



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

**POLICY FOR FISHERIES AND AQUACULTURE
IN SIERRA LEONE**

April 2016

Bibliographic Reference:

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Acronyms and Abbreviations

AF	Artisanal Fisheries
A4P	Agenda for Prosperity
AU	African Union
AU-IBAR	African Union – Inter-African Bureau for Animal Resources
AFRM	African Fisheries Reform Mechanism
CAADP	Comprehensive African Agriculture Development Programme
CBO	Community Based Organization
CBD	Convention on Biodiversity
CC	Climate Change
CCA	Climate Change Adaptation
CCRF	Code of conduct for Responsible Fisheries
CMAAs	Community Management Associations
CMT	Customary Marine Tenure
CSO	Civil Society Organization
DfID	Department for International Development (UK)
DRM	Disaster Risk Management
DWFN	Distant Water Fishing Nations
EAA	Ecosystem Approach to Aquaculture
EAF	Ecosystem Approach to Fisheries
EU	European Union
FAO	Food and Agriculture Organisation
FMPs	Fisheries Management Plans
FPA	Fisheries Partnership Agreement
GoSL	Government of Sierra Leone
GWG	Governance Working Group
IEZ	Inshore Exclusion Zones
IMBO	Institute of Marine Biology and Oceanography
IPOA-IUU	International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing
ISFM	Institutional Support for Fisheries Management
IUU	Illegal Unreported and Unregulated Fishing
LGA	Local Government Act
MCS	Monitoring Control and Surveillance
MDAs	Ministries, Departments and Agencies
MEY	Maximum Economic Yield
MSY	Maximum Sustainable Yield
MFMR	Ministry of Fisheries and Marine Resources
MPA	Marine Protected Areas
NAFSIP	National Agriculture and Food Security Investment Plans
NEPAD	New Partnership for Africa’s Development
NGO	Non Governmental Organization
PAF	Partnership for African Fisheries
PFRS	Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa
PRSP	Poverty Reduction Strategy Papers
PSMA	Port State Measures Agreement
RBFM	Rights Based Fisheries Management
REC	Regional Economic Communities

RFB	Regional Fisheries Body
RFMO	Regional Fisheries Management Organisation
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
UNCLOS	United Nations Convention on the Law of the Sea
UNFSA	United Nations Fish Stocks Agreement
VME	Vulnerable Marine Environment
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security
WARFP-SL	West African Regional Fisheries Programme in Sierra Leone
WB	World Bank
WBFM	Wealth-Based Fisheries Management
WEF	World Economic Forum
WHO	World Health Organisation

Acknowledgement

This policy framework 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) 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.

Policy framework has also been contextualised in AU's Policy Framework and Reform Strategy (PFRS) for Fisheries and Aquaculture in Africa. We are thankful to AU-IBAR/NEPAD for leading the AFRM which generated the guidelines for the implementation of the PFRS for fisheries and aquaculture in Africa.

The policy framework 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 alignment process necessitated the expansion of policy areas to accommodate the diverse and extensive natural resource governance issues raised by the voluntary guidelines. By so doing, the resultant policy framework has been 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 a conducive collaborative environment under which this policy framework has been developed. We salute them for service to the nation.

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1.0. Background

1.1. Fisheries Policy Development in Sierra Leone

The fisheries policy development progression in Sierra Leone ranges from a lack of an official policy prior to 2003, onto the policy framework for fisheries and aquaculture in Sierra Leone 2016.

1.1.1. The Fisheries Policy Before 2003

Prior to the 2003 Fisheries Policy, a semblance of policy statements (in relation to the fisheries sector) could be gleaned from various government documents such as the National Development Plan 1974-1979/1981-1986 (MDEP, 1974 and 1980), Green Revolution Programme (WB, 1993), Fisheries Acts (GoSL, 1988, 1994) and Vision 2025 (GoSL, 2003). The said documents made mention of policy objectives for fisheries development although no detailed plans were outlined for achieving them. These policy objectives could be summarised as follows:

- Increase fish production, thereby providing cheap animal protein, and make the country self sufficient in fish
- Undertake scientific research on all aspects of fisheries
- Export marine products so as to earn foreign exchange
- Improve the processing, marketing and distribution of fish
- Intensify training programmes for manpower requirements in fisheries
- Ensure environmental sustainability

1.1.2. The 2003 Interim Fisheries Policy

The 2003 Interim Fisheries Policy of Sierra Leone which was formulated with assistance from the FAO/EU embraced standard/procedural principles and strategies, mindful of regional and international obligations. For example, distinction was made between objectives for industrial fisheries (export) and artisanal fisheries (domestic consumption) so as to recognise potential exclusivity of sub-sectoral objectives within the fisheries sector. In relation to artisanal fisheries, the policy largely conforms to the global vision for small-scale fisheries. The key policy objectives of the 2003 interim policy include:

- Improve national nutrition and food security through increased fish production and reduction of spoilage and wastage (Post-harvest losses)
- Increase employment opportunities
- Enhance the socio-economic status of people in the fisheries sector, in particular women
- Increase export earnings from the industry
- Improve the skills of the fishing communities and ensure rational management of the fisheries based on scientific information
- Emphasise the artisanal fisheries role (marine and inland) for local protein production, and industrial fishing for export earnings
- Strengthen regional and international collaboration in the sustainable exploitation, management and conservation of the resources in shared water bodies

However, it was recognised that the policy was too broad, covered many interventions and action, and very simplistic. Moreover, institutional and capacity building needs (e.g. establishing resource ownership, effective MCS, organisation of user groups to assume governance responsibilities) necessary in order to achieve the policy objectives were not provided. Unfortunately, although the Fisheries Policy was produced in 2003, there was little time for its implementation (as it relates to artisanal fisheries) before it was superseded by the Local Government Act (LGA) 2004 - in a clear manifestation of policy incoherence that is characteristic of developing countries.

1.1.3. Policy and Operational Framework for the Fisheries of Sierra Leone 2010

In 2007, MFMR decided to re-visit the 'Fishery Policy of Sierra Leone 2003. Between 2007-2010, MFMR and IMBO, with support of EU-funded 'Institutional Support for Fisheries Management (ISFM) Project plus an FAO expert, undertook consultations and stakeholder dialogue and presented a series of draft policy documents to the National Scientific and Technical Committee. In 2010, 'Policy and Operational Framework for Fisheries of Sierra Leone' was validated by a large meeting of stakeholders on 11 March 2010.

The document covered;

- Fishery Policy Framework: (i) Introduction; (ii) Vision, Objectives and Principles; and (iii) Policy Context of Objectives and Requisite Strategies; (iv) Conclusion;
- Operationalisation of the Policy Framework;
- Appendix I: Frameworks for the management of major fisheries groups in Sierra Leone: (i) Small pelagic shared resources in the northern Gulf of Guinea sub-region; (ii) Shrimp fishery in Sierra Leone; (iii) Sciaenidae and Sparidae fishery communities in the northern Gulf of Guinea sub-region;
- Appendix II: Indicative Operational Plan 2011-12;

However, issues of regional cooperation and fisheries on the high seas were not covered in detailed and artisanal fisheries was not given a holistic treatment. The human capacity development needs were not given the attention it deserves and cross-cutting issues like climate change, disaster risk management, fisheries finance were not considered. International best practices such as EAF/EAA, WBFM etc. were not fully aligned to the framework.

1.1.4. Title: Policy for Fisheries and Aquaculture in Sierra Leone (2016)

1.1.4.1. Originator

Under the NEPAD-PAF programme in Sierra Leone, the Ministry of Fisheries and Marine Resources (MFMR) contracted the NEPAD Governance Working Group (GWG) in 2012 through 2014 to review the fisheries policy (2010) in order to accommodate international best practice and emerging effective and contemporary paradigms. The work undertaken for the realisation of this policy framework report builds upon some initial work undertaken in Sierra Leone under the NEPAD-PAF programme and specifically in the form of seminar workshops. Two important elements should be highlighted, given their relevance. First, a wide range of concepts concerning fisheries policy were examined and discussed. Second, consultation events were attended by a wide range of stakeholders and they all made a significant contribution to a series of wide-ranging discussions which looked at issues relating to fisheries development and management in Sierra Leone. Both elements helped to provide important background information and a platform for this policy report.

1.1.4.2. Objectives

The overall objective was to examine the 2010 fisheries policy for Sierra Leone, and consider the likely future impact on national fisheries development efforts.

Specific objectives include:

- To review the existing fisheries policy in Sierra Leone, identifying strengths and weaknesses, focusing on potentially important gaps;
- To identify and address any areas where the fisheries policy might need changing or enhancing;
- To summarise the key findings for policy makers and to produce a relevant briefing paper (or policy brief), which will focus on a future strategy for fisheries development.

1.1.4.3. Assessment Methods for the Policy Review and Future Reform

A simple framework for the analysis of the current 2010 policy framework used in Sierra Leone was adopted. The analytical framework consists of ten key questions (Table 1). The aim of these questions is to provide a set of succinct answers, aimed primarily at senior decision-makers which will help to provide the following:

- A profile of the fisheries current policy, starting with goals and objectives;
- The national and international context;
- The mechanism of implementation;
- The expected outcomes;
- The possible options for improving policy performance.

The framework involved two types of analysis. First, it was used to identify, describe and analyse the current policy for fisheries in Sierra Leone. Second, it was used to produce an overall assessment of the policy using a simple scoring system – a ‘score-card method’

The key questions overall were:

- What is the score for the current draft fisheries policy framework in Sierra Leone?
- What improved score could be achieved through addressing the various issues identified?

1.1.4.4. Results

An overview of the results of the review of the 2010 policy framework for the fisheries in Sierra Leone is presented in Table 2.

The simple score card result for the current 2010 policy framework in Sierra Leone is 64%. This relatively high score indicates that the current framework certainly has much strength, as identified and examined above. But at the same time, there are also some weaknesses. It is in these specific areas as chronicled in Table 1, namely (3) institutions and instruments; and (4) application of international best practice that reform interventions should be targeted as explained earlier. In turn, the impact will be felt under (6) outcomes. In addition, another priority area for reform intervention is (9) institutional capacity, - although it may take some time for this to fully develop using national human resources. In the interim a collaborative effort using international technical assistance may be required. Following the GWG analysis, it seems possible that the ‘quality’ of the fisheries policy framework for Sierra Leone could be increased in the short-medium term to 80% (Table 1).

Table 1. Integrated Policy and Legal Analysis (IPOA) – A Simple Score Card				
	Key Question	Current score	Reform	Comment on priority reform areas
	Pre-amble: Policy document: Title, date, originator, status Law document: Title, date, originator, status	n.a.	n.a.	n.a.
POLICY CONTENT				
1.	CONTEXT AND ISSUES: What is the national and international context, and the key issues, opportunities and challenges? (sectoral and non-sectoral)	4/5	4/5	n.a.
2.	NATIONAL GOALS: What are the national goals defined by government in general, and the relationship to fisheries	4/5	4/5	n.a.

	policy?			
3.	POLICY OBJECTIVES: What are the specific sectoral policy objectives?	7/10	7/10	n.a.
4.	INSTITUTIONS AND INSTRUMENTS: What are the underpinning institutional arrangements and policy instruments?	10/20	15/20	A major target for reform – with particular reference to legal reform and new approach to fisheries management planning
5.	INTERNATIONAL BEST PRACTICE: How do the arrangements and instruments relate to international best practice?	15/20	20//20	A major target for reform – increase adoption of IBP – especially wealth-based management, rights and use of a TAC/quota fisheries management approach
POLICY ASSESSMENT				
6.	OUTCOMES: What are the likely outcomes? Or impacts? SD?	10/20	15/20	Reforms will lead to more positive and sustainable outcomes
POLICY EVALUATION				
7.	IMPLEMENTATION FACTORS: What factors will likely affect the outcomes? Process, risks, uncertainty, political economy	4/5	4/5	n.a.
POLICY REFORM				
8.	REFORM POTENTIAL: To what extent is it possible to enhance the current policy and legal framework? Support? WARFP. Investment?	5/5	5/5	n.a.
9.	INSTITUTIONAL CAPACITY: Are there appropriate levels of skills and expertise available within key institutions to lead and undertake the necessary reforms;	2/5	3/5	Another target for reform, but this is likely to take time to change significantly, some external technical assistance may be required as an interim measure
10.	KNOWLEDGE & INFORMATION: Is there sufficient relevant information and data available to inform policy reform?	3/5	3/5	n.a.
		64/100	80/100	

1.1.4.5. Main Findings

First, the new fisheries policy 2015 represent an improvement on past fisheries policy, particularly since there is a new attempt to balance fisheries development (increased sectoral investment and activity) with fisheries management – something which was lacking in the past.

Second, the overall score-card assessment (64%) revealed some important deficiencies (below) which still need to be addressed. If this was done, the overall quality of the policy and legal framework would be increased (80%). This would provide a very sound basis for the future development and management of fisheries in Sierra Leone.

Third, although ‘fisheries management’ has been recognised as the main policy priority, the new policy, still retain a strong flavour of the so-called ‘conventional’ fisheries science-based paradigm associated top-down, command-and-control fisheries management approaches which has not performed well in many countries worldwide.

1.1.4.6. Main Recommendations

First, the policy framework should be re-aligned towards a wealth-based fisheries management approach, with a focus on use rights as the key mechanism. This is consistent with international best practice. A clear overall strategy for sector development, including targets and mechanisms, should be outlined, along with a clear recognition of policy reform as a process over time.

Second, fisheries policy and other policies in Sierra Leone, relating to sectors, national and local programmes and activities, should be made more coherent to one another. There are strong indications that a lack of policy coherence is a threat to policy implementation in Sierra Leone.

Third, the existing legal framework should also be re-aligned to support and enable the reformed policy. In particular, the purpose of the law, along with specific measures and provisions, with a clear focus on the wealth-based paradigm, use rights and co-management principles and mechanisms should be made explicit.

Fourth, a set of pilot fisheries, for the development of management approaches specific for Sierra Leone, should be identified. In due course, they will provide a “learning by doing experience” in order to build confidence amongst stakeholders through successful implementation, and to enable fine-tuning of policy and legal frameworks. Capacity-building will be required to enable a wide range of stakeholders and stakeholder groups to fully engage within these activities.

Fifth, it is important that policy with respect to the fisheries of Sierra Leone recognise the importance of establishing full ownership over the fish resources in national territorial waters, and ensure that exploitation is undertaken on a sustainable basis, and that fish harvests meet appropriate standards set for both local and international markets.

Prior to the finalisation of this policy framework report, very pertinent international guidelines had been developed. Consequently, the policy framework report has been enriched by alignment to the following international guidelines:

- 1) AU’s Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa
- 2) FAO’s Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forest in the Context of National Food Security
- 3) FAO’s Voluntary Guidelines for Securing Sustainable Small Scale Fisheries in the Context of Food Security and Poverty Eradication

Importantly, the final report was validated by a cross-section of experts across MDAs and the scientific & technical advisory committee of MFMR before adoption. This legitimised the process whilst bestowing the much needed context and ownership of the content.

2.0. Introduction

2.1. Rationale for Fisheries Policy

Sierra Leone is a resource rich country with a huge potential to support economic prosperity and socio-cultural stability. The country is endowed with sizeable fish resources (in its marine, freshwater and aquaculture ecosystems) that can sustain food security; provide ways and means of making a living such as, employment/income; foreign exchange earnings from export of fish and fish products and an array of use and non-use living aquatic biodiversity values. Notwithstanding this significant natural endowment, the country has historically failed to realise the full potential contribution of the fisheries sector to economic development. For example, from an estimated potential accruable annual rent of about \$60 million, the sector contributed only about \$6 million in 2014. This so-called “Sunken Millions” is an important source of development funding for some of the poorest people in the world who inhabit the West African state. Moreover, there are evidences that the health of some of the stocks have been compromised.

Noteworthy among the many weaknesses and threats is the lack of a comprehensive, coherent and sector holistic fisheries policy as the basis of resource stewardship planning. In addition, fisheries governance structure prior to the commencement of reform programmes in 2012 focused on command and control like decision making processes; underperforming MCS systems and the resultant relatively colossal IUU fishing loss to the tune of about \$30 million per annum; paucity of qualified human resource in key areas in fisheries; overcapitalised and disorganised small-scale fisheries serviced by a weak extension system; weak national and international fish trade and marketing mechanisms; and very little or no governmental responsible re-investment in the sector - are some of the challenges holding the fisheries sector back from making its rightful contribution to societal wellbeing in Sierra Leone. The crucial role of policy in the process of fisheries resource stewardship is that it guides the actions that indicate how the task of achieving the goal might be accomplished. Accordingly, **appropriate policy must usher in every other activity in fisheries management** in order to unlock the opportunities by reversing the threats posed to achieving the full potential of the sector. This would enable the identification and comparison of options to make the right choices for a future pathway especially when it is generally believed that some fish stocks are underexploited. These stocks should be available for an expanded industrial and artisanal fisheries harvested sustainably. The inland fisheries and aquaculture have not yet been harnessed. This suggests that there is room to create a major seafood industry for both domestic and international market and make a significant contribution to pro-poor economic growth in the short to medium term.

The Ministry of Fisheries and Marine Resource (MFMR) has the mandate of living aquatic resource stewardship which it exercises via policies, laws, regulations and participation in international organisations that administer treaties and agreements affecting conservation and allocations of internationally managed fish stocks. It is important to note that in recent years, the MFMR has adopted a more participatory management posture in the stewardship of fisheries resources with sustained engagement of stakeholders in decision making. The formation of community management associations (CMAs) in the management of Marine Protected Areas (MPAs), the introduction of TURFs and the establishment of a Fisheries Council of stakeholders - are indeed some of the noteworthy developments. Commercial fish harvesting is the main stay in the sector but it is crucial for management to include aquaculture and tourism which have a huge potential to make a significant contribution to the economy.

In carrying out its mandate, the MFMR aligned its activities with other national developmental strategies that impact fisheries such as, the second generation PRSP “Agenda for Change”; Result Based Management Programme (government annual activity plan designed to monitor and evaluate MDAs) and the third generation PRSP “Agenda for Prosperity” (A4P). The A4P singled out the lack of an appropriate policy and legal framework to define and guide sector development as a key factor for the failure of the sector in fulfilling its potential to contribute to development growth. Thus, this policy framework addresses a key encumbrance to fisheries development in Sierra Leone. Other A4P objectives for the fisheries sector include;

- Establishment and management of MPAs and development of TURFs for resource protection
- Strengthening capacities to combat IUU fishing
- Setting up adaptive strategies to control coastal erosion

These national development strategies alluded to above have also informed this policy framework. The process for elaborating the policy framework has been fully participatory taking onboard the best practices available and it has been aligned to key international guidelines. It is focused in its core policy areas whilst malleable and dynamic in structure to accommodate future changes.

It is not all gloom and doom in the fisheries of Sierra Leone as opportunities do exist for optimising the potential of wealth creation from the sector. The existence of productive and valuable stocks on near shore fishing grounds is a good opportunity. There is observably substantial donor interest in investing in the fisheries sector as a conduit to alleviate poverty. The sector also benefits from political attention (as an important revenue generation sector) in high political places. A SWOT analysis is given below in Table 2.

Table 2. 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; 	<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

<p>5. Government and donor support for sector development; willingness of stakeholders and CBOs;</p> <p>6. Role of artisanal fisheries in rural economy;</p> <p>7. Inland water bodies and valley swamps supporting Aquaculture growth</p> <p>8. Positive development in regional cooperation in sector development and management</p> <p>9. Private sector investment in industrial fish processing and storage facilities exist</p> <p>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</p> <p>11. Fast fisheries patrol vessel available to police the EEZ</p> <p>12. Sector GDP contribution to the economy exceeds 10%</p>	<p>population of Sierra Leone;</p> <p>4. Uncertainty/risks of investment;</p> <p>5. Infrastructure is underdeveloped (electricity, roads and water supply);</p> <p>6. Lack of donor coordination;</p> <p>7. Threats to biodiversity conservation (illegal methods of fishing and by-catch problem)</p> <p>8. Limited capital investment for the industrial fisheries sector and limited loan facilities for the artisanal fishery sector</p> <p>9. The absence of fish reception centres and storage facilities at the port, airport and border areas hinder the export of fishery products</p> <p>10. Coastal erosion and disaster prone Islands</p> <p>11. Vulnerability to climate change</p> <p>12. Political economy issues</p>
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2.2. Arrangement of the Policy for Fisheries and Aquaculture in Sierra Leone

The policy framework is presented in six Sections. The background Section 1 gives the evolution of policy in the fisheries of Sierra Leone as a way of examining gaps and how they were accommodated by succeeding frameworks. Section 2 specifies the rationale for a policy framework mindful of emerging trends in global fisheries resource stewardship and the accompanying international best practices for sustainable management. The central Section 3 outlines the policy goal and policy areas. We have specified a global *status quo* in a form of a goal that the fisheries of Sierra Leone desire to attain towards which; collective efforts must focus. The various grounds or policy areas to cover in order to achieve the goal amounted to eight in number. Each policy area is accompanied by objective/s, outcomes & monitoring indicators to ascertain what we want to achieve under a policy area, outcomes we expect and how we can verify that we are making progress. Any objective under any policy area is considered as a concrete step towards the overall policy goal. Those eighteen coordinated steps should reach the policy goal. A summary of the overall outcome is given in Section 4 whereas; Section 5 specifies the policy implementation principles (both substantial and procedural principles). Section 6 offers the concluding remarks to the policy development process reiterating the importance of the choice of the stewardship regime to stewardship outcomes and how the policy areas could engage to meet the policy goal. We also included two Appendices for key policy directives. Appendix 1 prescribes why Fisheries Management Plans (FMPs) must be developed and implemented while offering a proposal of the content of such plans. The policy is unambiguous on the adoption of the wealth-based fisheries management approach. Thus, Appendix 2 provides an introduction to the concept and outlines the information requirements for its implementation.

3.0. Policy Goal and Policy Areas

An overarching goal or state of affairs which the fisheries and aquaculture of Sierra Leone aspire to attain has been spelt out. This is followed by specific policy areas of issues which should be addressed in order to achieve the goal. Each policy area is accompanied by the policy objectives in the form of concrete steps to be taken in addressing the issues established in a particular policy area. The expected changes are outcomes and monitoring indicators assess development towards the goal. The values or principles which underpin the policy, stipulates required environment for a successful policy implementation. We have described the policy context and the accompanying strategies in an independent document – the “Development strategy for fisheries and aquaculture in Sierra Leone” (MFMR, 2016b).

3.1. Policy Goal

Box 1. Policy Goal

Ecologically sustainable fisheries that is economically viable with secure tenure rights ensuring social stability following responsible governance procedures.

3.2. Policy Areas

The policy areas outline the specific issues which should be addressed in order to actualise the policy goal. We are mindful of economic, social and bio-physical value positions that should be resolved for an effective fisheries resource stewardship. Eight areas have been identified – the challenges and opportunities they all present once resolved, should satisfy the policy goal.

3.2.1. Policy Area 1. Conservation and Sustainable Resource Use

We are faced here with two issues that need to be reconciled. First, it is straightforward from any production function that there is no viable fishery without viable fish stock inhabiting a healthy habitat. Second, and also true, is that there are motivational issues promoted by management systems in fisheries resource exploitation which could impact conservation and sustainable use of fisheries resources adversely or otherwise. For example, top-bottom, command and control, yield-based, indistinct access - regimes have undermined fisheries resource conservation and sustainable use across the world. Conversely, participatory wealth-based paradigms making efficient use of societal resources continue to reinforce conservation and sustainable fisheries resource use. Consequently, the policy prescriptions we offer here, focuses on economic viability, biological sustainability and equitable allocation in the process of generating optimum wealth at all levels of the fisheries sector while conserving living aquatic resources across water bodies and rebuilding stocks and restoring habitats as the highest priority for the management of all fisheries.

3.2.1.1. Policy Area Objective

To create institutions and take actions that will;

- Guarantee healthy ecological systems supportive of participatory sustainable fisheries and aquaculture
- Maximise wealth-creation in fisheries and aquaculture buttressed by efficient use of societal resources
- Promote equitable resource allocation at all levels of the sector for enhanced social stability

Box 2. Stock Availability, Resource Management and Maximisation of Benefits

Responsible investment in fisheries resource capital formation entails ensuring that stock levels; governance images formed; instruments developed and actions taken, address issues of maintenance of a sustainable environmental & resource health. Otherwise, desirable outcomes cannot be delivered when the resource base is very weak. Equally important is to ensure efficiency in sustained productivity from optimal capacity in a wealth-based management arrangement. This should maximise societal benefit while maintaining a very conservative & healthy resource base.

3.2.1.2. Policy Area Outcome

The following outcomes should be expected;

- Annual scientific information on parameters such as, stock size, capacity, harvest cost, catch size, revenue and ecosystem health determined in order to inform participatory management decisions. Reference points for MEY, MSY, access quotas etc. determined annually from scientific information
- Determine economic value of fish stocks- ensuring transparency in valuing the tenure rights and determination of sale prices
- Regulated spatial planning for sustainable resource management with the institutions of right-based fisheries such as transferable quotas, TURFS etc with the full participation of resource users and other stakeholders in tenure arrangements. As e.g. spatial planning affects tenure by legally placing constrain on resource use, efforts should reconcile and harmonise different objectives of resource use
- Fishing operations adjusted (stock rebuilding) to maintain stocks size at levels reflective of a healthy resource base which ensures that the regenerative capacity of the environment is not compromised mindful of restitution in a form of alternative livelihoods
- Fishing operations are monitored, controlled and surveillanced to adhere to globally accepted best practices ensuring that harvest is legal, regulated and reported.
- Vulnerable habitats identified and fully protected.
- Maximum benefit obtained from the fisheries by the most efficient means with MEY influencing allowable effort levels and catch size in an Ecosystem Approach to Fisheries and Aquaculture.
- Management plans developed for stocks inform allocation mechanisms such as Right-Based Fisheries Managements and Fisheries Access Quota
- Transfer of access rights and ownership facilitated by recognising and facilitating fair and transparent sale and lease markets as a means of transfer of rights for the use and ownership of fisheries
- Fisheries and aquaculture mainstreamed in both national plan/s and economy
- Develop responsible public and private investment framework for fisheries and aquaculture
- Sustained direct reinvestment in the sector to finance the achievement of policy objectives underscores responsible public and private (both domestic and foreign) investments in the sustainable development of the fishery sector.
- Ensure coherence of this policy framework with A4P and LGA 2004 for holistic development in fisheries

3.2.1.3. Monitoring Indicators

- *Available annual report on biological, economic and social aspects of fisheries and aquaculture* to ensure stakeholders awareness of the stock size, capacity, harvest cost, catch size, revenue, status of exploitation and ecosystem health which will enable informed decisions on the management of fisheries and aquaculture.
- *MEY determined regularly* to indicate effort levels and allowable catch size
- *Economic value of fish stock determined* to have some estimation of the quantity and value of the natural resources (fish stocks) which might be exploited (fished), and contribute to the national economy- ensuring *transparency in valuing the tenure rights and sale prices recorded*
- *Appropriate tools such as, MPAs, EAF, EAA, TURFs, bio-physical, economic and social management measures (e.g. seasonal closures, zoning, spatial planning, taxes, indigenous knowledge etc.) are in place* to ensure structured protection of fishery resources from overfishing and habitat degradation. User participation should be facilitated in the formulation and application of all tenure mechanisms

- *Programmes such as coastal zone management, pollution control, climate change adaptation, by-catch controls, etc. are in place to enhance integrated management of coastal resources, including fisheries, associated habitats and pollution controls.*
- *Effective and sustainable MCS systems are operating with adequate institutional framework to establish ownership over resources through ensuring that appropriate controls are set, monitored and enforced.*
- *Evidence of instituted stock rebuilding measures and available alternative livelihoods plans for maintenance of sustainable fish stocks through alternative programmes such as aquaculture, agriculture, other enterprises etc. Action taken to ensure that actors who lose out in the stock rebuilding process are considered for restitution in a form of alternative livelihoods*
- *Evidence of applied Best Fisheries Management (BFM) tools such as Wealth-Based Management (WBM), User rights, RBM, Ecosystem Approach to Fisheries/Aquaculture (EAF/EAA), Co-management etc. for efficient maximisation of societal wellbeing whilst ensuring sustainable stock levels. Instituted fisheries management plans informed by science for the constructions of fish quotas and other equitable allocation mechanisms.*
- *Evidence of regulated spatial planning of tenure for sustainable exploitation as informed by fisheries management plans As e.g. spatial planning affects tenure by legally placing constrain on resource use, efforts should reconcile and harmonise different objectives of resource use*
- *Readily and publically available information on allocation of fishing access/rights, vessel license list etc. to ensure public access to information regarding license list, license fees, vessel register and registration procedures and access rights.*
- *Evidence of the existence of consultative, participatory co-management mechanisms to ensures the institutionalisation of citizenry and other stakeholders (in the form of the Sierra Leone Fisheries Council) to be part of the policy and decision making processes that affect the fisheries sector.*
- *Existence of functional institutionalised mechanisms for mutual accountability and peer review: to ensure that all actors take responsibility in the implementation of the policy framework, share information to support the implementation and are transparent in the way they conduct themselves.*
- *Fisheries and aquaculture prioritized in national development plans: to ensure that issues of fisheries and aquaculture are embedded in CAADP, Agenda for prosperity (A4P), Post-Ebola Recovery Programme and other agricultural and fisheries strategies.*
- *Ensured sustained reinvestment in fisheries and aquaculture from the 10% allocation of national budget to agriculture as committed by the Heads of State and Government in Maputo 2003 under the CAADP framework and recommitted by the Heads of State and Government in Malabo, 2014.*
- *Existence of investment regulatory frameworks for the fisheries and aquaculture sectors that creates an enabling environment which encourages and facilitates responsible public and private (both domestic and foreign) investments in the sustainable development of the fishery sector.*
- *Existence of transfer of access rights and ownership mechanism: Ensures mutually beneficial transfers which avoids conflicts and instability; promote sustainable resource use by recognising and facilitating fair and transparent sale and lease markets as a means of transfer of rights for the use and ownership of fisheries*
- *Evidence of coherence with A4P and LGA 2004 to avoid confusion and ensure that incentive to collect licence fees is coherent with this framework for holistic development in fisheries*

Table 3. Policy Area 1. Conservation and Sustainable Resource Use

Policy Area	Policy Objective	Policy Outcome	Monitoring Indicator
Conservation and Sustainable Resource Use	Guarantee healthy ecological systems supportive of participatory sustainable fisheries and aquaculture	Annual scientific information on parameters on bio-economic, social and the environment determined for management information with the full participation of stakeholders; Determine economic value of fish stocks ensuring transparency in valuing tenure rights and determination of sale prices	Available annual bio- economic and social reports on fisheries and aquaculture; Consultative, participatory co-management mechanisms exist - citizenry and other stakeholders institutionalized (Sierra Leone Fisheries Council) to be part of the policy and decision making processes that affect the fisheries sector. Existence of functional institutionalized mechanisms for mutual accountability and peer review; Evidence of an estimate of the economic value of fish stocks including inland fisheries and aquaculture ensuring transparency in valuing tenure rights and determination of sale prices
		Fishing operations tuned to maintain stocks size at levels reflective of a healthy resource base using bioeconomic and social management measures (e.g. seasonal closures, zoning, spatial planning, taxes, indigenous knowledge etc.)	Bio-physical, economic and social management measures (e.g. seasonal closures, zoning, spatial planning, taxes, indigenous knowledge etc.) are taken; Right programmes are in place e.g. Coastal zone management, pollution control, climate change adaptation, by-catch control etc
		Fishing operations are monitored, controlled and surveillance to adhere to globally accepted best practices that eliminates IUU fishing	Effective and sustainable MCS systems are operating with adequate institutional frameworks with evidence of IUU elimination.
		Vulnerable habitats identified and fully protected; Stock rebuilding undertaken with full participation of users in all tenure arrangements mindful of restitution in a form of alternative livelihoods	Suitable tools are in place such as, MPAs, TURFs; Stock rebuilding measures instituted and alternative livelihoods plans developed and implemented. User participation facilitated in the formulation and application of all tenure mechanisms; Action taken to ensure that actors who lose out from stock rebuilding are considered for restitution in a form of alternative livelihoods
	Maximise wealth-creation in fisheries and aquaculture buttressed by efficient use of societal resources	Maximum benefit obtained from the fisheries by the most efficient means with MEY influencing allowable effort levels and catch size in an Ecosystem Approach to Fisheries and Aquaculture.	MEY determined regularly underpinned by EAF/EAA
		Sustained direct reinvestment in the fisheries for responsible public and private (both domestic and foreign) investments in the sustainable development of the fishery sector.	Investment in fisheries ensured and sustained from 10% of national budget committed by the Heads of State and Government; Existence of investment friendly regulatory frameworks for the fisheries and aquaculture for responsible public and private (both domestic and foreign) investments in the sustainable development of the fishery sector.
		Fisheries and aquaculture mainstreamed in both national plan/s and economy; Ensure coherence of this policy framework with A4P and LGA 2004 for holistic development in fisheries	Fisheries and aquaculture prioritized in national development plans; Evidence of coherence with A4P and LGA 2004 for holistic development in fisheries
	Promote equitable resource allocation at all levels of the sector for enhanced social stability	Management plans developed for stocks inform allocation mechanisms such as Right-Based Fisheries Managements and Fisheries Access Quota; Regulated spatial planning for sustainable resource management; Governance of Fisheries Access; As e.g. spatial	Fisheries management plans informed by science; Readily and publically available system for allocation of fishing access/rights, vessel license list; Globally accepted Best Fisheries Management (BFM) tools such as WBM, RBM, Ecosystem Approach to Fisheries/Aquaculture (EAF/EAA), Co-management etc) are applied in management process; Evidence of

		<p>planning affects tenure by legally placing constrain on resource use, efforts should reconcile and harmonise different objectives of resource use; Transfer of access rights and ownership facilitated by recognising and facilitating fair and transparent sale and lease markets as a means of transfer of rights for the use and ownership of fisheries</p>	<p>regulated spatial planning of tenure for sustainable exploitation as informed by management plan As e.g. spatial planning affects tenure by legally placing constrain on resource use, efforts should reconcile and harmonise different objectives of resource use; Existence of transfer of access rights and ownership mechanism facilitated by recognising and facilitating fair and transparent sale and lease markets as a means of transfer of rights for the use and ownership of fisheries</p>
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3.2.2. Policy Area 2. Sustainable Artisanal Fisheries (AF) Management

The artisanal fisheries subsector which is responsible for some 80% of the national annual production (120,000 tons) is particularly positioned to support livelihoods especially in populated rural coastal regions. In fact, AF is the mainstay for food fish security in the Sierra Leone, a source of employment/income for some 10% of the population whilst serving as a safety net for diverse vulnerable groups including women. But in recent years there are fears that AF, largely operating in the informal economy is overcapitalised in a *de facto* open access environment which is undermining sustainable exploitation. It has not been helpful that disorganised actors in AF are using illegal environmentally unfriendly fishing methods. Thus, huge post harvest losses are incurred with limited value-addition owing to inadequate infrastructure and weak extension services. Although progress is being made towards a more participatory resource management system in AF, well structured increased co-management through informed and involved stakeholders should enhance voluntary compliance, ensure legitimacy of management system and reduce transaction cost. Moreover, based on inshore resources, AF is vulnerable to climate change and land based pollution. Policy incoherence with LGA 2004 is undermining the efficacy of resource management ventures as Local Councils issue license to canoes using illegal fishing gears. The capacities of councils will need to be properly developed and sustained, to build on initial input provided through the WARFP project. It is against this backdrop that the policy framework embarks on a holistic approach to subsector analysis in order to achieve the policy objectives:

3.2.2.1. Policy Area Objectives

It is important to take action so as to;

- Mainstream AF in the formal economy and strengthen/recognise its contribution to poverty alleviation, food and nutrition security and socio-economic benefits of fishing communities.
- Organise and empower user organisation and other stakeholders with built capacity for the promotion of good explicit participatory fisheries governance, sustainable development and responsible use of fisheries and aquaculture resources.
- Engage in cooperation (bilateral and regional) for effective management of shared fishery resources and maintenance of healthy ecosystems.

3.2.2.2. Policy Area Outcomes

The following outcomes should be expected;

- Sierra Leone approves; sanctions and domesticates the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication.
- Responsible fisheries and sustainable development strategies of FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries are incorporated in Sierra Leone AF development strategy and the accompanying enabling environment supportive of its implementation is ensured especially the observance of rights and responsibilities related to fisheries tenure
- In consonance with key recommendation of CCRF, AF is prioritised in the national development plan, its contribution to national economy is clearly/specifically reflected and it is integrated in poverty reduction policy at the national level.
- The full potential of AF to generate socio-economic benefits is assessed and determined with machinery and strategies firmly in place to identify and release such potential.
- Efficient and effective extension service delivery mechanism equipped with required human and material resources
- TURFs instituted in AF, managed by CMAs and guided by principles of responsible governance of tenure and sustainable resource management

- AF value chain is analysed, understood, value chain development organised and facilitated in order to effectively derive the benefits therein using value chain assessment tools with gender mainstreaming an integral part of AF development strategy.
- Reduction effort to sustainable levels in AF for securing sustainable small-scale fisheries. Capacity capping strategy which may be used to achieve this policy would generate losses which may require special support if their livelihoods are threatened warranting consideration of restitution
- Effort levels in AF adjusted to productivity as informed by well thought-out management plans derived from regular stock assessment with the full participation of affected actors.
- IEZ protected from industrial operations to ensure that legitimate rights are not extinguished or infringed Should infringement take place, fair valuation of infringement is carried out and appropriate and adequate compensation considered according to national law
- Capacities of users' organisations and other fisheries stakeholders/institutions for participatory management of the fisheries developed nurtured and reflected in the decision-making and policy formulation processes in the sub-sector.
- Establish appropriate vocational institutions to train actors and enhance participatory management of the fisheries
- Establish appropriate vocational institutions to train actors and enhance participatory management of the fisheries.
- Fishing communities and fish-workers have decent working conditions, live with dignity and realize their rights to livelihoods
- AF actors represented at national technical scientific committee and participate in the development and adoption of local and scientific knowledge for decision making on the sustainable management of fisheries and aquaculture resources
- Instituted mechanisms for strong regional cooperation on fisheries management, including MCS, migratory and shared stocks to address transboundary matters to ensure that tenure rights of AF communities are granted and protected
- Fishing access to DWFN granted on the basis of resource sustainability and secured economic returns as minimum terms and conditions.
- Ensure policy coherence, institutional coordination and collaboration e.g. policy coherence with LGA 2004
- Develop and apply effective monitoring and enforcement mechanisms to deter, prevent and eliminate all forms of illegal and/or destructive fishing practices having a negative effect on marine and inland ecosystems.

3.2.2.3. Monitoring Indicators

- *The FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication is endorsed and rectify by Sierra Leone:* ensure that the international guideline underpins fisheries and aquaculture policy framework in Sierra Leone as it applies to AF especially the observance of rights and responsibilities related to fisheries tenure
- *Issues of responsible fisheries and sustainable development strategies of FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries and that of ensuring enabling environment supportive of its implementation are incorporated in Sierra Leone AF development strategy:* ensure that responsible fisheries issues are followed through during policy implementation and further rolled out in the fisheries development strategy.
- *AF evident and prioritised in A4P, CAADP, National investments frameworks, etc.:* Indicates prioritisation of AF in investment plans, poverty alleviation documents and other national strategy documents.
- *Comprehensive socio-economic appraisal of AF done and ways/means of seizing opportunities and overcoming challenges determined* - ensures that the full potential of AF to generate socio-

economic benefits is released on a sustainable basis with readily available human and material resource for the dissemination of innovation to AF actors

- *Evidence of efficient and effective extension service delivery mechanism equipped with requisite human and material resources*
- *Evidence of TURFs institution in AF managed by CMAs guided by principles of responsible governance of tenure and sustainable resource management*
- *Evidence that AF value chain has been analysed, understood, value chain development organised and facilitated in order to effectively derive the benefits therein using value chain assessment tools with gender mainstreaming an integral part of AF development strategy*
- *Capacity is matched to AF productivity and stated clearly in developed stock management plans: ensures sustainable exploitation in AF and societal stability.*
- *Fishing communities and fish-workers have decent working conditions, live with dignity and realize their rights to livelihoods (level of education, provision of health services, social protection mechanism; access to alternative livelihoods etc.) - this monitors protection of human rights of small-scale fisherfolks, their safety at seas, their fishing areas, also whether fishing communities are able to leverage the benefits from fishing to make significant improvements in the attainment of basic livelihoods.*
- *Evidence of reduction effort to sustainable levels in AF. Action taken to ensure that actors who lose out in the capacity capping process are considered for restitution in a form of alternative livelihoods*
- *Evidence of IEZ protection from industrial operations and tenure protected to ensure that legitimate rights are not extinguished or infringed Should infringement take place, there should be evidence of fair valuation of infringement and appropriate and adequate compensation considered according to national law*
- *Evidence of capacity building programmes at national and regional levels: this monitors whether capacity is being built for fisheries stakeholders and institutions for their empowerment to ensure effective participatory management of the fisheries*
- *Evidence of suitable vocational institutions: this monitors whether appropriate vocational institutions are available to enhance participatory management of the fisheries.*
- *Evidence of AF actors represented at national technical scientific committee: ensures that AF actors participate in the development and adoption of local and scientific knowledge for decision making on the sustainable management of fisheries and aquaculture resources*
- *Evidence of established, capacitated and empowered Sierra Leone Fisheries Council with the full participation of fishers' organisations/associations in an effective co-management arrangement;*
- *Transboundary water body authorities-, RFBs and bi-and multilateral fisheries agreements exist: This to ensure that transboundary water body authorities, RFBs and bi- and multilateral fisheries agreements exist as part of mechanisms for efficient and effective regional cooperation on fisheries management including MCS, migratory and shared stocks to ensure that tenure rights of AF communities are granted tenure rights and protected.*
- *Minimum terms and conditions exist and are implemented to monitor resource sustainability and secured economic returns as basis for regional access policy for granting fishing access. To DWFN*
- *Evidence of policy coherence institutional coordination and collaboration e.g. policy coherence with LGA 2004*
- *Evidence of effective monitoring and enforcement mechanisms to deter, prevent and eliminate all forms of illegal and/or destructive fishing practices having a negative effect on marine and inland ecosystems*

Table 4. Policy Area 2. Sustainable Artisanal Fisheries Management

Policy Area	Policy Objective	Policy Outcome	Monitoring Indicator
Sustainable Artisanal Fisheries Management	Mainstream AF in the formal economy and strengthen contribution to poverty alleviation etc.	AF prioritised in the national development plan, its contribution to national economy is clearly /specifically reflected and it is integrated in poverty reduction policy at the national level.	Evidence of AF prioritised in A4P, CAADP, National investments frameworks, etc.: Indicates prioritisation of AF in investment plans, poverty alleviation documents and other national strategy documents.
		The full potential of AF to generate socio-economic benefits assessed, determined and released underpinned by efficient and effective extension service delivery mechanism equipped with required human and material resources	Comprehensive socio-economic appraisal of AF done and ways/means of seizing opportunities and overcoming challenges determined with evidence of efficient and effective extension service delivery mechanism equipped with requisite human and material resources in terms of infrastructure, trained staff and logistics for efficient delivery of services
		AF value chain is analysed, understood, value chain development organised and facilitated in order to effectively derive the benefits therein using value chain assessment tools with gender mainstreaming an integral part of AF development strategy	Evidence that AF value chain has been analysed, understood, value chain development organised and facilitated using value chain assessment tools with gender mainstreaming an integral part of AF development strategy
		Effort levels in AF adjusted to productivity as informed by well thought-out management plans derived from regular stock assessment with the full participation of affected actors.; Reduction effort to sustainable levels in AF for securing sustainable small-scale fisheries. Capacity capping strategy which may be used to achieve this policy would generate losses for which may require special support if their livelihoods are threatened warranting consideration of restitution; Fishing communities and fish-workers have decent working conditions, live with dignity and realize their rights to livelihoods	Capacity is matched to AF productivity and stated clearly in developed stock management plans derived from regular stock assessment involving all stakeholders to ensure sustainable exploitation in AF and societal stability; Evidence of reduction effort to sustainable levels in AF. Action taken to ensure that actors who lose out in the capacity capping process are considered for restitution in a form of alternative livelihoods; Fishing communities and fish-workers have decent working conditions, live with dignity and realize their rights to livelihoods (level of education, provision of health services, social protection mechanism; access to alternative livelihoods etc.) - this monitors protection of human rights of small-scale fisherfolks, their safety at seas, their fishing areas, also whether fishing communities are able to leverage the benefits from fishing to make significant improvements in the attainment of basic livelihoods.
		Ensure policy coherence, institutional coordination and collaboration e.g. policy coherence with LGA 2004	Evidence of policy coherence institutional coordination and collaboration e.g. policy coherence with LGA 2004
		Sierra Leone approves sanctions and domesticates the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication. Responsible fisheries and sustainable development strategies of FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries are incorporated in Sierra Leone AF development strategy and the accompanying enabling environment supportive of its implementation is ensured especially the observance of rights and responsibilities related to tenure	Evidence of FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication is endorsed and rectify by Sierra Leone: ensure that the international guideline underpins fisheries and aquaculture policy framework in Sierra Leone as it applies to AF especially the observance of rights and responsibilities related to tenure; Evidence that responsible fisheries and sustainable development strategies of FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries and that of ensuring enabling environment supportive of its implementation are incorporated in Sierra Leone AF development strategy: Evidence that responsible fisheries issues are followed through during policy implementation and further rolled out in the fisheries development strategy.

	<p>Organise and empower stakeholders for good explicitly participatory fisheries governance, sustainable development and responsible use of fisheries and aquaculture resources.</p>	<p>Capacities of users' organisations and other fisheries stakeholders/institutions for participatory management of the fisheries developed nurtured and reflected in the decision-making and policy formulation processes in the sub-sector.; Establish appropriate vocational institutions to train actors and enhance participatory management of the fisheries; AF actors represented at national technical scientific committee and participate in the development and adoption of local and scientific knowledge for decision making on the sustainable management of fisheries and aquaculture resources; Evidence of IEZ protection from industrial operations and tenure protected to ensure that legitimate rights are not extinguished or infringed. Should infringement take place, there should be evidence of fair valuation of infringement and appropriate and adequate compensation considered according to national law</p>	<p>Evidence of capacity building programmes at national and regional levels: this monitors whether capacity is being built for fisheries stakeholders and institutions for their empowerment to ensure effective participatory management of the fisheries; Evidence of functioning vocational institutions; Evidence of established, capacitated and empowered Sierra Leone Fisheries Council with the full participation of fishers' organisations/associations in an effective co-management arrangement; Evidence of AF actors represented at national technical scientific committee: ensures that AF actors participate in the development and adoption of local and scientific knowledge for decision making on the sustainable management of fisheries and aquaculture resources; IEZ protected from industrial operations to ensure that legitimate rights are not extinguished or infringed. Should infringement take place, fair valuation of infringement is carried out and appropriate and adequate compensation considered according to national law</p>
		<p>TURFs instituted in AF managed by CMAs and guided by principles of responsible governance of tenure and sustainable resource management</p>	<p>Evidence of TURFs institution in AF, managed by CMAs and guided by principles of responsible governance of tenure and sustainable resource management</p>
		<p>Develop and apply effective monitoring and enforcement mechanisms to deter, prevent and eliminate all forms of illegal and/or destructive fishing practices having a negative effect on marine and inland ecosystems</p>	<p>Evidence of effective monitoring and enforcement mechanisms to deter, prevent and eliminate all forms of illegal and/or destructive fishing practices having a negative effect on marine and inland ecosystems</p>
	<p>Engage in cooperation (bilateral and regional) for effective management of shared fishery resources and maintenance of healthy ecosystems.</p>	<p>Instituted mechanisms for strong regional cooperation on fisheries management, including MCS, migratory and shared stocks to address transboundary matters to ensure that tenure rights of AF communities are granted and protected; Fishing access to DWFN granted on the basis of resource sustainability and secured economic returns as minimum terms and conditions.</p>	<p>Transboundary water body authorities-, RFBs and bi-and multilateral fisheries agreements exist: This to ensure that transboundary water body authorities, RFBs and bi- and multilateral fisheries agreements exist as part of mechanisms for efficient and effective regional cooperation on fisheries management including MCS, migratory and shared stocks to ensure that tenure rights of AF communities are granted tenure rights and protected; Minimum terms and conditions exist and are implemented to monitor resource sustainability and secured economic returns as basis for regional access policy for granting fishing access to DWFN.</p>

3.2.3. Policy Area 3. Sustainable Aquaculture Development

Aquaculture production from inland valley swamps, flood plains and wetlands is an important complement to capture fisheries sources in Sierra Leone, and contributes particularly to food, income and employment needs in the provinces. Formal finfish aquaculture production in the country is ascribed to the introduction of *Oreochromis niloticus* (*Tilapia* - originally obtained from Ivory Coast) and *Clarias gariepinus* (catfish) into earthen ponds in 1977 by a joint programme involving the Department of Fisheries, Catholic Relief Services, USAID, and the American Peace Corps in the northern provincial town of Makali. This was followed in the 1980s by the GTZ/GoSL supported Bo-/Pujehun Rural Development Project (BPRDP) which established an aquaculture station in the southern provincial city of Bo. Finfish aquaculture was preceded by oyster aquaculture (1974), with a 10-year oyster culture research programme using a local mangrove oyster species, *Crassostrea tulipa*. Other fish species have subsequently been tried, including *Notopterus* spp. (cutlass fish) and *Mugil spp.* (mullet). The traditional fish farming system involves channelling water from perennial streams into earthen ponds, where fingerlings are fed with rice bran and termites. Reliable national production estimates are lacking, but estimated annual production of about 30-40,000 tonnes has been suggested.

Although there are indications that Sierra Leone has the required natural resources for developing aquaculture as indigenous species could be cultured, local markets do exist for such products and family labour is cheap and readily available; a number of challenges need to be overcome. These constraints include, lack of viable seeds, inadequate extension services, lack of feeds or input, technical support services and capacity building. Thus, aquaculture development in Sierra Leone needs direction and the adoption of a new approach that fully understands and addresses the opportunities and constraints so as to make a meaningful contribution to poverty reduction and food security. Consequently, published objectives of the strategic framework for sustainable aquaculture development in Sierra Leone include;

- contribute towards food security in order to achieve food self sufficiency for rural and urban Sierra Leoneans through increased fish production from aquaculture
- provide opportunities for export of fish and increase foreign exchange earnings
- create employment opportunities in rural and urban areas
- reduce the pressure on capture fisheries and contribute towards sustainable fisheries development

3.2.3.1. Policy Area Objective

It is important to take action so as to;

- Enhance commercial aquaculture investments using value chain approach, intensive systems that link production to consumption and environmental safety in order to ensure aquaculture food fish security in stable societies.

3.2.3.2. Policy Area Outcome

- Awareness raised to create markets by inclusion of market campaigns for aquaculture products mindful of quality assurance and availability/diversity of market information and prices in the public space
- Safe environment for aquaculture production ensured and private farming interventions encouraged with environmental monitoring plan in place
- Research promoted into fish diseases control, hatchery development and management, quality fingerlings production and feed production to ensure availability and affordability of these production inputs
- Aquaculture infrastructure provided to meet basic infrastructure for aquaculture development such as roads, electricity to fish farming areas, water, schools, hospitals and telecommunication/radio network systems.

- Financing/investment strategy developed for the promotion of financial instruments such as fisheries development banks, guarantee funds, microcredit institutions and through the non-financial private sector investments.
- Quality assurance and standards developed for aquaculture product labeling and traceability through certification programme for good aquaculture practices.
- Skills development plan finalised and implemented to fittingly address competencies and skills development in aquaculture.
- Aquaculture developments embrace the “High Input Interventionist approach” for increased production and private equity
- Promote low input low output aquaculture systems for rural farmers in Sierra Leone where capital sourcing for small medium enterprises (SMEs) is still a challenge
- Societal stability ensured from resolution of conflicts from land demand for aquaculture
- Consider and advocate for Land consolidation and other readjustment approaches e.g. land banks important for access to land for aquaculture; or redistributive reforms to facilitate broad and equitable access to land for aquaculture
- Develop mechanisms for conflict prevention from tenure of land for aquaculture

3.2.3.3. Monitoring Indicators

- *Change in value (USD) derived from aquaculture:* used to monitor monetary benefits accruing to engagement in aquaculture.
- *Proportion of aquaculture contribution to agricultural/ national GDP:* used to monitor the contribution of aquaculture to national income.
- *Proportion of products meeting established quality standards and certification programmes*
- *Changes in basic infrastructure for aquaculture development:* used to monitor availability of basic infrastructure needed for aquaculture development
- *Changes in accessibility of investment finance for aquaculture: used to monitor availability of funds for aquaculture*
- *Change in price of aquaculture fish:* use to monitor aquaculture food fish affordability
- Societal stability from conflict prevention and resolution strategies developed - Change in conflicts occurrence - used to monitor stability of the sector regarding shared ecosystems.
- *Change in production levels:* used to monitor whether production is decreasing, static or increasing.
- *Change in disease incidence:* monitors reduction or increase in disease occurrence
- *Change in quality and diversity of available and affordable fish feed in the market:* use to monitor fish food security
- *Changes in number of hatchery and quality fingerlings:* use to monitor availability of good quality fingerlings
- *Change in environmental integrity:* monitors whether aquaculture is practiced sustainably.
- *Change in competencies and skills developed in aquaculture.*
- Land consolidation and other readjustment approaches e.g. land banks important for access to land for aquaculture; or redistributive reforms to facilitate broad and equitable access to land for aquaculture advocated and instituted
- *Evidence of aquaculture developments embracing the “High Input Interventionist approach” for increased production and private equity*
- *Evidence of promoting low input, low output systems for rural farmers in Sierra Leone where capital sourcing for small medium enterprises (SMEs) is still a challenge*

Table 5. Policy Area 3. Sustainable Aquaculture Development

Policy Area	Policy Objective	Policy Outcome	Monitoring Indicator
Sustainable Aquaculture Development	Enhance commercial aquaculture investments using value chain approach - intensive systems that link production to consumption and environmental safety in order to ensure aquaculture food fish security in stable societies.	Awareness raised to create markets by inclusion of market campaigns for aquaculture products mindful of quality assurance and availability/diversity of market information and prices in the public space	Change in value (USD) derived from aquaculture; Proportion of aquaculture contribution to agricultural/ national GDP; Change in price of aquaculture fish
		Safe environment with an environmental monitoring plan for aquaculture production ensured with environmental monitoring plan in place	Change in environmental integrity
		Research promoted into fish diseases control, hatchery development and management, quality fingerlings and feed production to ensure availability and affordability of these production inputs	Change in production levels; Change in disease incidence; Change in quality and diversity of available and affordable fish feed in the market; Changes in number of hatchery and quality fingerlings
		Aquaculture infrastructure provided to meet basic infrastructure for aquaculture development such as roads, electricity to fish farming areas, water, schools, hospitals and telecommunication/radio network systems.	Changes in basic infrastructure for aquaculture development
		Financing/investment strategy developed for the promotion of financial instruments such as fisheries development banks, guarantee funds, microcredit institutions and through the non-financial private sector investments	Changes in accessibility of investment finance for aquaculture
		Quality assurance and standards developed for aquaculture product labeling and traceability through certification programme for good aquaculture practices.	Proportion of products meeting established quality standards and certification programmes
		Skills development plan finalised and implemented to fittingly address competencies and skills development in aquaculture.	Change in competencies and skills developed in aquaculture.
		Develop mechanisms for conflict prevention from tenure of land for aquaculture; Societal stability ensured from resolution of conflicts from land demand for aquaculture	Societal stability from conflict prevention and resolution strategies developed - Change in conflicts occurrence
		Consider and advocate for Land consolidation and other readjustment approaches e.g. land banks important for access to land for aquaculture; or redistributive reforms to facilitate broad and equitable access to land for aquaculture	Land consolidation and other readjustment approaches e.g. land banks important for access to land for aquaculture; or redistributive reforms to facilitate broad and equitable access to land for aquaculture advocated and instituted
		Aquaculture developments embrace the “High Input Interventionist approach” for increased production and private equity; Promote low input low output aquaculture systems for rural farmers in Sierra Leone where capital sourcing for small medium enterprises (SMEs) is still a challenge	Evidence of aquaculture developments embracing the “High Input Interventionist approach” for increased production and private equity; Evidence of promoting low input, low output systems for rural farmers in Sierra Leone where capital sourcing for small medium enterprises (SMEs) is still a challenge

3.2.4. Policy Area 4. Competitive Fish Trade and Marketing

Fish trade (like other commodity trade), requires suppliers to present their product in a form, size and shape i.e. fish with the required quality and safety acceptable to the market as prescribed by international standards. The demands made by the market must be addressed by developing the capacity of the industry to respond. This is important because valuable marine resources in Sierra Leone waters are well placed to make a major contribution to societal wellbeing. Because, under effective fisheries management, marine resources of economic value estimated to be over US\$735 million are capable of generating economic rent of over US\$60 million per year. But, only about US\$6 million was generated from fisheries in 2014. With stocks maintained at sustainable levels, it is possible to support significant employment, income generation and exports growth in fisheries to salvage the so-called “sunken millions”. Serious challenges to such possibilities include; a lack of basic and sector-specific infrastructure to respond to market demands, lack of investments and minimal private sector incentives, and consequently, inadequate access to major international markets. Although some progress has been made in improving fisheries infrastructure in the form of a number of fish landing and holding centres provided in some important fishing communities, the centres have now been rented out in a PPP arrangement that may push the facilities outside the reach of the ordinary AF actors. Moreover, other outstanding essential issues like increasing market access and a lack of implementation of policies and strategies have been inadequately dealt with, especially the World Trade Organisation (WTO) agreement on Sanitary and Phyto-sanitary measures for fish export and the emerging requirement of having a National Notifying Authority for sending fish Trade concerns to the WTO. As a result, the recently concluded Diagnostic Trade Integration Study (DTIS) by the World Bank took into account, development interventions needed in three key areas: demand-side interventions to build capacity in the private sector at all levels to take up opportunities; supply-side interventions to create incentives to encourage responsible investment and development; and entrepreneurial interventions to facilitate integrated approaches. The said development interventions informed this policy framework as it relates to competitive fish trade and marketing and enabled the suggestion of the typology of requisite institutional capacity building and technical or infrastructure investments.

3.2.4.1. Policy Area Objectives

It is important to take action so as to;

- Fully derive the benefits accruable from the fisheries and aquaculture of Sierra Leone via competitive trade and marketing in a manner that is acceptable and sustainable.

3.2.4.2. Policy Area Outcome

Demand-side interventions: Increasing incentives for fishing industry. Improved intra and inter regional trade

- Developed appropriate certification process for fish products for export as demanded by international standards and adopted recognised international standards for suppliers to ensure responsibility in their own practices and operations
- Create a Food Safety Authority and National Notification Authority to ensure safety and give early warnings
- Regional trade protocols complied with by establishing mechanisms that address factors hindering trade at regional and domestic levels (e.g. lack of efficient and effective reliable regional shipping fleets/air transport)
- Fish trade policies made coherent with other policies by building regional marketing capacity enhanced through strengthened trade monitoring facilities (e.g. INFOSA).
- Quality and Safety of fish products conform to international trade standards.

Supply-side interventions: Increasing the capacity of fishing industry to respond to buyers demand.
Increased competitiveness for Sierra Leone fish and fishery products

- Infrastructural investment made as a way of business environment development standards and supportive technology established so that fisheries marketing systems including such infrastructure as national fisheries laboratory for standardization of fishery products are in agreement with international guidelines for certification of healthy fish and fishery products meant for export and local consumption.
- Clear and realistic information about the social and environmental market demands for trade facilitation obtained;
- Incentives provided to support emerging aquaculture sector e.g. incentives for infant enterprise, value addition, application of globally and regionally accepted best practices
- Capacity built in the sector through technical and other support.
- Fishing harbor and fish processing factories for establishing ownership and adding value.
- Fish receiving centers provided that are directly managed by AF actors

Entrepreneurial approaches

- Developed alternative market for new products from both fisheries and aquaculture as a way of facilitating direct marketing, particularly at a sub-regional level in West Africa.
- Competitiveness ensured through reducing value chain costs of production, processing and distribution.
- Fish weight measurement standardised to kilograms in the entire AF sector
- Appropriate pricing conditions included for value addition across value chain segments including safety and quality requirements and market-led measures, for example eco-labeling, and certification,
- Conduct reliable valuation of tenure rights which informs taxation based on the most rational method of charging fees - base on a percentage of the value of the catch as it has the most direct bearing on the quantity and value of the resource harvested
- Trade and marketing consistent with Fisheries Competitiveness Index (FCI) to ensure that fisheries are well managed and supported by appropriate infrastructure and prudent management

3.2.4.3. Monitoring Indicators

- *Standards developed for suppliers and enforced to ensure fish safety and quality across the fish value chain.*
- *Acceptable products traded in the international market.*
- *Kilogram adopted as the unit of measurement in artisanal fisheries*
- *Fishing harbour complex completed with attendant facilities, landing clusters built and equipped, road to Lungi constructed and cold storage facilities available at airport for fish products: used to establish ownership over resource as transshipment will now be done in port and appropriate royalties paid*
- *Fishing testing laboratory for export to EU and other markets fully operational*
- *Changes in number of trained personnel:* used to monitor capacity building in the private sector and all levels to take advantage of opportunities
- *Intra-regional trade intensity share:* ratio of intra-regional trade share to the share of the world trade with the region, calculated using trade data.
- *Changes in Trade growth:* percentage change in the value of total trade relative to the previous year.
- *Evidence of charging fees based on a percentage of the value of the catch as it has the most direct bearing on the quantity and value of the resource harvested and thus, taxation*
- *Changes in Trade share:* sum of value of exports and imports.

- *Changes export growth:* the percentage change in the value of exports relative to the previous year.
- *Evidence of Food Safety Authority and National Notification Authority created to ensure safety and give early warnings*
- *Changes in export intensity index:* the ratio of the trading partner's share to a country's /regions total exports and the share of world exports going to the same trading partner trading partner.
- *Change in FCI ranking:* The Fisheries Competitiveness Index (FCI) identifies factors that affect the competitiveness of the fish industry within different countries. The index allows country to identify where action should be taken to improve competitiveness in its fish industry.
- *Fish processing factory operational*
- *Access fees re-evaluated* in the light of regional and world market levels
- *Incentives provided* for infant enterprises, value addition, application of accepted best practices

Table 6. Policy Area 4. Competitive Fish Trade and Marketing

Policy Area	Policy Objective	Policy Outcome	Monitoring Indicator
Competitive Fish Trade and Marketing	Fully derive the benefits accruable from the fisheries and aquaculture of Sierra Leone via competitive trade and marketing in a manner that is acceptable and sustainable.	<i>Demand-side interventions:</i> Increasing incentives for fishing industry. Improved intra and inter regional trade	Certification process streamlined and universally accepted; Changes in regional fish trade; Changes in regional fish export growth:
		Developed appropriate certification process as demanded by international standards; adopted recognised standards for suppliers	Proof of developed standards for suppliers and enforced to ensure fish safety and quality
		Regional trade protocols complied with by establishing mechanisms that address factors hindering trade at regional and domestic levels	Changes in compliance with regional trade protocols.
		Fish trade policies made coherent with other policies by building regional marketing capacity (e.g. INFOSA, WTO, SPS)	Changes in coherence of trade policies with other policies
		Quality of fish products conform to international trade standards.	Accredited testing laboratory that can for export fully operational and acceptable products traded globally
		Create a Food Safety Authority and National Notification Authority to ensure safety and give early warnings	Evidence of Food Safety Authority and National Notification Authority created for safety and early warning
		<i>Supply-side interventions:</i> Increasing the capacity of fishing industry to respond to buyers demand. Increased competitiveness of fish and fishery products.	Changes in the capacity of fishing industry to respond to buyers demand equipped with sector specific infrastructure
		Infrastructural investment made as a way of business environment development	Changes in road conditions, schools, hospital in fishing and aquaculture communities
		Standards and supportive technology established so that fisheries marketing systems are in agreement with international guidelines for certification of healthy fish and fishery products. Regulations regarding Food Safety standards, and National Notification Authority with a contact points to notify the WTO/SPS Committee on issues with Fishery products certification.	National fisheries laboratory for standardization of fishery products are in agreement with official control international guidelines
		Clear and realistic information obtained with information management systems in place; Incentives provided to support emerging aquaculture sector	Clear and realistic information on market demands for fish informs pricing condition; Incentives provided for value addition, use best practices
		Capacity built in the sector through technical and other support; Fishing harbor and Fish processing factories provided	Changes in number of trained personnel; Fishing harbour complex completed; Fish processing factory operational
		Fish receiving centers provided that are directly managed by AF actors	Facilities provided that caters for AF actors
		<i>Entrepreneurial approaches:</i> Developed alternative market for new products from both fisheries and aquaculture. Competitiveness through reducing value chain costs of production, processing and distribution.	Changes in regional trade growth: Changes in the cost of production and distribution
		Fish weight measurement standardised to kilograms in the entire AF	Kilogram adopted as the unit of measurement in AF
		Appropriate pricing conditions included for value addition across value chain segments.	Access fees and prices re-evaluated in the light of regional and world market levels.
		Trade and marketing consistent with FCI.	Changes in FCI ranking
		Conduct reliable valuation of tenure rights which informs taxation based on the most rational method of charging fees - base on a percentage of the value of the catch as it has the most direct bearing on the quantity and value of the resource	Evidence of charging fees based on a percentage of the value of the catch - the most direct bearing on the quantity and value of the resource harvested

3.2.5. Policy Area 5. Fisheries on the High Seas

High seas fisheries are distributed in waters outside the areas of national jurisdiction. The high seas fisheries stocks are highly migratory resources or they are straddling stocks. The governance of high seas fishing, are implemented under the conditions laid down in the UN Convention on the Law of the Sea (UNCLOS) of 1982 and in the 1995 Agreement for the Implementation of the Provisions of UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (also known as the UN Fish Stocks Agreement). Policy guidance is required for fisheries on the high seas because UNCLOS protect freedom to fish in the high sea by all nations in the world but countries are subjected to a number of conditions. These conditions include; duties of flag states (Article 94), the duty to cooperate against piracy (Article 100), the rights of hot pursuit (Article 111), the right to fish in the high seas (Article 116), the duty of collaboration and negotiations for living resources management including through regional fishery bodies (Article 118), and the conservation of the living resources based on the best scientific evidence available and taking account of interdependence between stocks (Article 119). Moreover, high seas resources are usually managed through RFMOs responsible for collection of fishery statistics; assessment of the state of resources; analyses of management options and provision of scientific advice for management; management decisions; and monitoring. Thus, it is important to put Sierra Leone rights and duties under UN Fish Stocks Agreement into effect. This could be done by having a greater say, actively participating in RFMO processes/agenda and increasing benefits from high sea fisheries in a sustainable manner whilst keeping its obligation.

3.2.5.1. Policy Area Objectives

It is important to take action for;

- Active participation in RFMO processes and agenda
- Increase participation and benefits from high seas fisheries
- Achieve greater say in high seas fisheries

3.2.5.2. Policy Area Outcome

- Effective participations of Sierra Leone in international conventions and access to high seas. This should ensure participation of Sierra Leone in international conventions to improve the capacity to understand and implement the provisions.
- Dues to fisheries institutions paid timely
- Strengthen alignment of donor and partner effort. Ensure that development efforts in the policy area are aligned with the policy objective of the Policy Framework for Fisheries and Aquaculture in Sierra Leone.
- Benefits accrued from high seas fisheries to Sierra Leone. This is achieved by ensuring that high seas resource exploitation investment in post harvest infrastructure (such as harbour) that accrue significant revenues, enhances sustainable resource utilization and equitable distribution of fisheries benefits.
- Cooperation for high sea fisheries management on transboundary matters. Ensure deliberate sub-regional, regional and international cooperation for the necessary collaboration and negotiations for living resources management including through regional fishery bodies.
- Resource sustainability and secured economic returns is the basis for regional access policy on minimum terms and conditions for granting fishing access to DWFN.

3.2.5.3. Monitoring Indicators

- *Arrangements in place to strengthen the capacity of Sierra Leone* for active participation and contribution in meetings of RFMOs on issues such as quota allocation processes, formation of resolutions, compliance and making significant inputs to revisions of conventions and agenda of meeting of RFMOs.

- *Dues to fisheries institutions at all levels paid timely* to enhance effective and productive participation in RFMO meetings
- *Developed strategy to significantly harness the benefits of the fisheries of Sierra Leone* via mechanism that promotes effective and wider participation and investment for high seas fisheries.
- *Enhanced benefits accrual to the Sierra Leone from exploitation of high seas resources.*
- *Increased and consolidated Sierra Leone say* in the governance and management of high seas fisheries.
- *Evidence of provision made for Cooperation on high sea fisheries management on transboundary matters* for active roles in intergovernmental cooperation on issues relating to high seas fisheries management.
- *Mechanisms instituted to coordinate the Sierra Leone position in international fora* in line with AU policy framework and reform strategy (PFRS) principles and provisions in establishing relationship and engaging donors and partners.
- *Minimum terms and conditions exist and are implemented: i.e. resource sustainability and secured economic returns - used to monitor resource sustainability and secured economic returns - are the basis for regional access policy for granting fishing access to DWFN*

Table 7. Policy Area 5. Fisheries on the High Seas

Policy Area	Policy Objective	Policy Outcome	Monitoring Indicator
Fisheries on the High Seas	Active participation in RFMO processes and agenda	<p>Effective participations of Sierra Leone in international conventions and access to high seas. This should ensure participation of Sierra Leone in RFMO process/agenda and international conventions to improve the capacity to understand and implement the provisions.</p> <p>Sierra Leone timely pays its dues to all sub-regional, regional and global fisheries institutions</p>	<p>Arrangements in place to strengthen the capacity of Sierra Leone for active participation and contribution in meetings of RFMOs on issues such as quota allocation processes, formation of resolutions, compliance and making significant inputs to revisions of conventions and agenda of meeting of RFMOs.</p> <p>Dues paid timely</p>
	Increase participation and benefits from high seas fisheries	Benefits accrued from high seas fisheries to Sierra Leone. This is achieved by ensuring that high seas resource exploitation investment in post harvest infrastructure (such as harbour) that accrue significant revenues, enhances sustainable resource utilization and equitable distribution of fisheries benefits.	<p>Developed strategy to significantly harness the benefits of the fisheries of Sierra Leone via mechanism that promotes effective and wider participation and investment for high seas fisheries.</p> <p>Enhanced benefits accrual to the Sierra Leone from exploitation of high seas resources.</p>
	Greater say in high seas fisheries	<p>Strengthen alignment of donor and partner effort to ensure that efforts in the policy area are aligned with the policy objective of the Policy Framework for Fisheries and Aquaculture for SL to have a greater say in high seas fisheries.</p> <p>Cooperation for high sea fisheries management on transboundary matters. Ensure deliberate sub-regional, regional and international cooperation for the necessary collaboration and negotiations for living resources management including through regional fishery bodies.</p>	<p>Increased and consolidated Sierra Leone say in the governance and management of high seas fisheries.</p> <p>Evidence of provision made for cooperation on high sea fisheries management on transboundary matters; Mechanisms instituted to coordinate the Sierra Leone position in international fora in line with AU policy framework and reform strategy (PFRS) principles and provisions in establishing relationship and engaging donors and partners.</p>

3.2.6. Policy Area 6: Regional and Sub-Regional Cooperation

Fisheries management is carried-out in a global environment of international instruments and conventions, such as, but not limited to, UNCLOS, UNFSA, and PSMA. This fisheries policy framework is in conformity with international fisheries concerns expressed in relevant provisions of these global documents. For example, this policy framework takes into account provisions of AU's PFRS and other global instruments such as FAO responsible governance of tenure of fisheries; FAO guidelines on SSSF; UN Sustainable development goals - to ensure coherence and consistency. Cognizance of the fact that fisheries are shared resources, regional/sub-regional integration schedule should provide for harmonisation of policies and management measures. Therefore, effective machinery must be in place for cooperation between the RECs and RFBs. Review and drafting of international conventions and processes on fisheries and aquaculture should be informed by regional positions on the issues (e.g. AU's PFRS) - aware of important international instruments for sustainable fisheries management and identifies the need for their domestication. Good governance must be applied in the identification, engagement and participation process of relevant stakeholders in fisheries and aquaculture. Additionally, contemporary principles of fisheries management such as recognition of rights of different fishers and rules to avoid conflicts between different fisheries should be pursued.

3.2.6.1. Policy Objective:

Action must be taken to;

- Reinforce bilateral, regional and sub-regional cooperation, and develop coordinated mechanisms among RECs, RFBs and LME-based commissions to ensure coherence of fisheries policies and aquaculture development and their adoption and adaptation.

3.2.6.2. Policy Outcome

The following outcomes should be expected;

- International fisheries issues at regional levels are coherent and harmonised
- RECs and RFBs are important institutions in fisheries management within the framework of regional economic and political integration agenda
- Conflict resolution mechanism instituted and operational
- Timely payment of financial obligations to regional and sub-regional bodies

3.2.6.3. Monitoring Indicator

- *Transparency, accountability and effective participation of stakeholders are characteristic of RECs and RFBs in Africa*
- *Degree of coherence and harmony in fisheries policies and development strategies in the region and sub-region*
- *Role and values of fisheries and aquaculture in regional social, economic and political integration clearly defined with enhanced profile*
- *Strategy (Mechanisms) for preventing and resolving regional conflicts are in place*
- *Evidence of timely payment of financial obligations to regional and sub-regional bodies*

Table 8. Policy Area 6: Regional and Sub-Regional Cooperation

Policy Area	Policy Objective	Policy Outcome	Monitoring Indicator
Regional and Sub-Regional Cooperation	Reinforce bilateral, regional and sub-regional cooperation, and develop coordinated mechanisms among RECs, RFBs and LME-based commissions to ensure coherence of fisheries policies and aquaculture development and their adoption and adaptation.	International fisheries issues at regional levels are coherent and harmonised	Degree of coherence and harmony in fisheries policies and development strategies in the region and sub-region
		RECs and RFBs are important institutions in fisheries management within the framework of regional economic and political integration agenda	Role and values of fisheries and aquaculture in regional social economic and political integration clearly defined with enhanced profile
		Conflict resolution mechanism instituted and operational	Transparency, accountability and effective participation of stakeholders are characteristic of RECs and RFBs in Africa; Strategy (Mechanisms) for preventing and resolving regional conflicts are in place
		Timely payment of financial obligations to regional and sub-regional bodies	Evidence of timely payment of financial obligations to regional and sub-regional bodies

3.2.7. Policy Area 7: Human Capital Development in Fisheries and Aquaculture

It is immediately apparent that the MFMR of GoSL, which reserves the mandate for the stewardship of fisheries and marine resources, lacks the necessary human capacity to guarantee the sustainable development of capture fisheries and aquaculture - given contemporary and emerging trends, challenges, opportunities and needs. The same goes for other stakeholders and professional organisations in the fisheries sector. In fact, this human capacity inadequacy is one of the major factors responsible for fisheries/aquaculture sectors' incapability to make its full contribution to societal wellbeing. Traditionally, the emphasis in fisheries resource stewardship was on the fish. But in recent times, we are witnessing the accent shifting to the intricate social, economic, political and legal factors that compel the behaviour of fishermen as individuals and fisheries as systems. Consequently, the human resource needs for an effective fisheries management system, cuts across a wide range of disciplines. Whilst a reasonable grounding in the biophysical aspect of fisheries management is observable at MFMR, what is equally noticeable; is the paucity of trained personnel in the social, economic, political and legal perspective of fisheries and aquaculture stewardship. Apparently, because of the dearth of the required human capacity, the management arrangement at the MFMR is also mono-focal in favour of fisheries and marine science supportive of the production-centered outdated management regime. It is therefore not surprising that the MFMR was the subject of a recent management and functional review (MFR) by WARFP-SL. The MFR concluded that the current institutional capacity is very weak and goes on to make a series of recommendations to address the situation including the establishment of a new directorate structure to address core functions and services (policy and strategy, fisheries management, services and research, fish quality, and compliance), separation of the process of policy development and management from its implementation (and especially the critical regulatory function of licensing from the process of enforcing the regulatory framework), and advice to seek the immediate support from the Public Sector Reform Unit to assist in the development of a change management program to implement the MFR including securing Cabinet approval. Detailed proposals that will enable an immediate capacity build within the new Ministry are provided including a programme of support funded under the WARFP-SL. That the MFR was not realised; may not be unconnected to programme suspension in Sierra Leone. It is against this backdrop that human capital development is singled out as a policy area with objectives that must be achieved if the policy goal is to be realised.

3.2.7.1. Policy Objective

Action must be taken to:

- Enhance competencies and proficiencies in the Fisheries of Sierra Leone to ensure the sustainable development of capture fisheries and aquaculture based on contemporary and emerging trends, challenges and needs.
- Improve evidence based decision making

3.2.7.2. Policy Outcome

The following outcomes should be expected;

- Pursue the MFR to completion
- Sustained professional education, mentorship and training in fisheries and aquaculture based on contemporary and emerging trends, challenges and needs

- Implementing agencies have the human, physical, financial and other forms of capacity
- Sustained awareness raised about the potential of fisheries to reduce poverty
- Enabling environment created to address challenges and seize/use opportunities for sectoral development (such as formal training requirements, development of adequate and up-to-date syllabus and curriculum for programs in fisheries and aquaculture studies)
- Accredited practitioners and institutions complete with mechanisms that ensure appropriate human capacity development and institutional strengthening of personnel and institutions of fisheries and aquaculture
- Improved evidence/information based decision making and planning through appropriate research and data collection strategy ensuring that evidence/information-based decision making is entrenched within the fisheries management system
- Management system responsive to real community needs by creating enabling settings in fish producing communities which enhances competence in taking advantage of opportunities and overcome challenges.
- Fluid information sharing between policy makers and policy consumers with networks and platforms for development of skills, knowledge base and information sharing informing policy makers.
- Strengthened fisheries data management for sound planning and decision making for the facilitation of information based policy decision making.

3.2.7.3. Monitoring Indicators

- *Completion of MFR with Change in the level of competency and proficiency*: monitors levels of competence and proficiency of the stakeholders in the sector. Change in operational costs: monitors efficiency in operations of the sector
- *Evidence that implementing agencies have the human, physical, financial and other forms of capacity*
- *Per capita labour productivity*: measures the amount of goods and services produced by each member of the labour force or the output per input of labour
- *Number of accredited practitioners and institutions*
- *Number of real community needs addressed*
- *Existence of diversity of source of policy inputs*: monitors levels of information produced, knowledge sharing and utilization.
- *Change in the effectiveness of policy outcomes*: monitors improved evidence-based decision making Adequacy of data that provides reliable evidence/information for sound planning, evidence based decision making
- *Existence of scientific and management informed decisions*: monitors the ability to use data, information for effective decision-making.

Table 9. Policy Area 7: Human Capital Development in Fisheries and Aquaculture

Policy Area	Policy Objective	Policy Outcome	Monitoring Indicator
Human Capital Development in Fisheries and Aquaculture	Enhance competencies and proficiencies in the Fisheries of Sierra Leone to ensure the sustainable development of capture fisheries and aquaculture based on contemporary and emerging trends, challenges and needs.	<p>Pursue the MFR to completion; Sustained professional education, mentorship and training in fisheries and aquaculture based on contemporary and emerging trends, challenges and needs</p> <p>Implementing agencies have the human, physical, financial and other forms of capacity</p> <p>Enabling environment created to address challenges and seize/use opportunities for sectoral development (such as formal training requirements, development of adequate and up-to-date syllabus and curriculum for programs in fisheries and aquaculture studies)</p> <p>Accredited practitioners and institutions complete with mechanisms that ensure appropriate human capacity development and institutional strengthening of personnel and institutions of fisheries and aquaculture</p> <p>Management system responsive to real community needs by creating enabling settings in fish producing communities which enhances competence in taking advantage of opportunities and overcome challenges.</p> <p>Fluid information sharing between policy makers and policy consumers with networks and platforms for development of skills, knowledge base and information sharing informing policy makers.</p> <p>At least 40% of the crew members onboard an industrial fishing vessel registered in SL - working in the technical category are of Sierra Leonean nationality</p>	<p>Completion of MFR with Change in the level of competency and proficiency: monitors levels of competence and proficiency of the stakeholders in the sector. Change in operational costs: monitors efficiency in operations of the sector</p> <p>Evidence that implementing agencies have the human, physical, financial and other forms of capacity</p> <p>Per capita labour productivity: measures the amount of goods and services produced by each member of the labour force or the output per input of labour</p> <p>Number of accredited practitioners and institutions</p> <p>Number of real community needs addressed</p> <p>Existence of diversity of source of policy inputs: monitors levels of information produced, knowledge sharing and utilization.</p> <p>Number of Sierra Leonean crew members holding technical position compared to total crew member</p>
	Improve evidence based decision making	<p>Improved evidence/information based decision making and planning through appropriate research and data collection strategy ensuring that evidence/information-based decision making is entrenched within the fisheries management system</p> <p>Strengthened fisheries data management for sound planning and decision making for the facilitation of information based policy decision making</p>	<p>Change in the effectiveness of policy outcomes: monitors improved evidence-based decision making Adequacy of data that provides reliable evidence/information for sound planning, evidence based decision making</p> <p>Existence of scientific and management informed decisions: monitors the ability to use data, information for effective decision-making.</p>

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

There are a number of cross-cutting issues that should be addressed in order to achieve the overall policy goal. We have recognised four concerns including; political economy considerations, climate change, gender and youth and private sector investment. It is not enough to propose reasonable solutions to fisheries and aquaculture stewardship challenges. The problem is that if rational solutions are not aligned properly with political forces, adoption is thwarted. The emphasis may be on discerning optimal policy, with little concern given to what is politically realistic. It may be true that progress on the policy implementation front is achieved when the interests of those with power happen to coincide with those of society. Thus, the understanding of what political forces lead to the persistence of certain challenges in fisheries; enhances alignment of solutions with political forces for successful policy implementation. Fisheries is particularly vulnerable to climate change as living aquatic resources can only survive within strict range of environmental parameters of temperature, salinity etc. Again, as fisheries is the mainstay for animal protein security, the sector is very sensitive to climate change disruptions. Hence, policy should aim to develop a strategy and action plan for integrating disaster risk management (DRM) and climate change adaptation (CCA) relating to fisheries and aquaculture. Fisheries is one of the most genderised sectors in Sierra Leone as men and women do specific jobs. Whilst men focus on providing harvest services, women dominate the post-harvest segment of the value chain. This, coupled with the fact that the population of Sierra Leone is youthful, warrants the need to improve working condition and access to resources for women and youths in fisheries. Given the range of policy prescription in this policy, private sector investment will be required to muster the gamut of needed capacities. Accordingly, policy should provide financing mechanisms for the development of the commercial fisheries and aquaculture sector so as to foster the growth of sustainable, profitable, diverse and adaptable enterprises.

3.2.8.1. Policy Objective

Action must be taken to;

- Align solutions to stewardship challenges with local political forces
- Strengthen resilience and reduce vulnerabilities to disaster risks and climate change in the fisheries and aquaculture of Sierra Leone
- Improve working conditions and access to resources in order to unleash the potential of women groups and youths make their rightful contribution in resource management and wealth ceation
- Improve enterprise performance within the fisheries and aquaculture sector via improved private sector investment and governance

3.2.8.2. Police Area Outcome

The following outcomes should be expected;

Political Economy

- Possible solutions to stewardship challenges agrees with prevailing national development plans
- Policy coherence with other MDAs ensured;
- Potential conflicts identified and resolved
- Sustained engagement for the adoption of international best practices

Climate Change and Disaster Risks

- Built adaptive capacity and resilience to CC and DR. Human resource and institutional capacity developed with fishing communities made aware about climate adaptation and disaster risk management including infectious disease outbreak such as Ebola.
- Enhanced knowledge base, information sharing and skills on climate change

- Developed suitable participatory process for the assessment of disaster risk and climate change vulnerability
- Developed strategy and action plan for integrating disaster risk management (DRM) and climate change adaptation (CCA) relating to fisheries and aquaculture
- Stakeholders especially vulnerable groups are protected to prevent and respond to the effects of climate change
- Tenure aspect of fisheries and aquaculture is addressed in mitigating the effects of natural disaster

Improved working conditions and access for women and youths

- Effective and widespread participation of stakeholders including women and youth ensured by forging TURFs empowering women and youth for enhanced participation in fisheries and aquaculture activities
- Gender mainstreaming
- Non-discriminatory and gender/youth sensitive interventions addresses constraints to entry and access to land and water and other productive resources for fisheries and aquaculture investments.
- Security of investments and market certainty ensured for long-term investments in tenure that is tradable with strong property right.
- International Labour Organization labor laws form the standard of practice in fisheries and aquaculture
- Safer and more conducive working environment for women, youths and the vulnerable are provided.
- User friendly improved processing technologies that are gender sensitive

Financial support and private sector governance

- Financial support program for the development of the commercial fisheries and aquaculture sector provided in compliance with World Bank ease of doing business index, Global competitiveness report of WEF, World Bank Fisheries Performance indicators
- Improved private sector governance with efficient structure that enables effective and well-documented quality control measures in fisheries and aquaculture
- Published periodic guidelines on required reforms for effective development, environmental sustainability, economic profitability and social responsibility.

3.2.8.3. Monitoring Indicators

Political Economy

- Evidence of agreement between possible solutions to stewardship challenges and national development plans;
- Evidence of policy coherence with other MDAs;
- Evidence of identified and resolved conflict;
- Evidence of adoption of international best practice as a result of sustained engagement with political authorities

Climate change and Disaster Risks

- Initiatives and programmes to strengthen community resilience are in place (Early warning systems, Access to public and private insurance, harvest strategy, insurance scheme, capacity development and community empowerment, funding opportunities etc.) to build adaptive capacity and resilience at the local level through relevant initiatives and programmes.
- Evidence of diversification of fisheries products to build adaptive capacity and resilience at the local level through value chains and mechanism suitable to their (community) conditions.

- Established knowledge management and information sharing platform linked to AU disaster risk management strategy (DRR) to build adaptive capacity and resilience at the local level through linking platforms for knowledge management.
- Evidence of availability of financial resources for CCA and DRM: resources available for development and implementation of DRM and CC policies for the improvement of coherence and coordination at national and regional levels.
- Evidence of fisheries management plans that incorporate CCA and DRM issues: plans consistent with policy framework
- Evidence of vulnerable groups protected to prevent and respond to the effects of climate change
- Evidence of tenure aspect of fisheries and aquaculture addressed in mitigating the effects of natural disaster

Improved working conditions and access for women and youths

- Effective and widespread participation of stakeholders observed
- Evidence of forged TURFs enhancing participation of women and youth
- Evidence of non-discriminatory and gender/youth sensitive interventions from improved access to land and water and other productive resources for fisheries and aquaculture investments.
- Evidence of investments security and market certainty for long-term investments in tenure that is tradable with strong property right.
- Evidence of International Labour Organization as standard of practice in fisheries and aquaculture labour laws
- Observable safer and conducive working environment for women, youths and the vulnerable
- Available user friendly improved processing technologies that are gender sensitive

Financial support and private sector governance

- Available financial support program for the development of the commercial fisheries and aquaculture sector in compliance with World Bank ease of doing business index, Global competitiveness report of WEF, World Bank Fisheries Performance indicators,
- Proof of improved private sector governance with efficient structure that enables effective quality control measures in fisheries and aquaculture
- Proof of published periodic guidelines on required reforms for effective development, environmental sustainability, economic profitability and social responsibility.

Table 10. Policy Area 8. Cross-Cutting Issues in the Fisheries of Sierra Leone

Policy Area	Policy Objective	Policy Outcome	Monitoring Indicator
Cross-Cutting Issues in the Fisheries of Sierra Leone	Political Economy Align solutions to stewardship challenges with local political forces	Possible solutions to stewardship challenges agrees with prevailing national development plans; Policy coherence with other MDAs ensured; Potential conflict areas identified and resolved; Sustained engagement for the adoption of international best practice	Evidence of agreement between possible solutions to stewardship challenges and national development plans; Evidence of policy coherence with other MDAs; Evidence of identified and resolved conflict; Evidence of adoption of international best practice
	Climate change and Disaster risks Strengthen resilience and reduce vulnerabilities to disaster risks and climate change in the fisheries and aquaculture of Sierra Leone	Built adaptive capacity and resilience to CC and DR including infectious diseases such as Ebola; Enhanced knowledge base, information sharing and skills on climate change; Developed suitable participatory process for the assessment; Developed strategy and action plan for integrating disaster risk management and climate change adaptation; Stakeholders especially vulnerable groups are protected to prevent and respond to the effects of climate change; Tenure aspect of fisheries and aquaculture is addressed in mitigating the effects of natural disaster	Initiatives and programmes to strengthen community resilience are in place (Early warning systems, Access to public and private insurance, harvest strategy, insurance scheme, capacity development and community empowerment, funding opportunities etc.); Evidence of diversification of fisheries products with built adaptive capacity and resilience at the local level; Established knowledge management and information sharing platform linked to AU disaster risk management strategy (DRR); Evidence of availability of financial resources for CCA and DRM; Evidence of fisheries management plans that incorporate CCA and DRM issues: plans consistent with policy framework Evidence of vulnerable groups protected to prevent and respond to the effects of climate change; Evidence of tenure aspect of fisheries and aquaculture addressed in mitigating the effects of natural disaster
	Gender and Youth Improve working conditions and access to resources for women and youths	Effective and widespread participation of stakeholders particularly women and youth; TURFs forged for empowering women and youth for enhanced participation in sustainable fisheries and aquaculture; Non-discriminatory and gender/youth sensitive interventions in place for access to land and water and other productive resources for fisheries and aquaculture investments; Security of investments and market certainty ensured for long-term investments in tenure that is tradable with strong property right; International Labour Organization labor laws form the standard of practice in fisheries and aquaculture; Safer and more conducive working environment provided for women, youths and the vulnerable. User friendly improved processing technologies that are gender sensitive	Evidence of effective and widespread participation of stakeholders including women and youth; Evidence of TURFs forged to empower women and youth for enhanced participation in fisheries and aquaculture; Evidence of non-discriminatory and gender/youth sensitive interventions for access to land and water and other productive resources for fisheries and aquaculture investments; Evidence of investments security and market certainty for long-term investments in tenure that is tradable with strong property right; Evidence of International Labour Organization labor laws as standard of practice in fisheries and aquaculture; Evidence of safer and more conducive working environment for women, youths and the vulnerable. Available user friendly improved processing technologies that are gender sensitive
	Finance and Responsible Investment Improve enterprise performance within the fisheries and aquaculture sector via improved private sector investment and governance	Provided financial support program for the development of the commercial fisheries and aquaculture; Improved private sector governance with efficient structure that enables effective and well-documented quality control measures in fisheries and aquaculture; Published periodic guidelines on required reforms	Evidence of financial support program for the development of the commercial fisheries and aquaculture sector; Evidence of improved private sector governance with efficient structure; Proof of published periodic guidelines on required reforms

4.0. Summary of Overall Outcome of the Policy

The *status quo* of the fisheries and aquaculture sector which indicates a successful implementation of this policy framework is one; with healthy aquatic ecological systems that maintains sustainable stock levels at all times; from which legal, reported, regulated and sustainable catches are obtained, using the most efficient means that maximises the economic yield; and whereby, such catches derived therefrom, are presented in the local and international markets in sizes, shapes and forms that are universally acceptable and attracts the best price attainable - thereby creating the largest wealth for societal wellbeing. In the entire process, it is fundamental that the inherent dignity and the equal and inalienable human rights of all individuals is recognised and respected. Ultimately, the expectation is 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.

In summary, the overall outcome is:

“Ecologically sustainable and economically efficient fisheries of Sierra Leone”

5.0. Principles

Principles are fundamental assumptions, views and ethical values which an institution adopts in pursuance of its vision. Principles and values structures governance and are essential elements in the composition of a vision for fisheries. We have categorised principles into Substantial principles/values and Procedural Principles/values.

5.1. Substantial Principles and Values

These gives direction to development of images that drive problem solving/opportunity creation and development of vision that steer building of institutions. Some of the existing valuable framework useful for governance of fisheries which inspired this policy design includes.

Agenda for Prosperity (A4P) - Sierra Leone Third Generation PRSP: GoSL development plan with a vision for the country to become a middle-income country between 2013 and 2035 by being inclusive, green country with 80% of the population above the poverty line; with gender equality; a well-educated healthy population; good governance and rule of law; developed infrastructure; macro-economic stability; private sector, export-led growth generating wide employment opportunities; good environmental protection and responsible natural resource exploitation. Freetown, 2013.

Guidelines for the Implementation of the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS): The PFRS seeks to catalyze the transformation of Africa’s fisheries and aquaculture for food, livelihoods and wealth by making clear necessary guiding principles available for good governance of Africa’s fisheries and for increased coherence and coordination of the sector by assisting AU Member States develop realistic fisheries and aquaculture policies. AU, Addis Ababa, 2015.

UNCLOS 1982. The United Nations Convention on the Law of the Sea (UNCLOS) is the international agreement that resulted from the third United Nations Conference on the Law of the Sea (UNCLOS III), which took place between 1973 and 1982. The Law of the Sea Convention defines the rights and responsibilities of nations with respect to their use of the world's oceans, establishing guidelines for businesses, the environment, and the management of marine natural resources.

UNFSA 1995. The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks sets out principles for the conservation and management of those fish stocks and establishes that such management must be based on the precautionary approach and the best available scientific information.

IPOA-IUU 2001: International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing is a set of tools for use in dealing with IUU fishing in its various manifestations with guidance on how to use the tools effectively.

Code of Conduct for Responsible Fisheries (CCFR): (FAO, 1995). Very authoritative, user friendly and comprehensive framework for fisheries management. FAO, Rome 1995

Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT): The voluntary guideline serves as reference point and provides guidance to improve the governance of tenure of land, fisheries and forests. FAO, Rome 2012

Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSSF): These Voluntary Guidelines have been developed as a complement to the 1995 FAO Code of Conduct for Responsible Fisheries (the Code). They were developed to provide complementary guidance with respect to small-scale fisheries in support of the overall principles and provisions of the Code. FAO, Rome 2015

Convention on Biological Diversity (CBD): At the 1992 Earth summit in Rio de Janeiro United Nations Conference on Environment and Development (UNCED), world leaders agreed on a comprehensive strategy for “sustainable development” meaning meeting our needs while ensuring that we leave a healthy and viable life for the future generations. CBD is one of the key agreements at the earth summit with 3 specific goals. 1. Conservation of biological diversity 2. The sustainable use of its components 3. Fair and equitable sharing of benefits from the use of genetic resources. <http://www.cbd.int/doc/publications/cbd-sustain-en.pdf>

United Nations Framework Convention on Climate Change is an international environmental treaty adopted on 9th May 1992 (entered into force on 21st March 1994). The objective is to stabilise greenhouse concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

United Nations Sustainable Development Goals (SDGs): Sets 17 global and targets unveiled in September 2015 for achievement by 2030. The Goals and targets will stimulate action over the next fifteen years in areas of critical importance for humanity and the planet. Goal 14 is “Conserve and sustainably use of the oceans, seas and marine resources for sustainable development” – which is directly germane to fisheries.

Sustainable Livelihood Approach (SLA): Set of principles and an analytical framework for diagnosis and action. It is people centred; holistic; dynamic and flexible; build on strength; promote macro-micro linkages; encourage partnering; aim at the long term sustainability. www.sfla.org/

WHO/FAO standards for safe and healthy fisheries products: Through the implementation of the *Codex Alimentarius*. The Codex Alimentarius Commission was created in 1963 by FAO and WHO to develop food standards, guidelines and related texts such as codes of practice under the Joint FAO/WHO Food Standards Programme. The main purposes of this Programme are protecting health of the consumers and ensuring fair trade practices in the food trade, and promoting coordination of all food standards work. http://www.codexalimentarius.net/web/index_en.jsp

International Guidelines for the Management of Deep-sea Fisheries in the High Seas (FAO 2009). “The guidelines are designed to provide guidance on management factors ranging from an appropriate regulatory framework to the components of a good data collection programme, and include the identification of key management considerations and measures necessary to ensure the conservation of target and non-target species, as well as affected habitats. These guidelines are voluntary and constitute an instrument of reference to help States and RFMO/As in formulating and implementing appropriate measures for the management of deep-sea fisheries in the high seas”.

5.2. Procedural Principles and Values

These are principles that deal with the process of building and strengthening governance systems and are easier entry points compared to dialogue on substantial principles. The acceptance of the principles often paves the way for interactive governance by creating the environment wherein a proper dialogue of basic principles is possible. In the process of implementing the policy, the interaction should observe the following principles:

Human dignity: The inherent dignity and the equal and inalienable human rights of the all individuals are recognised and respected under the rule of law

Transparency: Everybody see how decisions are made and who makes them

Accountability: Decision makers (both local and governmental) are procedurally and periodically answerable to those they represent.

Comprehensiveness: All interest groups are consulted from the outset in defining the nature of problems or opportunities prior to any decision about management being taken.

Inclusiveness: All those who have legitimate interest (especially fisheries livelihood dependent groups) participate fully in the decision making process

Representativeness: Decision-makers are representative of all interest groups

Information sharing: All interest groups understand the objective of participatory process and have adequate and timely access to relevant information.

Empowerment: All interest groups (women, youths and men) enjoy equal rights and are capable of actively participating in decision making in a non-dominated and non-discriminatory environment

Sustainability: Application of the precautionary approach and risk management will guard against undesirable bio-ecological and socio-economic outcomes.

Scalability: Activities, wherever possible, must be designed to be suitable for use at different scales, for example at local and national scales and regionally. Scaling must be attained by replication (in different places), and by modification and adaptation of initiatives for different contexts.

Self-development: Policy frameworks are of little value in the absence of operational plans, supporting political will and financial resources. Governments must provide the enabling environment for stakeholders (of the sector) to contribute to the sustainable use and economic viability of the fisheries and aquaculture sector.

6.0. Conclusion

We have come to the conclusion that conservation and sustainable resource use is the prime objective for fisheries management as there would be no viable fisheries without viable fish stocks. But we also argue that certain management regimes used in the exploitation of fisheries can drive healthy stocks to depletion. Therefore, the choice of the exploitation regime is equally important for sustainable fisheries management. For example, unregulated free access to resources or pervasive IUU fishing will drive any fisheries to unviable stock level. Previous policies had prioritise conservation and sustainable resource use but maintained yield-based reference points for exploitation which runs counter to such policy objective. This is so because of lack of indication of how societal resources are expended in relation to the returns. Thus, there is no gauging of efficiency and comparison with alternative investment opportunities as a way of justifying the opportunity cost of investment in fisheries or otherwise. Therefore, we advocated for a wealth-based management approach which taps from other management systems in the process of maximising accruable resource rent while ensuring optimal natural resource capital stock formation. Eight policy areas were identified to accommodate the range of stewardship challenges and indeed, opportunities found in contemporary fisheries management in order to meet the policy goal. Artisanal Fisheries is given the thorough analysis it deserves as a sub-sector because it's the mainstay for domestic fish food security. Aquaculture is quite promising in supplementing wild fish catch which warranted the examination of enhancing commercial aquaculture investments using value chain approach as a policy area objective. How we can fully derive the benefits accruable from the fisheries and aquaculture of Sierra Leone via competitive trade and marketing was looked into as a potential area to add value to wealth creation. Fishing on the high seas and regional and sub-regional cooperation policy areas allowed for discerning our rights and obligation in international waters and how we can derive maximum benefits therefrom. Because of the perennial lack of capacity problem in the fisheries of Sierra Leone, we have introduced human capital development as a policy area to provide guidance on addressing the sector's human capacity needs. Cross-cutting issues policy area provided the chance to discuss issues like political economy considerations, climate change and disaster adaptation, improvement in access for women and youths and the issue of finance for fisheries and aquaculture. Contextualising the policy framework in national, regional and international guidelines enabled the incorporation of international best practices.

Appendix 1. Framework for the Development of Fisheries Management Plans (FMPs) for Small-Pelagic Shared Resources, Shrimp, and Demersal Species Especially Sciaenidae

There are several reasons why the MFMR should develop and implement FMP for Small-Pelagic Shared Resources, Shrimp, and Demersal Species especially Sciaenidae.

- The development and implementation of FMPs are essential for the sustainable development of fisheries. They facilitate the implementation of fisheries policy, provide a vision for a fishery, provide realistic and measurable management objectives and pathway for progress on an agreed schedule of shared responsibility among stakeholders.
- Implementation of plans allows MFMR to implement the policy framework in a holistic manner

Implementation of a FMP on the shrimp fishery will allow MFMR to confront the problematic issue of high by-catch effectively. As the bulk of the by-catch in the shrimp fishery are high valued species of the Sciaenidae and Sparidae families with high international market demand, this would improve the quantity and quality of the catch harvested from these stocks in a sustainable manner and eventually increase income and improved livelihoods for artisanal fishers who target these species for export. Thus, the reduction of by-catch, improvement in quantity and

- Quality of target species and increased international trade could be resolved by the thoughtful implementation of FMP on shrimp.
- Some of the resources mentioned (Small-Pelagic Shared Resources, Shrimp, and Demersal Species e.g. Sciaenidae) are shared stocks. Sustainable management of such stock can be assured via cooperative management regime with neighbouring countries. Otherwise, conservation and sustainable use of such shared stocks cannot be ensured.
- Implementation of the FMPs will strengthen sub-regional, regional and international cooperation in sustainable fisheries development and management.

It is against this background of the critical importance of FMPs that this policy framework oblige (and as endorsed by the Fisheries Act) the Ministry of Fisheries and Marine Resources (MFMR) to prepare FMPs for all commercially and recreationally significant species or fisheries that comprise marine, estuarine or fresh water resources - starting with the three main resource groups in Sierra Leone i.e. Small-Pelagic Shared Resources, Shrimp, and Sciaenidae. The goal of these plans is to ensure long-term viability of these fisheries. The terms of reference for the development of each plan shall include four main deliverables:

1. Contain necessary information pertaining to the fishery or fisheries, including management goals and objectives, status of the relevant fish stocks, stock assessments for multi-year species, fishery habitat and water quality considerations consistent with Coastal Habitat Protection Plans, social and economic impact of the fisheries on Sierra Leone, and user conflict.
2. Recommend management actions pertaining to the fishery or fisheries.
3. Include conservation and management measures that will provide the greatest overall benefit to Sierra Leone, particularly with regard to food production, recreational opportunities, protection of marine ecosystems, and sustainable harvest.

4. Specify a time period, not to exceed 5 years from the date of the adoption of the plan, for ending overfishing and achieving a sustainable harvest. This subdivision shall only apply to a plan for a fishery that is overfished. This subdivision shall not apply to a plan for a fishery where the biology of the fish or environmental conditions make ending overfishing and achieving a sustainable harvest within 5 years impracticable.

A general outline of a fisheries management plan (FMP) should include but not necessarily limited to;

1. Introduction
2. Policy and management objectives of the FMP
3. Conservation and management measures that regulate the fisheries
 - i. Area and stocks governed by the FMP, and describes the categories of species or species groups likely to be taken in the fishery
 - ii. Procedures for determining harvest levels for the species, and include the maximum sustainable yield and optimum yield of the complex.
 - iii. Permit and participation
 - iv. Gear type and restrictions
 - v. Time and area restrictions
 - vi. Catch restrictions for the fisheries
 - vii. Specific management measures for the quota share programs in place
 - viii. Measures that allow flexible management authority
 - ix. Monitoring and reporting requirements for the fisheries
 - x. Schedule and procedures for review of the FMP or FMP components
 - xi. Description of the stocks and their habitat (including essential fish habitat definitions), fishing activities, the economic and socioeconomic characteristics of the fisheries and communities, and ecosystem characteristics
4. Relationship of the FMP with applicable law and other fisheries
5. Additional sources of material about the fisheries,

Definition of Key Concepts

Sustainable Harvest: The amount of fish that can be taken from a fishery on a continuing basis without reducing the stock biomass of the fishery or causing the fishery to become overfished.

Overfished: The condition of a fishery that occurs when the spawning biomass of the fishery is below the level that is adequate for the recruitment class of a fishery to replace the spawning class of the fishery.

Overfishing: Fishing that causes a level of mortality that prevents a fishery from producing a sustainable harvest.

Appendix 2. Wealth-Based Fisheries Management

Fish stocks represent a valuable form of natural capital for Sierra Leone and many other countries in Africa. They have the potential to generate significant economic benefits which in turn can contribute to economic growth and sustainable development. International best practice shows that by placing wealth (or resource rent) as the central concept for fisheries management (so-called wealth-based fisheries management, WBFM), the fisheries sector will perform at a high level with respect to the generation of

economic, social and environmental benefits. Some of key principles which underpin the WBFM approach are:

Wealth-based Fisheries Management – Key principles	
-	Unlock the inherent wealth (resource rent) of fish stocks;
-	Macro-economic contribution of the sector is recognised; countries that have re-invested rents domestically ensure pro-poor growth;
-	Many of existing fishery management ingredients (tools) are used but in a different way;
-	Relies on a fishery management planning process, with a focus on generation and equitable distribution of resource rent within each fishery;
-	As governance and stakeholder capacity increases, government plays the enabling (oversight) role for private sector expansion;
-	The approach is about achieving goals, not setting new ones; it is consistent with existing goals: resource sustainability, economic growth and livelihoods enhancement;
-	Not prescriptive; provides an approach that can be tailored to the specific conditions and objectives of different countries and fisheries;
-	Important to develop the right institutions and incentives for successful fisheries;

Fisheries Wealth – Double jeopardy

The failure to generate sustainable resource rents from fish resources has two serious consequences. Not only is the potential contribution to economic growth and social welfare lost but also the rents serve to drive the overexploitation that undermines the ecological objective. A focus of fish resource wealth can achieve economic and ecological goals simultaneously. Of course, under the so-called ‘conventional’ fisheries management approach which has been used in Sierra Leone and most other countries worldwide, until recently, wealth was not the central issue, and fisheries performance was low. Under the conventional approach emphasis was placed on the physical weight of fish caught (production and landings), a focus on biological targets (maximum sustainable yield) with top-down government fishery managers setting catch limits and controlling inputs (fishing effort). Incentives existed to participate in the sector, leading to overcapacity and overexploitation under *de facto* regulated open access fishery systems. It is these wrong types of incentives which are the root cause of the problem with conventional fisheries management systems.

Wealth-based fisheries management – Operationalisation

It is useful to consider the key elements of a WBFM system and the process of operationalisation as shown in Table below.

Wealth-Based Fisheries Management - Operationalisation	
Goal	Fisheries wealth is generated sustainably and increased over time –contributing to Economic Growth Livelihoods and Fish Stock Conservation
Purpose	Appropriate policy, institutions and processes (mechanisms) established to implement a wealth-based approach;

Inputs, Outputs	<ol style="list-style-type: none"> 1. Policy defined, goals, vision; 2. Policy coherence; 3. Supporting legal framework; 4. Definition of pilot fisheries management units; 5. Valuation of wealth potential; 6. Allocation of wealth between stakeholders; 7. Design of management instruments; 8. Change management strategy; 9. Compensation approaches defined; 10. Implementation, evaluation, adapting, scaling-up
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Wealth-based Fisheries Management – Policy Issues

WBFM may raise two concerns for policy-makers – (i) will a focus on wealth and the economics of the fisheries overshadow other important issues such as the sustainability of the fish resource and the importance of fisheries for livelihoods? And (ii) will the wealth of the fisheries be captured and used exclusively by the already rich and powerful in society thereby simply increasing social problems and re-enforcing existing (low) benefit distribution patterns? Some of the important issues which have to be taken into account in addressing these questions are shown in Table below.

Wealth-Based Fisheries Management (WBFM) – Key Policy Issues
<ol style="list-style-type: none"> 1. The success and impact of WBFM will depend on the manner of its design and implementation: <ul style="list-style-type: none"> - National and local conditions must be taken into account; - Putting into place appropriate mechanisms and instruments; - Process of allocation of fishing rights must be decided early-on; - Stakeholders must negotiate the arrangements between themselves; - Capacity-building may be required to create a level playing field for this process; 2. The true costs of reform (change / or no change) must be made transparent and explicit: <ul style="list-style-type: none"> - Under conditions of weak governance and a weak economy, fisheries may provide a 'safety-net for the poor, care will be needed before a change to WBFM is pursued; 3. WBFM is perfectly consistent with poverty alleviation: <ul style="list-style-type: none"> - Mechanisms can be developed to invest fish wealth in pro-poor fishing, non-fishing employment, and in education and in infrastructure; 4. WBFM encourages resource owners and users to conserve fish stocks: <ul style="list-style-type: none"> - Empirical evidence has shown that a focus on sustainable 'wealth' within a fisheries management system does not create any tension between economic and environmental objectives or outcomes; 5. The development of WBFM will produce winners and losers in all countries: <ul style="list-style-type: none"> - Difficult policy and political choices are inevitable, impacts should be monitored, and compensation mechanisms put in place if necessary;

Change and reform

Of course, the transit from the prevailing conventional type of fishery management system found in so many countries, including Sierra Leone, can be very challenging. Not least because of the need to overcome vested interests, the need to change policy and legal frameworks, and weak institutional capacity overall. The development of an appropriate reform strategy with the identification and sequencing of interventions over time is important.

Data Requirement for Rent - Based Model
<p><u>Fisheries Management Information</u> Intrinsic growth rate Catchability coefficient Carrying Capacity Initial population Biomass</p> <p><u>Cost of Effort (Fixed and Variable)</u></p>

Salaries; Food; Fuel; Gear; Access/Harvest Fees;
Insurance; Vessel Cost, Maintenance, Depreciation etc;
Transaction Costs e.g., incurred in operations, marketing
etc.

Returns

Quantity sold, Unit price of target species