities in the fisheries and aquaculture sector such as business, finance marketing, enterprise development and management including quality assurance	Number of private sector and civil society stakeholders trained that are gainfully capitalising on fisheries opportunities as a result of training	Available resources	2016-2018

Activity A.2. The creation and strengthening of stakeholder partnerships: (In conformity with outcomes of policy areas 1, 2, 3 and 7)					
Activity - Activity to be carried out and in what sequence	Intervention logic - General objective	Expected results - Output envisaged	Verifiable Indicators - Key indicators related to general objectives	Assumptions/risks - Necessary conditions to achieve objectives	Timeframe - Period during which activity takes place or is projected to occur
Activity A.2.1 Identify, design and construct stakeholder partnerships across the sector. Consult with stakeholders in both the public and private sectors and civil society to understand how best they could benefit from these relationships and how they might be constructed and work.	Partnerships forged between the public, private and civil society sectors so as to benefit from opportunities in fisheries	Partnerships constructed and working well in taking opportunities in fisheries	Number of partnerships constructed that are performing well	Available resources	2016 - 2018
Activity A2.2. Create a national organisation in the private sector – which might be called the “Sierra Leone Fisheries and Aquaculture Council” (SLFAC) - that will represent (‘one voice’) all commercial fishing activities and participants, both nationally and internationally, and at all scales, including both the large-scale (industrial) and small-scale operators. Capacities of users’ organisations and other fisheries stakeholders/institutions for participatory management developed	A platform in the form of a national organisation for fisheries and aquaculture operators to both facilitate and enhance the full participation in resource stewardship and for their improved wellbeing	SLFAC negotiated, forged and recognised by the appropriate authorities	SLFAC in place functioning well as judged by the majority of those affected	Available resources	2016 -2018
Activity A2.3. Create a National Fisheries Forum, at the national level to enable an effective level of engagement and the building of a partnership between government and non-government stakeholders, with particular reference to the implementation of the fisheries and aquaculture strategy. Capacities of users’ organisations and other fisheries stakeholders/institutions for participatory management developed	National Fisheries Forum formed to serve as a clearing house where value positions and interests are reconciled among stakeholders on one hand and with the national legislative provisions on the other.	National Fisheries Forum formed where vision is shared for all stakeholders to know the direction the stewardship framework is headed and stakeholders’ contribution to sustainable development is fully recognised; their capacity enhanced to participate in policy formulation and implementation; and poverty is reduced in a sustainable manner.	National Fisheries Forum in place judged to be functioning well in relation to its mandate	Available resources	2016-2018

Activity B. Activities and Outputs under theme (B): Systems for sustainable fisheries and aquaculture management:					
Activity B.1. Fisheries management systems designed and implemented (In conformity with outcomes of policy areas 1 & 2)					
Activity - Activity to be carried out and in what sequence	Intervention logic - General objective	Expected results - Output envisaged	Verifiable Indicators - Key indicators related to general objectives	Assumptions/risks - Necessary conditions to achieve objectives	Timeframe - Period during which activity takes place or is projected to occur
Activity B.1.1. Define fisheries management approach i.e. Wealth-Based Fisheries Management as directed by policy. Train all stakeholders in the concept at all levels. Establish framework and process for the adoption of WBFM involving collaboration between government, private sector and civil society. Define roles and responsibilities and clarify relationship with fisheries law. Define and identify fisheries and fisheries management units.	Establish a wealth-based fisheries management system to optimise the wealth accruable from the sector underpin by biological sustainability and manned by trained personnel in the concept.	Fisheries of Sierra Leone under a wealth based fisheries management system with trained cadre in all aspects of the approach	The MEY reference point used for decisions on fleet capacity and economic yield in a right-based allocation system	Available resources and cooperation from stakeholders especially industrial operators	2016 Ongoing
Activity B1.2. Develop a 20 year master plan with the full participation of stakeholders in order to identify major fisheries and consider how to develop and manage them in the future in line with the policy framework and in which sequence	20 year master negotiated and developed for identification of major fisheries and choice of management option	A 20 year master plan available in which all major fisheries have been identified and decision reached as to how to manage them	20 year master plan available at MFMR used to guide stewardship	Available resources	2016 - Ongoing
Activity B1.3. Develop and implement fisheries management plans for major fisheries beginning with five major priority fisheries initially. Implementation underpinned by the roles and services provided by the reformed MFMR (e.g. specification of catching opportunities, allocation, licencing, vessel registry, gear and other regulations, capacity regulation, MPA, TURFs, MCS, VME and quality standards) ensuring human dignity is not infringed	Fisheries management plans underpin stewardship for sustainability and investment in capital stock in line with policy outcomes in policy area 1 & 2 of the policy framework	Fisheries managed via management planning achieving policy outcome in policy area 1 & 2	Availability of management plans for major fisheries with evidence of plan underpinning stewardship of those fisheries	Available resources	2016 - Ongoing

Activity B. Activities and Outputs under theme (B): Systems for sustainable fisheries and aquaculture management:					
Activity B.2. Aquaculture management systems designed and implemented (In conformity with outcomes of policy area 3)					
Activity - Activity to be carried out and in what sequence	Intervention logic - General objective	Expected results - Output envisaged	Verifiable Indicators - Key indicators related to general objectives	Assumptions/risks - Necessary conditions to achieve objectives	Timeframe - Period during which activity takes place or is projected to occur
Activity B.2.1. Define aquaculture management approach. Train all stakeholders at all levels. Define roles and responsibilities and clarify relationship with fisheries law. Define and identify aquaculture management units.	Establish aquaculture management system to optimise the wealth accruable from the sector underpin by biological and environmental sustainability	Aquaculture management system established with trained supporting cadre	Aquaculture management system developed and followed in management procedures	Available resources	2016 - Ongoing
Activity B.2.2. Develop a 20 year aquaculture master plan with the full participation of stakeholders in order to identify major aquaculture opportunities (locations, farms, species, markets) and considering how they can be developed and managed in the future, in line with the new fisheries (and aquaculture) policy.	20 year master negotiated and developed for identification of major aquaculture opportunities	A 20 year master plan available in which all major aquaculture opportunities have been identified and decision reached as to how to manage them	20 year master plan available at MFMR used to guide stewardship	Available resources	2016 - Ongoing
Activity B.2.3. Develop management plans for key aquaculture opportunities and options. Management plans will be developed for five major priority aquaculture opportunities initially.	Management plans for sustainable aquaculture management with trained supporting cadres	Management plans developed for key aquaculture opportunities	Number of management plans completed. Availability of management plans and evidence of use for aquaculture management	Available resources	2016 - Ongoing

Activity C. Activities and Outputs under theme (C): Trade and Finance for fisheries development:					
Activity C.1. Increasing trade and access to markets (In conformity with the outcomes of policy area 4)					
Activity - Activity to be carried out and in what sequence	Intervention logic - General objective	Expected results - Output envisaged	Verifiable Indicators - Key indicators related to general objectives	Assumptions/risks - Necessary conditions to achieve objectives	Timeframe - Period during which activity takes place or is projected to occur
Activity C.1.1. Gather and disseminate market information as informed by procedural principles of policy. Initially, a stock-take of existing market information should be undertaken followed by focused market research in key areas. Disseminate results to potential users (e.g. commercial companies and sectoral organisations)	Marketing information underpins marketing ventures to derive the highest price obtainable	Market information researched and obtained	Market information ready, available and shared	Available resources	2019 – Ongoing
Activity C1.2. Develop sector-wide product quality mark based on an international standard quality assurance process. Effectively create a functioning Competent Authority for certification/accreditation of fishery products wholly acceptable in the international markets. All producers will have to put in place the necessary facilities and processes to ensure product handling and quality.	Quality products to international standards for marketing certified by an accredited competent authority	Accredited competent authority in place for certification of products according to internationally agreed procedures	Products acceptable at the international market certified by an accredited competent authority	Available resources and stakeholders consensus	2019 - Ongoing
Activity C.1.3. Develop a sector-wide strategy to enhance and modernise the onshore sector and fish export trade. Upgrade structures, processes and technologies within the onshore sector, working closely with relevant stakeholders, and enhancing the relationship to current markets, and to identify and access new markets in the future.	Investment in onshore facilities to meet the demand of international standards and identify new market to increase options for maximising accruable rent.	Processing factories, handling facilities, fishing harbour available to upgrade structures, processes and technologies in the onshore sector while identifying and having access to new markets	Number of processing factories, handling facilities and fishing harbour built. Access to number of new markets	Available resources and success of PPP formed	2019- Ongoing

Activity C. Activities and Outputs under theme (C): Trade and Finance for fisheries development:					
Activity C.2. Securing finance and investment in the fisheries and aquaculture (In conformity with outcomes of policy area 8 under financial support and private sector governance)					
Activity - Activity to be carried out and in what sequence	Intervention logic - General objective	Expected results - Output envisaged	Verifiable Indicators - Key indicators related to general objectives	Assumptions/risks - Necessary conditions to achieve objectives	Timeframe - Period during which activity takes place or is projected to occur
Activity C.2.1. Strengthen fiscal relations (private sector and government). Ensure a good understanding of value and contribution of sector to national economy	Direct public re-investment and private investment in the fisheries and aquaculture sector to achieve policy objectives	Public re-invest in the sector to provide the infrastructural platform for private sector investment with a focus on the sharing of fisheries wealth generated between government and other stakeholders	Extent of public and private sector investment in the sector and equitability of sharing wealth between stakeholders.	Political will to invest in fisheries; Available resources	2019 - Ongoing
Activity C.2.2. Create and maintain a legal and regulatory regime which offers appropriate incentives to the private sector to invest in the long-term future of the fisheries (long-term tenure rights protected).	Legal framework to ensure that long term tenure right is protected for private investors.	Legal provisions available for the protection of private tenure rights for access to fisheries resources.	Evidence of long term tenure rights for private investors protected from engaging with relevant government mechanisms to ensure that legal and regulatory regime is continually updated as appropriate	Political will and Available resources	2019 - Ongoing
Activity C.2.3. Create the enabling of opportunities for appropriate public-private partnerships in the sector.	Provide enabling environment for PPP	PPP forged due to enabling environment for investors and protection of tenure rights	Number of PPP forged due to enabling environment	Political will and Available resources	2019 - Ongoing

Activity D. Activities and Outputs under theme (D): Information, infrastructure and technology for fisheries development.					
Activity D.1. Information flows for decision-making					
Activity - Activity to be carried out and in what sequence	Intervention logic - General objective	Expected results - Output envisaged	Verifiable Indicators - Key indicators related to general objectives	Assumptions/risks - Necessary conditions to achieve objectives	Timeframe - Period during which activity takes place or is projected to occur
Activity D.1.1. Identify and specify information needs for decision-making within the sector by different organisations and stakeholders in a participatory manner through the 'National Fisheries Forum' in order to agree how a sectoral information system would operate, including institutional arrangements, technical facilities, capacities and funding (e.g. catch and vessel registry).	Management information needs assessment for participatory decision making	Management information needs assessed and elicited in a participatory manner.	Availability of management information needs	Availability of resources and competent personnel	2016-Ongoing
Activity D.1.2. Build capacity to both generate and utilise information relevant to decision-making in fisheries and aquaculture including human capacity development and the use of modern information technology to increase the efficiency and effectiveness of information usage with support services, such as a new information centre and the formation of a 'policy advice group', involving a range of stakeholders, to address key issues and questions.	Relevant information generated and capacity built in use of technology in order to increase efficiency of information usage	Information generated and use of technology facilitated and enhanced	Available generated information and knowledge in used of modern technology strengthened.	Available resources	2016-Ongoing
Activity D.1.3 Design and operate fisheries and aquaculture research programme to meet the information needs identified above. Specify the objectives of the research and the options for delivery. Commission research on a yearly basis and review performance	Research for annual generation of management information	Management information based on scientific research	Available science based information	Available resources	2016 – Ongoing

Activity D. Activities and Outputs under theme (D): Information, infrastructure and technology for fisheries development.					
Activity D.2. Appropriate infrastructure and technology					
Activity - Activity to be carried out and in what sequence	Intervention logic - General objective	Expected results - Output envisaged	Verifiable Indicators - Key indicators related to general objectives	Assumptions/risks - Necessary conditions to achieve objectives	Timeframe - Period during which activity takes place or is projected to occur
Activity D.2.1. Identify, specify and provide infrastructure and technology needs for the sector by different organisations and stakeholders. Work through the ‘National Fisheries Forum’ to agree a coherent approach, including institutional arrangements, technical facilities, capacities and funding in order to link with, and underpin the proposed ‘decision support services’ (D.1.2)	Identify infrastructure and technology needs to underpin decision support services	Infrastructure and technology needs identified and provided	Number of infrastructure and technical facilities in place underpinning decision support servers for various organisations in the sector	Available funds	2016 - Ongoing
Activity D.2.2. Design and implement appropriate infrastructure relevant to the future needs of the sector; including large-scale projects (e.g. harbours, water, electricity services), and other more localised projects (e.g. small landing sites, village markets)	Design and implements infrastructure germane to future needs of the sector	Infrastructure necessary to the future needs of the sector designed and implemented	Number of infrastructure necessary to future needs of the sector designed and implemented	Available funds	2016 - Ongoing
Activity D.2.3. Identify and adopt appropriate technology at all stages of the fisheries and aquaculture production process, including catch utilisation, marketing and trading. Update fisheries and aquaculture enterprises on technology innovations and options which will make the choice to adopt particular technologies in line with their business activities, and the relevant national regulations	Identify and adopt appropriate technology across the value chain to underpin decision support services	Appropriate technology identified and adopted across the fisheries and aquaculture value chain	Number of appropriate technology identified and adopted	Available funds	2016 - Ongoing

Budget USD 1,000s

Appendix 2. Five Year Plan (2016-2020)

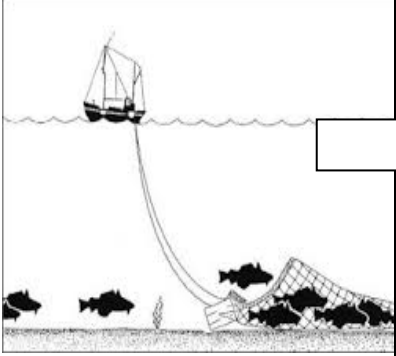
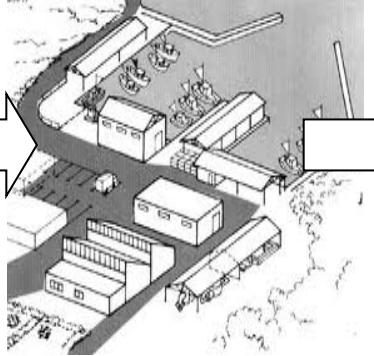
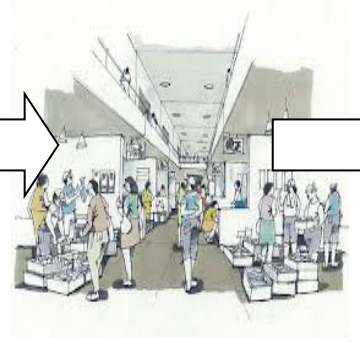
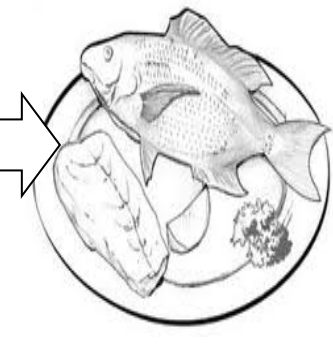
	Components	SL Partners involved (WARFP, NEPAD involved in all activities)	Years					Milestones
			1	2	3	4	5	
(A)	<i>Maximising Opportunities through stakeholder enablement and capacity</i>							
(A1)	Institutional, operational and human capacity-building		1000	1000	1500	1500	1500	
(A.1.1)	Update National Fisheries Policy and Law	MFMR, AGO,						Policy Strengthened, New Act
(A.1.2)	Enhance operational capacity of MFMR (based on MFR)	MFMR, PSRU,						Reformed MFMR operational
(A.1.3)	Private Sector (and Civil Society) - Training and capacity development on opportunities	PSO, CSO, IMBO, INGO						Training completed in key areas
	SUB-TOTAL						6500	
(A2)	Creation and strengthening of stakeholder partnerships		250	250	250	100	100	
(A.2.1)	Identification, design and preparation of stakeholder partnerships	MFMR, AS, MoFED,						Partnerships prepared
(A.2.2)	Private sector - Creation of 'Sierra Leone Fisheries Council'(SLFAC)	PSO, CSO,						SLFAC operational
(A.2.3)	Creation of National Fisheries Forum (NFF)	MFMR, SLFAC, AS,						NFF operational
	SUB-TOTAL						950	
(B)	<i>Systems for sustainable fisheries and aquaculture management</i>							
(B1)	Fisheries management systems designed and implemented		500	500	500	750	750	

(B.1.1)	Definition of fisheries management approach (roles, responsibilities, fisheries and FMUs))	MFMR, SLFAC, LG,											FM approach defined
(B.1.2)	Development of a 20-year fisheries Master Plan	MFMR, SLFAC, AS,											MP-20 prepared
(B.1.3)	Design and implementation of fisheries management plans for major fisheries	MFMR, SLFAC, AS,											FMP x 2 completed, operational
	SUB-TOTAL											3000	
(B2)	Aquaculture & inland fisheries management systems designed and implemented		150	150	300	500	500						
(B.2.1)	Definition of aquaculture management approach (roles, responsibilities, aquaculture systems)	MFMR, SLFAC, AS,											AM approach defined
(B.2.2)	Development of a 20-year aquaculture Master Plan	MFMR, SLFAC, AS,											AMP-20 prepared
(B.2.3)	Design and implementation of management plans for key aquaculture options	MFMR, SLFAC, AS,											AMP x 2 completed
	SUB-TOTAL											1600	
(C)	Trade and Finance for fisheries development												
(C1)	Increasing trade and access to markets		100	100	100	300	300						
(C.1.1)	Gathering and dissemination of market information	MFMR, SLFAC,											Market statistics available
(C.1.2)	Development of sector-wide product quality mark	SLFAC, MFMR, SLEPA											PM initial design
(C.1.3)	Development of sector-wide strategy to promote SL fish products and markets	SLFAC, MFMR, SLEPA											SWS prepared
	SUB-TOTAL											900	
(C2)	Securing finance and investment in the fisheries sector		100	100	100	300	300						
(C.2.1)	Strengthening of fiscal relations (private sector and government)	MFMR, SLFAC,											Increased revenues

		MoFED, NRA										generated
(C.2.2)	Incentivise private sector investment (rights and regulations)	MFMR, SLFAC, MoFED, NRA										Increased PS investment
(C.2.3)	Enabling public-private partnerships	MFMR, SLFAC, MoFED, MoP										PPP x 2 new schemes
	SUB-TOTAL										900	
(D)	Information, Infrastructure and Technology for fisheries development											
(D1)	Information flows for decision-making		250	250	250	500	500					
(D.1.1)	Identification and specification of information needs	MFMR, SLFAC, IMBO										Information needs specified
(D.1.2)	Capacity-building to generate and utilise information	MFMR, SLFAC, IMBO										Training completed
(D.1.3)	Design and operate fisheries research programme	MFMR, SLFAC, IMBO										FRP operational
	SUB-TOTAL										1750	
(D2)	Infrastructure and Technology		150	500	1000	1000	1000					
(D.2.1)	Identification and specification of infrastructure and technology needs	MFMR, SLFAC, MoFED										I/T needs identified
(D.2.2)	Design and implementation of appropriate infrastructure	MFMR, SLFAC, MoFED										New landing sites x 3
(D.2.3)	Identification and adoption of appropriate technology	MFMR, SLFAC, MoFED										New technology in use
	SUB-TOTAL										3650	
		Annual budget	2500	2850	4000	4950	4950					
		Total budget									19250	
	Additional Budget: Infrastructure										50000	
		Grand total									69250	

Appendix 3. Model Fishery System

Key strategic components which underpin successful development Identification of priority interventions for the Fisheries of Sierra Leone

Sub-Sectors:	(A) Production (fishing)	(B) Onshore	(C) Markets and Trade	(D) Consumers
				
Key components				
(1) NATURAL RESOURCE BASE	Healthy fish stocks within national jurisdiction (together with shares of straddling, migratory and high seas stocks) constitute the natural capital that underpins all other sectoral activity. Defining and implementing a framework that will maximise the benefits from exploiting this capital whilst ensuring that it is sustainable is therefore THE critical challenge facing the sector.			
	(1.A) Production sub-sector: Diverse, abundant and valuable fish stocks exploited sustainably using appropriate technology and methods;	(1.B) Onshore sub-sector: Fish landed at compliant harbours and landing sites, handled and processed using appropriate technology and methods;	(1.C) Markets and trade sub-sector: Fish and fish products can access the most valuable markets invoking comparative advantage;	(1.D) Consumers sub-sector: Fish products (safe and good quality) available to consumers, both as food and for other uses (e.g. animal feed);
Sierra Leone – Status	Fish stocks are thought to be diverse, abundant and in a good state including high value tuna and shrimps. But information is limited and there is no precise or comprehensive stock assessment or economic valuation. Estimated potential capital value is	(1.B.) Onshore sub-sector: Fisheries Ministry would normally set out onshore development plans to include: - Harbours and landing sites - Storage and processing facilities - Basic services (roads, water,	(1.C.) Markets and trade sub-sector: The Fisheries Ministry will want to ensure that the market and trade component of the fisheries systems is fully enabled through – good information flows to all	(1.D.) Consumer sub-sector Fisheries Ministry plans for market and trade development to include: - Both urban and rural market facilities - Basic services to support markets (e.g. roads, water,

	<p>USD 700 million; with annual rent USD 60 million. But it should also be recognised that there are concerns about the future sustainability of fish stocks and the role of IUU fishing.</p>	<p>electricity) - Input provision (gears, fuel, ice etc) - Transportation (land and sea) The private sector, as part of commercial activity, would normally focus on - Storage and processing facilities - Input provision (gears, fuel, ice etc) Transportation (land and sea)</p>	<p>stakeholders involved, through a reduction of barriers to trade (both sectoral and non-sectoral), through provision of adequate infrastructure, and through appropriate training and skills. A coordinated approach will be required – relative to the market and trade opportunities presented (both nationally and internationally) – leading to the design and implementation of a sector-wide strategy on markets and trade.</p> <p>Both public and private sectors can also work together to promote national fish and fish products, and to develop a sector-wide quality mark (backed by the work of the ‘competent authority’ (5.C. above)</p> <p>Exploration for and identification of alternative markets that utilises comparative advantage is important</p>	<p>power etc) - Facilities to operate fish product Quality Control services (e.g. offices and laboratories) - Information and communication technology for trade</p> <p>The private sector, as part of its normal commercial activity, would also focus on many of the above, except larger urban and rural market facilities.</p> <p>Commercial firms likely to develop retail outlets, logistical support and storage facilities.</p>
<p>Sierra Leone – Current interventions</p>	<p>There is no stock assessment or economic valuation underway at present. Stock assessment should be conducted by Dec 2016 (USD 1 million)</p>			
<p>Future Priorities</p>	<p>(i). Fish stock assessment by end 2016 (ii). Economic valuation of stocks by early 2016 (NEPAD) (iii). Future additional priorities could include prioritising the needs of national investors to bring multipurpose lower horse power vessels less damaging to the environment, increase rent from large scale industrial vessels and much increase control over them (iv) Introduce quota management system for the industrial fisheries by</p>			

	end of 2017 (v) Re-commencement of artisanal catch and effort data collection to fill fish production gaps			
(2) POLICY FRAMEWORK	Sets out the general ‘direction’ for development, operation and management of the sector			
	<p>(i) Defines major policy objectives e.g. Exploitation of fish stocks will generate benefits for all citizens; e.g. Fish stock exploitation will contribute to national sustainable development, in terms of positive economic, social and environmental impacts</p> <p>Measured by indicators such as:</p> <ul style="list-style-type: none"> - Positive contribution of the sector to the national economy (e.g. national GDP) - Positive contribution to social aspects (e.g. employment and incomes); - Available quality food fish at the local level – consumption kg/caput - Creation of productive and resilient fish stocks (e.g. annual surplus production); <p>(ii) Identifies the general implementation approach, which according to international ‘best practice’, tends to focus on a co-management framework, with government providing the enabling framework, and the private sector (at all levels) taking the lead to develop and grow the sector through successful entrepreneurial activities and enterprises, operating within a market economy.</p>			
	(2.A.) <u>Production sub-sector</u> : policy sets out the general approach for exploitation – fish stocks, location, management approach and system, stakeholders involved, relationship between government and non-government (roles and responsibilities), targets and desired impacts;	(2.B) <u>Onshore sub-sector</u> : policy identifies the desired location and extent, nature and operation of onshore facilities and systems – from harbours and landing sites, to fish handling and processing facilities to work with and serve the ‘production’ sub-sector;	(2.C) <u>Market and trade sub-sector</u> : policy identifies the desired structure, level of operation and impact, in terms of fish distribution, products, facilities and returns to government and other stakeholders; plus the relationship between national, regional and international trade;	(2.D) <u>Consumers sub-sector</u> : policy identifies the proposed opportunities for consumers to benefit from fish consumption in particular, and the means by which an assured and safe supply of fish will be available; policy will set out desired national targets for fish consumption and other uses;
Sierra Leone – Status	A revised Fisheries Policy designed in 2010 which is an adequate starting point for fisheries development (according to IBP)	Included under (2.A.)	Included under (2.A.)	Included under (2.A.)
Sierra Leone – Current interventions	NEPAD and WARFP collaborating to further upgrade Fisheries Policy (2010) by end 2015; focusing on a series of ‘policy briefs’ to guide actions;			
Future Priorities	To ensure policy upgrade is completed by end 2015			
(3) LAWS AND REGULATIONS	The law provides an important part of the mechanism for policy implementation; it should create an enabling environment for the growth and development of the sector, as opposed to being overly restrictive and prescriptive;			
	(3.A) <u>Production sub-sector</u> : In terms of international best practice, the law should include:	(3.B) <u>Onshore sub-sector</u> : Government should construct Modern fish harbour complex	(3.C) <u>Markets and trade sub-sector</u> : - Ensure roads are rehabilitated in	(3.D) <u>Consumers sub-sector</u> : -Importation of fishing input and fish seed should go through

	<ul style="list-style-type: none"> - Clear purpose statement; - Assert national sovereign rights to EEZ; - Define process of decision-making under designated fisheries management systems; - Define transparent processes for specifying and authorising defined fishing units; - Establish transparent and accountable processes for defining roles and responsibilities, with regards to management, and rights; - To include setting TAC, and defining catch quota allocation and management measures; - Definition of enforcement procedures and penalties; - Definition of foreign ownership provisions; - Provision for Public-Private Partnership Agreements; 	<p>should be constructed to facilitate onshore fish handling, processing and dry docking facilities</p> <ul style="list-style-type: none"> -ensure transshipment and pre-licensing inspection for all vessels take place in port -strengthen other ports state measures including catch certification schemes and denial of vessels for port access 	<p>coastal district to facilitate fish trade. This should be part of the legal framework</p> <ul style="list-style-type: none"> -regional fish markets with cold storage facilities to be constructed for all district headquarter towns - provisions for licensing of fish processing facilities with defined requirements -enhanced official controls for hygiene and sanitation standards to be established in line with international requirements -establishment of local fish feed industry to supply fish farms for increased fish production 	<p>approval</p> <ul style="list-style-type: none"> -regulation of fish trade to go through certification schemes including fish health and catch certificates -establishment of a capable competent authority to regulate fish quality standards and fish export. -The food safety authority to be established should issue licenses for fish safety and hygiene
Sierra Leone - Status	Draft Fisheries Bill (2010) is available; but there are concerns that it does not meet the IBP (above);	Draft fisheries bill exist but needs review to meet needed requirements for implementation of ports state measures	Draft Fisheries bill currently under review and will now include defined mandates for fish quality, safety and fish trade	Review and will now include defined mandates for fish quality, safety and fish trade
Sierra Leone – Current interventions	NEPAD collaborating to revise draft Bill by end 2015 in line with IBP (above)	FAO and NEPAD collaborating with MFMR to finalize the fisheries bill		FAO and NEPAD collaborating with MFMR to finalize the fisheries bill
Future Priorities	Revised draft Fisheries Bill agreed and then enacted by Parliament by end 2016.			
(4) STAKEHOLDERS AND ORGANISATIONS	<p>Fisheries stakeholders include Government Ministries, enterprises within the private sector (ranging from large to small-scales), and other tertiary stakeholders (e.g. consumers). Under co-management arrangements, government and non-government stakeholders work together to achieve agreed common objectives.</p> <p>Fisheries Ministry – typical directorate structure – (i) Policy and Strategy; (ii) Fisheries and Aquaculture Management; (iii) Services and Research; (iv) Fish Quality; (v) Compliance.</p> <p>Private Sector Enterprises – structure and organisation according to the type and scale of business concerned (ranging from large-scale, industrial level firms, to small-scale operations with low technical and financial capital).</p> <p>Small-scale fishing enterprises often supported by civil society organisations, especially NGOs.</p> <p>In many countries, private sector enterprises often collaborate together under an ‘industry association’ umbrella to present a ‘single voice’ on key issues</p>			

	<p>and in discussions with government.</p> <p>In addition, the formation of a national “fisheries forum”, with regular meetings, can facilitate government and private sector interactions.</p>			
	<p><u>(4.A) Production sub-sector:</u> Fisheries Ministry to provide oversight of sector, enabling environment and fisheries management system; specialist staff related to fisheries industry and management activities;</p> <p>Private sector - a range of large to small-scale fishing firms and operations;</p> <p>Industry Association(s) provides ‘one voice’;</p> <p>Civil society organisations (NGO) supporting small-scale operations (e.g. technical development, enterprise guidance and management).</p>	<p><u>(4.B) Onshore sub-sector:</u> Fisheries Ministry provides oversight and specialist guidance; involved in development and management of harbours and facilities (markets, storage, general infrastructure); this may involve significant public investment;</p> <p>Private sector - firms involved in provision of fishing inputs and credit, onshore services (vessel and gear maintenance), initial catch handling and storage;</p>	<p><u>(4.C) Markets and trade sub-sector:</u> Fisheries Ministry provides oversight; involved in enabling market and trade operations; product safety and quality control;</p> <p>Private sector – range of firms involved in fish trade, fish processing and product development; both wholesale and retail; some firms are fully-integrated (up-down the value chain); investments in commercial operations; trade can be local, national, region and international;</p>	<p><u>(4.D) Consumers sub-sector:</u> Fisheries Ministry provides oversight; ensures that consumers can access sufficient supplies of quality, safe fish (standard setting and monitoring);</p> <p>Private firms of different scales engage with consumer demands through market; supply range of safe fish products through various retail outlets;</p>
<p>Sierra Leone - Status</p>	<p>Stakeholder composition shows limitations: MFMR has weak capacity and structure, under-resourced; Local Government (issues inshore fishing licences) limited capacity also; private sector – few private companies; System of agents for foreign companies operating in EEZ is prominent;</p> <p>Large inshore, community-based small-scale sector (some national and local organisations e.g. SLAFU); some NGOs involved; university-based research institute (IMBO);</p>	<p>MFMR has weak capacity to oversee development of onshore sector. There are no dedicated fishing harbours in SL and few up-to-date landing sites. Many local beach landing sites along coast. Industrial sector – a small number of companies have facilities in Freetown, but need upgrading. Most foreign (agent coordinated) fishing companies do not land catch in SL (trans-shipment). Relatively small amount of landings for local consumption. Few dedicated onshore equipment or input supply firms.</p> <p>Small-scale sector – land locally and enter into local trade system; few facilities and both investment and inputs often provided by ‘middlemen investors’.</p>	<p>MFMR has weak capacity to oversee development of markets and trade.</p> <p>There is no dedicated fish market in Freetown or other urban centres. Most markets are local and informal and lack basic facilities.</p> <p>Industrial sector - Limited catch volume enters national trade, most is exported (trans-shipped at sea).</p> <p>There is very limited formal international trade in fish from SL due to absence of certified quality control according to international standards.</p> <p>Most of the catch from small-scale sector enters local and extensive trading networks.</p>	<p>MFMR has weak capacity to oversee retail development to enable greater consumer access to fish.</p> <p>Relatively few formal retail outlets for fish, most are informal and unregulated. Quality control not in place.</p> <p>however the role of the artisanal sector in feeding the nation in spite of all these factors needs strong acknowledgement and methods to continue and develop this vital protein source provided for as top priority</p>

Sierra Leone – Current interventions	(i) Management and Functional (MFR) Review (to create new MFMR);	Same as (4.A) Landing facilities provided at Tombo, Goderich, Shenge and Bonthe but more need along the coast Recent DTIS recommendations to upgrade fish trade into national planning framework;	Same as (4.A.)	Same as (4.A.)
Future Priorities	(i) Ensure MFR is implemented; (ii) Build capacity and organisation in private sector (industrial and small-scale) (iii) Develop fishing industry associations e.g. SL Fisheries Council and National Fisheries Forum;	(i) Ensure MFR is implemented; (ii) Build capacity and organisation in private sector (industrial and small-scale); to include development of national fishing fleet and fish trade;	Same as (4.B)	Same as (4.B.)
(5) POLICY IMPLEMENTATION PROCESSES AND SYSTEMS	<p>Enabling environment provided by legal framework, for establishment and operation of private sector enterprises; and as a basis for a range of policy implementation processes and administration;</p> <p>In particular, a range of incentives should be created (e.g. well-defined and long-term rights, strong and predictable regulations, and fiscal arrangements);</p> <p>Plus a range of administrative processes and services from the Fisheries Ministry to support implementation (e.g. vessel registry)</p> <p>Fisheries management systems aligned to specific fisheries management units can be used to channel the above processes and services, and implemented using a fisheries management planning approach.</p>			
	<p><u>(5.A) Production sub-sector:</u> Fisheries Ministry sets the fisheries management framework: Defines fishing location and jurisdiction; defines who can fish and under conditions; allocates these rights; monitors and defends rights; Tangible framework and services: - Stock assessment - Fisheries planning - Vessel registry; - Catch registry; - Catch allocation registry - Fishing licence registry - Monitoring control and surveillance (MCS) - Fisheries law and regulations</p>	<p><u>(5.B) Onshore sub-sector:</u> Fisheries Ministry may be involved to different degrees in the development (investment), oversight and operation of onshore services: - Harbour management - Provision of fishing inputs (e.g. fuel, ice) - Storage and processing buildings - General infrastructure (roads, water, electricity) - Revenue collection (NRA) - Immigration - Security e.g. Drug trafficking prevention</p>	<p><u>(5.C) Markets and trade sub-sector:</u> Trade in any commodities (in any sector) will be strongly influenced by the policies and legal regulations developed by a Trade Ministry. The general objective will be to grow and facilitate trade (both domestic and foreign);</p> <p>The Fisheries Ministry will provide a range of specific services: - Collecting and disseminating market information - Licencing of merchants and traders</p>	<p><u>(5.D) Consumers sub-sector:</u> Consumers will purchase fish from retail outlets for food. It is expected that government will oversee the quality and safety of these products through the processes highlighted previously.</p> <p>Fisheries Ministry initiatives will highlight benefits which can be derived from the sector (economic, nutritional etc)</p> <p>Similar considerations apply to fish used for non-food purposes (e.g. animal feed)</p>

		<p>But in general (except for major infrastructure) most of the above will be provided and operated by private firms on a commercial basis.</p> <p>In some situations, particularly with harbours and landing sites, Public-Private-Partnerships (PPP) may be relevant;</p>	<ul style="list-style-type: none"> - Setting Product Quality Standards - Monitoring and control of markets and product quality 	
Sierra Leone – Status	Policy implementation processes are generally weak; fisheries management system not well-developed (licencing using GRT is main approach); offshore IUU probably high;	Same as (5.A.)	Same as (5.A.)	Same as (5.A.)
Sierra Leone – Current interventions	<ul style="list-style-type: none"> (i) MFR to create new MFMR, upgrade services and processes by end 2016; (ii) Support to develop TURFs (x4) (USD 0.3 million) (ongoing); (iii) Fishing canoe registration; (iv) Fisheries Management Plans development on-going (NEPAD); 			
Future Priorities	<ul style="list-style-type: none"> (i) MFR is implemented (end 2016); (ii) TURFs and canoe registration completed (2015); (iii) Enhanced MCS system; (iv) FMP (x1) by mid 2016 (NEPAD) (v) Development of coherent approach to FM (end 2016) (vi) Fisheries Master plan (2016 ongoing) (vii) FMP for major fisheries (2015 ongoing) (viii) Funding arrangements for all the above defined and secured; 			
(6) HUMAN CAPACITY	Full and effective participation by stakeholders within the sector – in government, in the private sector and other areas – requires a wide range of skills and expertise (e.g. fisheries administration, enterprise management etc).			
	A minimum level of human capacity is required to enable successful investment in fisheries development.			
	<u>(6.A) Production sub-sector:</u>	<u>(6.B) Onshore sub-sector:</u>	<u>(6.C) Markets and trade sub-sector:</u>	<u>(6.D) Consumers sub-sector:</u>

	Expertise and skills in: Fish catching and technology Fishing enterprise management Fisheries management Fisheries administration Policy design and implementation Research and analysis	Expertise and skills in: Harbour development and management Development and management of onshore fish handling, processing and storage facilities Enterprise management and development Product development Food safety and quality control	Expertise and skills in: Market analysis and market development Fish trade enterprise management Finance and administration for trade Logistics and communication Food safety and quality control	Expertise and skills in: Product recognition and quality Product utilisation Nutrition and diet
Sierra Leone – Current Status	Overall, there is limited human capacity in both public and private sectors to undertake a long-term fisheries development process;	Same as (6.A.)	Same as (6.A.)	Same as (6.A.)
Sierra Leone – Current interventions	(i) Some capacity-building in all areas through NEPAD programmes (long-term impact uncertain without reformed MFMR or strengthened private sector);			
Future Priorities	(i) Wide-ranging and concerted capacity-building for both public and private sectors; including organisational development (from 2015);			
(7) FINANCE AND INVESTMENT	<p>The fisheries sector, in many countries, is capable of making an important contribution to the local, national and regional economies, involving significant flows of money and economic revenues, which can grow over time with more effective management, and successful enterprise development, which in turn must also be underpinned by investment.</p> <p>The sharing arrangements for this wealth (e.g. through fiscal mechanisms) is an important part of the relationship between government and non-government stakeholders.</p> <p>The operation and growth of private enterprises requires appropriate investment and finance over time, and can come from both public and private sources.</p> <p>Similarly, government organisations and activities in the fisheries sector will also require appropriate investment and finance, which will usually come from the national purse.</p>			
	<u>(7.A) Production sub-sector:</u> Fisheries Ministry will oversee the sharing of	<u>(7.B) Onshore sub-sector:</u> All of the issues and considerations	<u>(7.C) Trade and markets sub-sector:</u> All of the issues and	<u>(7.D) Consumers sub-sector:</u> All of the issues and considerations

	<p>wealth generated by well-managed fisheries, between government (e.g. through taxes and fees) and the private sector (e.g. through profits). The potential wealth generation for many fisheries can be significant, and can be increased over time through adding value to fish products in particular (an essential pre-requisite is effective fisheries management);</p> <p>Fisheries Ministry will oversee and direct public investment in the sector: Capital investment (e.g. construction of harbours and related infrastructure) Re-current operating costs for Fisheries Ministry to provide key role and services;</p> <p>Fisheries Ministry source of investment revenue will be the national treasury (through Finance Ministry); loans and grants through banks and donors may apply also;</p> <p>Under appropriate conditions (e.g. well-managed fisheries, secure rights and attractive fiscal arrangements), the private sector would be expected to invest in the sector e.g. fishing companies.</p> <p>Fisheries Ministry may be involved in assisting small-scale fishers to secure loans for investment in the development of new and existing fishing operations and firms. Although it would be expected that such operations would become self-sustaining over time.</p>	<p>outlined for the fishing sub-sector also apply here.</p> <p>Capital investments in infrastructure (e.g. harbours, landing sites etc) are of particular relevance. Public-Private-Partnerships may be important in certain countries for capital projects.</p> <p>Under the right conditions, private sector will invest and expand in areas such as provision of fishing inputs, fish handling and storage.</p>	<p>considerations outlined for the fishing sub-sector also apply here.</p> <p>Fisheries Ministry will need to consider capital and re-current investment and expenditure in key areas such as:</p> <ul style="list-style-type: none"> - Market infrastructure - Market information services - Fish product quality control testing and enforcement <p>Under the right conditions, the private sector will invest and expand in areas such as fish processing, product development, transportation fish trading and fish retailing.</p>	<p>outlined for the fishing sub-sector also apply here.</p>
<p>Sierra Leone – Status</p>	<p>(i) Estimated economic value of SL fish stocks (USD 60 million) is NOT being realised (weak management); very limited financial return to national purse; fiscal arrangements unclear;</p>	<p>Same as (7A.)</p>	<p>Same as (7A.)</p>	<p>Same as (7A)</p>

	(ii) Limited total investment in sector in past 10 years; (iii) MFMR has been under-resourced; (iv) Private sector investment has been deterred by uncertainty of institutional arrangements;			
Sierra Leone – Current interventions	(i) NEPAD (small grant); (ii) Russian Federation (small grant) (iii) Some stability in public finance; (iv) Private sector investment limited; (v) Informal private sector investment (unknown but active) (vi) \$28 Million World Bank Loan for WARFP but suspended at time of writing			
Future Priorities	(i) Strengthen fiscal arrangements within the sector – more wealth generation through improved FM; higher contribution to public purse; (ii) Incentivise private sector investment through better rights-based management and regulations; (iii) Enable PPP in fisheries; (all starting 2013)			
(8) MARKETS AND TRADE	Markets and trade lie at the heart of the commercial fish business, which operates at different level and scales throughout the world.			
	<p>The success of this component of the fishery system will also greatly determine the financial and economic benefits which are generated as a whole, and shared by different stakeholders. A strong market demand for fish products will provide a good incentive for the establishment and growth of fishing enterprises.</p> <p>However, this success will be underpinned by a whole range of factors including – adequate infrastructure and facilities, skills in fish processing and marketing, quality control and product development, information flows, and appropriate financing.</p> <p>It will also be crucial to balance the development of the fish trade with the establishment of effective fisheries management, in order to avoid uncontrolled expansion of fishing effort reacting to commercial incentives.</p>			
	<u>(8.A.)Production sub-sector:</u> The Fisheries Ministry will be interested in the relationship between fishing activity and markets/trade. A strong market can incentivise the production sub-sector. Equally, a strong market	<u>(8.B.)Onshore sub-sector:</u> See (8.C.)	<u>(8.C.)Markets and trade sub-sector:</u> The Fisheries Ministry will want to ensure that the market and trade component of the fisheries systems is fully enabled through –	<u>(8.D.)Consumers sub-sector:</u> See (8.C.)

	<p>without adequate fisheries management can lead to overexploitation. The balance between these elements should be monitored and assessed, and action taken to address concerns.</p> <p>In the private sector, fishing firms and operators will need to understand the market opportunities, in order to develop appropriate business plans and fishing strategies.</p> <p>Both public and private sectors must have relevant capacity to undertake the analysis and downstream management tasks.</p>		<p>good information flows to all stakeholders involved, through a reduction of barriers to trade (both sectoral and non-sectoral), through provision of adequate infrastructure, and through appropriate training and skills. A coordinated approach will be required – relative to the market and trade opportunities presented (both nationally and internationally) – leading to the design and implementation of a sector-wide strategy on markets and trade.</p> <p>Both public and private sectors can also work together to promote national fish and fish products, and to develop a sector-wide quality mark (backed by the work of the ‘competent authority’ (5.C. above)</p> <p>Exploration for and identification of alternative markets that utilises comparative advantage is important</p>	
Sierra Leone – Status	See (8.C.)	See (8.C.)	<p>(i) Domestic fish markets and trade in SL is undeveloped and lacking basic organisation and infrastructure;</p> <p>(ii) International Trade is constrained by lack of functional competent authority to certify quality control standards;</p> <p>(iii) Opportunities for formal regional trade exist but not exploited;</p> <p>(iv) Informal trade (both offshore and regional) are probably significant but un-quantified;</p>	See (8.C.)
Sierra Leone – Current interventions			(i) Competent Authority development has been	

			supported by UNIDO, WARFP and PRECON; (ii) WB DTIS assessment recommendations to build sub-sector; included in national planning;	
Future Priorities			(i) Ensure Competent Authority is functional (end 2016); (ii) Market and trade data and assessment (2016); (iii) Develop sector-wide quality mark (starting 2015); (iv) Sector-wide strategy to promote SL fish and products (starting 2015);	
(9) INFRASTRUCTURE AND TECHNOLOGY	Appropriate types and levels of both infrastructure and technology are required to underpin the operation of the sector.			
	<p>Public investment is usually applied to large infrastructure projects (e.g. harbours, landing sites, roads and utilities), and with reference to services (e.g. patrol vessels equipped with the latest MCS technology).</p> <p>Private enterprises would usually invest and acquire relevant facilities and technologies for catching, processing, handling and trading fish products. Although in many countries, government subsidies also apply.</p> <p>Public Private Partnerships for new infrastructure and technology projects have been successful in some countries,</p>			
	<p><u>(9.A) Production sub-sector:</u> Fisheries Ministry would have particular infrastructure needs:</p> <ul style="list-style-type: none"> - Central and regional administrative offices, equipment stores and laboratories - Road vehicles - Patrol vessels - Information and communication technology (both land- and sea-based) <p>In the private sector, fishing would require:</p> <ul style="list-style-type: none"> - Appropriate vessels of different sizes; - Fishing technology (gears) - Information and communication technology 	<p><u>(9.B.) Onshore sub-sector:</u> Fisheries Ministry would normally set out onshore development plans to include:</p> <ul style="list-style-type: none"> - Harbours and landing sites - Storage and processing facilities - Basic services (roads, water, electricity) - Input provision (gears, fuel, ice etc) - Transportation (land and sea) <p>The private sector, as part of commercial activity, would normally focus on</p> <ul style="list-style-type: none"> - Storage and processing facilities - Input provision (gears, fuel, ice etc) - Transportation (land and sea) 	<p><u>(9.C.) Markets and trade sub-sector:</u> Fisheries Ministry plans for market and trade development to include:</p> <ul style="list-style-type: none"> - Both urban and rural market facilities - Basic services to support markets (e.g. roads, water, power etc) - Facilities to operate fish product Quality Control services (e.g. offices and laboratories) - Information and communication technology for trade <p>The private sector, as part of its</p>	<p><u>(9.D.) Consumers sub-sector:</u> <u>See (9.C)</u></p>

	- Fish processing and storage technology		normal commercial activity, would also focus on many of the above, except larger urban and rural market facilities. Commercial firms likely to develop retail outlets, logistical support and storage facilities.	
Sierra Leone – Status	(i) MFMR has weak infrastructure overall; and limited up to date technology; (ii) Private sector dominated by inshore fishing vessels (undecked); industrial fleet is very small and has some modern technology;	(i) Onshore facilities are weak overall, very few well-developed and equipped landing sites along the coast; no fishing harbours; (ii) Four new landing sites constructed recently (ADB funding) (not operational as yet); (iii) No facilities for fish trade and storage at main airport;	(i) Freetown and other major urban areas lack a central fish market; (ii) Rural fish markets are informal, and often integrated with general markets; (iii) Cold storage facilities limited and constrained by power shortages;	(i) Retail outlets for fish are limited overall; mostly informal; (ii) SL fish does not reach many international markets formally;
Sierra Leone – Current interventions	(i) Proposed enhance MCS capability with latest technology plus new patrol vessels (USD 5.95 million) plus some capacity-building; (Proposal by WARFP which is now suspended)	(i) Proposed building of new landing sites (Konakreedee) (USD 5.3 million); (ii) Proposed building of new fishing harbour (Murray Town) (USD 8 million) (Proposal by WARFP which is now suspended);	n.a.	n.a.
Future Priorities	(i) MCS capability to be further enhanced, and fully integrated with operation of new MFMR, and development of fisheries management system (from 2016); (ii) Opportunities increased for fishers to acquire and utilise most appropriate fishing technology within new FM system (from 2016);	(i) Enhancement of new fishing harbour and landing site facilities constructed under WARFP through PPP and other arrangements; (ii) Operationalisation of four existing ADP landing site facilities; (iii) Identification, appraisal and construction of further landing sites as appropriate; (all from 2013)	(i) Investigation and appraisal of fish market facility needs; (ii) Construction of new markets and facilities as appropriate; (all from 2016)	(i) Investigation and appraisal of retail outlet facility needs; (ii) Construction of new retail outlet facilities as appropriate; (all from 2016)
(10) INFORMATION AND KNOWLEDGE	<p>Information and knowledge concerning all aspects of the fisheries system are important for decision-making by both government and private sector organisations and enterprises.</p> <p>Dedicated research programmes can be designed and implemented to answer key questions. Research questions can be identified and prioritised through the work of a national stakeholder forum, and an associated technical committee.</p>			

<p>In the private sector, relevant information will be gathered and analysed as part of the operation and management of a fishery enterprise, as would happen in any business.</p> <p>It is important to balance the requirement for information against cost in designing both information systems and research programmes. In some cases, there may be a case for outsourcing this task to specialist groups.</p>			
<p><u>(10.A.) Production sub-sector:</u> Fisheries Ministry to collect, store and use information with reference to:</p> <ul style="list-style-type: none"> - Stock assessment - Fisheries planning - Fisheries Management - Catching opportunities - Fleet management and capacity - Vessel registry - Catch registry - Licencing - Catch allocations - MCS <p>Good links with Research Organisations are important. The design and operation of a suitable research programme to underpin the collect and analysis of key information will be important.</p> <p>In the private sector, many firms and operators will collect and use similar information (to the above) relative to the needs of their fishing enterprises in order to operate effectively.</p> <p>Opportunities for information-sharing and analysis between – Ministry, Research Organisations and Private Sector (e.g. Fishing Firms) – can be an important and strong mechanism to assist fisheries planning and management. Possibly under the auspices of a National Fisheries Forum.</p>	<p><u>(10.B.) Onshore sub-sector:</u> Fisheries Ministry to collect and use information with reference to:</p> <ul style="list-style-type: none"> - Fish landings and locations - Harbour operations - Usage of onshore facilities and inputs - Financial and economic analysis of facility usage <p>The above information will particularly important where the Ministry is responsible for the initial investment and management of the onshore facilities. In due course, this may be taken over by the private sector.</p> <p>Research Organisations can undertake much of the routine data collection and analysis, to form an overview of activities.</p> <p>In the private sector, many firms and operators will collect and use similar information (to the above) relative to the needs of their fish-based enterprises in order to operate effectively. The onshore sub-sector is the inter-face between the production and market sub-sectors, and some firms may be involved in only one or all (fully integrated) and their information requirements will vary accordingly.</p>	<p><u>(10.C.) Markets and trade sub-sector:</u> Fisheries Ministry to collect and use information with reference to:</p> <ul style="list-style-type: none"> - Trade flows by volume and value, prices - Product types, origins - Fish demand/supply - Fish traders, numbers, types and activities <p>The above information will help the Ministry with regards to policy on fish supply and consumption trends, and possible future policy changes and interventions (e.g. new market facilities or better infrastructure). Also to better understand the relationship to fishing activities and economic performance of firms involved.</p> <p>Research Organisations can undertake much of the routine data collection and analysis, to form an overview of activities.</p> <p>In the private sector, many fish traders and integrated firms will also collect and utilise market data and information, as part of the management of their trade operations.</p>	<p><u>(10.D.) Consumers sub-sector:</u> <u>See (10.C.)</u></p>

Sierra Leone - Status	Under staffed and under resourced ministry means that capacity to carry-out fisheries management duties is very limited. Scholarships unavailable for advanced studies in fisheries and fisheries management	Weak post-harvest infrastructure with low capacity in seafood handling and processing thereby missing out on employment creation opportunities and value addition to increase income.	Limited market research to provide information for management decision making	
Sierra Leone – Current interventions	Series of workshops aimed at improving capacity have been organised over the past couple of years since the ISFMP and DeIPHE projects in 2007 and the WARFP and NEPAD projects in more recent times (WARFP suspended)	Landing facilities provided in four major fishing communities. Construction of harbour and resolving the competent issues etc.	Ad hoc market information obtained from time to time	
Future Priorities	MFR and training for capacity building in various areas of fisheries management.	Training in value chain analysis to identify and quantify processes and procedures for the provision and operationalisation of post-harvest facilities	Comprehensive and sustained market research	