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FINAL REPORT

Report of the Review of Alignment of National Fisheries and Aquaculture Strategies and the National Agricultural Investment Plans to the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa and Climate-Change Adaptation Including Formulation of Recommendations for Domestication of Relevant Global Instruments

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Summary

This report examines the alignment of the National Fisheries and Aquaculture Policy and Strategy and National Agricultural Investment Plans (NAIP) with the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa and climate change adaptation measures. The goal is to assess the integration of these strategies into broader policy frameworks and their responsiveness to global instruments and climate change adaptation.

The review finds that while some progress has been made in aligning fisheries policies and NAIP with PFRS, significant gaps remain in policy coherence and implementation. Key challenges include inadequate institutional coordination, insufficient funding, and limited climate adaptation planning and implementation capacity. The overall percentage of alignments is 54.26%.

Recommendations are provided for enhancing the domestication of relevant global instruments to strengthen climate resilience in fisheries and aquaculture sectors, and the sustainable management and conservation of Liberia's fisheries and aquaculture resources for future generations. These include improving policy integration, enhancing stakeholder engagement, mobilizing resources for adaptation measures, and building institutional capacity for effective implementation.

The report underscores the importance of prioritizing climate adaptation in fisheries and aquaculture policies, aligning national strategies with regional and global frameworks, and fostering partnerships for sustainable development. By addressing these recommendations, Liberia can better navigate climate challenges and promote resilient and sustainable practices in their fisheries and aquaculture sectors.

1. Introduction

The AU-IBAR has formulated the Policy Framework and Reform Strategy (PFRS) and has developed criteria for the harmonization and alignment of its member's fisheries policies and legal frameworks with international fisheries and related instruments for the management and conservation of fisheries resources. To help improve the governance of African Union (AU) member states fisheries and aquaculture and mitigate climate change impacts on the sector, a guideline for alignment of national NAIPs and RAIPs to climate change and environmental management document developed by the AU.

Established in 1951 to study the epidemiological situation and combat rinderpest in Africa, which encompasses all facets of animal resources, including cattle, fisheries, and wildlife, throughout the whole African continent, the AU-IBAR with EU support, is implementing a program entitled "Enhancing sustainable fisheries management and aquaculture development in Africa (FISHGOV2)' aimed at enhancing the contribution of sustainable fisheries and aquaculture to the achievement of the AU Agenda 2063's objectives, notably in terms of food security, livelihoods and wealth creation. To this end, on the 3rd of April 2024, I was contracted by the AU-IBAR to align the National Fisheries and Aquaculture Strategies and the National Agricultural Investment Plans to the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa and Climate-Change Adaptation including formulation of recommendations for domestication of relevant global instruments. This report detailed the analysis of the results from the desks reviewed and the workshop hosted from June 10-14, 2024, for the validation of the report.

The Liberian fisheries sector is an important industry for the country, that provides a source of income, food, and employment opportunities for many people. The fishing industry of Liberia comprises various subsectors, each contributing to the overall fishery industry and its associated activities. Broadly, fisheries in Liberia can be categorized into marine fisheries which involves both industrial and artisanal practices; inland fisheries which is entirely artisanal practice of harvesting fish from the river system including inland swamps and coastal lagoons; and the aquaculture subsector that consists of subsistence fish farming in pond base hatchery. Aside from the above, other subsectors identified in the Liberian fishery industry include a) the processing and export subsector which deals with the transformation of fish into various value-added products, such as frozen fish products, smoked dried fish, fermented fish among others. b) the retail and marketing subsector - involves the sale and distribution of fish and fish products to local and regional markets. c) Research and development: entail activities focus on studying fish stocks, ecosystems, and sustainable fishing practices. Government agencies, non-governmental organizations (NGOs), and academic institutions in and out of Liberia are often involved with research initiatives to support evidence-based fisheries management in Liberia. d) finally, the regulatory and governance aspect which establishes and enforces regulations and policies relevant to sustainable fisheries management.

The Liberian fisheries are governed by the 2014 Fisheries and Aquaculture Policy and Strategy updated in 2020, the 2017 Fisheries and Aquaculture Act, the 2019 Fisheries and Aquaculture Management and Development Law, and its complimenting 2020 Fisheries and Aquaculture Regulations.

This document presents a comprehensive review of the legal framework of Liberia, mainly the 2019 Fisheries and Aquaculture Management and Development Law with international instruments that Liberia is party to relating to fisheries, the Liberia National Adaptation Plan (NAP), Liberia National Environmental Action Plan (NEAP) and detailed international instruments that Liberia should accede to and ratify with the strategy to do so.

1.1 Scope of Work

The Consultant will carry out the following specific activities to meet the expected outcomes and produce a comprehensive report:

A. Alignment of National Policy to PFRS
   i. Meeting with the relevant stakeholders at national level and where possible at regional level (e.g. RFOs, RECs, etc);
   ii. Analyze relevant documents (national policy, strategies, and legislative/regulatory frameworks) using the Guide for implementation of the PFRS developed by AU-IBAR, with reference to the preliminary analysis that has been done by the ACECOR (University of Cape Coast) on policy alignment and also ensuring adoption of relevant international best practices;
   iii. Identify policy gaps and key issues for the reforms of the fisheries and aquaculture sector;
   iv. Document best practices (including critical enablers) and lessons learned from the implementation of current or past policies and strategies;
   v. Propose policy intervention entry points and priority actions to fast-track the reforms for coherence/alignment to the PFRS;
   vi. Prepare in close consultation with the National Departments of Fisheries, or the National Competent Authorities responsible for Fisheries the draft revised National Fisheries Policy/strategy that is coherent with PFRS;
   vii. Facilitate a stakeholder's consultation to validate the draft document, ensuring uptake and ownership by national stakeholders.

B. Recommendations for alignment and domestication of global instruments and relevant international conventions.
   i. Organize consultations with the relevant national authorities and stakeholders at national level and where possible at regional level (e.g. RFOs, RECs, etc);
   ii. Analyze relevant documents (national policy, strategies, and legislative/regulatory frameworks) with reference to the preliminary analysis and findings that have been done by the African Center of Excellence for Coastal Resilience (ACECoR) of the University of Cape Coast, Ghana on Mechanisms to Facilitate the Domestication of Global Instruments and Initiatives at Continental, Regional and National Levels;
   iii. Identify and analyze priority instruments and initiatives and outline strategies for effective participation;
   iv. Develop a mechanism with specific recommendations for implementation, ratification, and domestication of relevant instruments;
   v. Facilitate a national stakeholder's consultative workshop in close consultation with AU-IBAR and the National Departments of Fisheries, or the National Competent Authorities responsible for Fisheries

to validate the draft document, ensuring uptake and ownership by national stakeholders.

C. Alignment of NAIPs to fisheries and aquaculture strategies and investment plans to the PFRS, environmental management, and climate change adaptation action plans.
   i. A desk review of international, continental, and national documents including AU policy instruments and strategies relevant to this Contract area, such as (but not exclusive) the Comprehensive Africa Aquaculture Development Program (CAADP), the PFRS, Africa Blue Economy Strategy, Regional and National fisheries management and aquaculture development policies, plans and programs, NAIPs/RAIPs, CAADP compacts, environmental management and climate change adaptation;
   ii. An evaluation of the extent to which the country has mainstreamed the PFRS, environmental sustainability, and climate change resilience into its (adaptation) fisheries and aquaculture sectoral strategies, and NAIPS other investment programs within the country;
   iii. For best practices, liaise with national institutions such as departments of fisheries and aquaculture, water development, environmental management, and development planning and monitoring especially in relation to the CAADP to identify key informants, sectoral documents and relevant data for the Contract;
   iv. Undertake a situation analysis highlighting the strengths, weaknesses, opportunities and threats (SWOT) affecting the mainstreaming and implementation of climate-smart environmental sustainability fisheries-aquaculture within AU-MS and RECs.

1.2 Objectives

The Overarching objective of this consultancy is to ensure national fisheries and aquaculture policies and strategies are coherent/aligned to/with the Policy Framework and Reform Strategy for fisheries and aquaculture in Africa and relevant international instruments; make specific recommendations for alignment and domestication of global instruments and relevant international conventions.; and assess the extent to which AU-MS have aligned their NAIPs to their fisheries and aquaculture strategies and investment plans aligned to the PFRS, environmental management, and climate change adaptation action plans and are benefiting from this action.

1.3 Status of Liberia Fisheries Sector

The Liberian fishery sector is categorized into marine fisheries which involve both industrial and artisanal practices; inland fisheries which is an entirely artisanal practice of harvesting fish from the river system including inland swamps and coastal lagoons; and the aquaculture subsector that consists of subsistence fish farming in pond base hatchery.

Industry Fisheries- the industrial fishery of Liberia refers to a subsector of the fishery industry in which exhaustive fishing effort is used within a defined limit of the territorial water. Vessels harvesting fishery resources in the industrial subsector are only permitted access to fish above 6 nautical miles offshore. The industrial fishery is categorized into various fisheries, such as deep-water demersal trawl fishery, deep-water crab fishery, shrimps, inshore demersal fishery, offshore large pelagic fishery, and the small pelagic fishery. Liberia has no flag vessels operating within its EEZ. For the 2023 fishing year, Liberia has six demersal vessels

flagged to China operating in its waters and 28 tuna vessels on access arrangements. The average production from the demersal fishery and the tuna fisheries are 5,600 tons and 10,000 tons respectively.

Artisanal Fisheries- the artisanal fisheries sector comprises semi-industrial and artisanal fisheries and provides livelihood of about 117,000 people. About 20 percent of those working in the sector are foreigners (mostly the Fanti from Ghana and other nationals) that use large crafts with outboard motors ranging from 16 HP to 40 HP (semi-industrial). Liberians working in the sector constitute about 80 percent of the workforce of which 60 percent are female, who serve as fishmongers or processors and traders. These fishers operate from 114 fish landing sites along the coastline. The foreign fishers are referred to as Fanti, while the indigenous fishers are called Kru fishers. In the artisanal fishery sector, the indigenous fishers (Kru fishers) traditionally believe that the sea belongs to their forefather and that the fish will always be available and in abundance. They previously concluded that the wealth of aquatic resources was an unlimited gift of nature, and it cannot be overfished. Due to the limited number of staff at the National Fisheries and Aquaculture Authority (NaFAA), adequate data collection on catch and effort from the 114 landing sites is practically impossible with only nine inspectors. This situation is exacerbated by the fact that there has been no comprehensive stock assessment carried out to determine the total allowable catch. This is compounded by the absence of a social economic survey and or livelihood survey to determine household and fishermen's income for estimation of poverty lines to prescribe the needed policies. Little has been done to erase this mindset, but to curb this malice, this research will clarify some of these delusions. The average production from the Artisanal fisheries is about 28,000 tons.

Inland Fishery- inland fisheries play a crucial role in providing food and nutrition security for the local population in every region of existence in the world. Fish is a significant part of the diet for many people, particularly in rural areas. Inland fisheries have the potential to contribute significantly to maximum fish production and income opportunities; thereby enhancing food security and rural livelihoods in Liberia if proper management and investment are pushed to the consciousness of sector's regulators and actors. Liberia is home to six major rivers and other wetlands including swamps, lakes, and lagoons such as Lake Shepherd and Lake Piso. As it stands, adequate data to inform management decisions in the inland fishery is limited. As a result, other than the 2019 Fisheries and Aquaculture Management and Development Law and the 2020 Fisheries Regulations which are inadequate for the management and conservation of the sector, existing regulations generally provide for the protection of inland water bodies for irrigation, flood alleviation, navigation, or generation of hydroelectric power. The absence of regulation or inadequate enforcement of fishing regulations in such an inaccessible fishery usually facilitates illegal fishing or destructive fishing practices. In furtherance, the contribution of inland fisheries to Liberia's national economic growth is negligible, with only a little incentive to shore band households which cannot employ experts in data collection and analysis.

Aquaculture- aquaculture has been gaining importance in Liberia as an alternative livelihood to wild fisheries with the potential to enhance food security and income generation for rural communities. However, as of now, aquaculture in Liberia is constrained by its current extremely small base of subsistent fish farmers, inadequate investment, unavailability of locally produced fish feeds or high cost of imported feeds, exacerbated by its high demand for intensive labor and uninterrupted capital investment, low yield and non-competitiveness to the

marine fisheries. Over the years, non-governmental organizations (NGOs) and international agencies have supported aquaculture projects in Liberia; and provided technical assistance, training, and tools to help local communities establish and maintain fish farms. The full objectives of these projects are yet to be realized due to limited access to technology and expertise, inadequate infrastructure, lack of investment, and poor access to credit for fish farmers. Aquaculture in Liberia is largely concentrated in Montserrado, Bong, Nimba, and Lofa counties with approximately 3500 subsistent fish farmers, of which a significant percentage are women involved with 500 ponds of varying sizes distributed in 159 communities. Fish from these ponds normally accumulates from nearby farms, and families with very little income cannot break even the cost of production to sustain the farmers and his/her family. Poor aquaculture productivity parallel to limited socioeconomic capital assets for alternative livelihood exposes a significant proportion of actors in the aquaculture sector to extreme poverty and food insecurity.

2. Materials and Methods

Conduct a desk review of the National Fisheries and Aquaculture Policy and strategy, the 2019 Fisheries and Aquaculture Management and Development Law and its appending 2020 Fisheries Regulations along with other national policies documents and international instruments or legal frameworks that govern fisheries and aquaculture resources. The preliminary analysis and findings done by the African Center of Excellence for Coastal Resilience (ACECoR) of the University of Cape Coast, Ghana on Mechanisms to Facilitate the Domestication of Global Instruments and Initiatives at Continental, Regional, and National Levels will also be reviewed.

Considering the climate change component of the assignment, the following documents were reviewed: National Environmental Action Plan (NEAP), Liberia National Adaptation Plan 2020- 2030 (NAP), Liberia's National Adaptation Plan Process Stocktaking report and preliminary road map for advancing Liberia's NAP process, Liberia Aquaculture Sector Investment Plan 2018- 2022 (LASIP II), World Bank (2019) Climate Change and Marine Fisheries in Africa: Assessing Vulnerability and Strengthening Adaptation Capacity, Liberia's Revised Nationally Determined Contribution 2021 (NDC) and other national policies documents.

From the comprehensive review of the documents mentioned herein, a draft report was developed. The draft report was presented at a stakeholder workshop organized from the 10th of June to the 14th of June 2024 for validation. The workshop was attended by staff from the following listed institutions: The Liberia Maritime Authority (LiMA), the National Port Authority (NPA), the Ministry of Defense (MOD), the Ministry of Agriculture (MOA), the National Fisheries and Aquaculture Authority (NaFAA), the University of Liberia Department of Fisheries and Aquatic Science (DOFAS), the Liberia Artisanal Fisheries Association (LOFA), the Co-Management Association (CMA), the National Public Health Institute of Liberia (NPHIL), and the World Bank. The workshop was also attended by staff of the African Union Inter-African Bureau for Animal Resources (AU-IBAR).

At the end of the meeting draft report was validated and a communique was developed and adopted by the plenary as the agreed outcome from the workshop.

3. Alignment of National Fisheries and Aquaculture Strategies and the National Agricultural Investment Plans to the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa

This section presents the results of the analysis and key issues of the alignment of the National Fisheries and Aquaculture Policy and Strategy, the legislations, and the Liberia Agriculture Investment Plans to the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa. The overall average score for the eight policy areas is 54.26%.

3.1 Policy Area 1: Conservation and Sustainable Resource Use

The fisheries policy and legal framework of Liberia aligned with the AU PFRS Policy Area 1 with a score of 79.2%. The legal framework of Liberia, mainly the 2019 Fisheries and Aquaculture Management and Development Law is comprehensive on the conservation and sustainable use of the fisheries resources of Liberia. The main findings based on the various outcomes are presented below.

Outcome 1- Policies, frameworks, and tools in place to sustainably increase national benefits from fisheries and aquaculture: this policy outcome when compared to the fisheries and aquaculture legal frameworks of Liberia and the implementation of these legal frameworks is scored at 87.5%. The high score is based on the provisions of the 2019 Fisheries and Aquaculture Management and Development Law indicated in Appendix 1 of this report. The Law calls for management decisions should be based on the best scientific evidence and should use the precautionary and ecosystem approaches in the management of the fisheries and aquaculture sector. The strengthening of the aquaculture sector by creating an enabling environment for Aqua-business and improving capacity through human resource development and training is key in the 2014 Fisheries and Aquaculture Policy and Strategy and the 2019 Fisheries Law. Accordingly, Liberia has not been able to increase its demersal industrial vessels because of the provisions of the Law. To effectively manage its fishing efforts and prevent overfishing and overexploitation, a series of independent resource surveys have been conducted to inform the preparation of fisheries management plans that will inform management decisions in this regard. However, the aquaculture sector is still at the subsistence level, and only few people are engaged in semi-intensive aquaculture activities. The laws and regulations are not fully implemented in the aquaculture sector, and programs in the 2014 Policy are yet to be initiated. The level of private sector engagement needs to be strengthened. There is no policy and or legal framework that governs aquaculture operations that occur in waters that go beyond national jurisdiction. Moreover, the endorsement and application of standards and norms on aquatic animal health are not explicit in the legal framework and policy. Overall, policies, frameworks, and tools are in place to sustainably increase national benefits from the fisheries and aquaculture sectors. NaFAA as an autonomous agency with financial autonomy has the potential to increase benefits from its fisheries and aquaculture resources.

Outcome 2 - Effective and sustainable national and regional Monitoring, Control, and Surveillance systems in place to ensure that sustainable benefits are realized: Liberia is one of the countries in Africa that has the best monitoring, control, and surveillance (MCS) regime. Chapter 11 of the 2019 Fisheries Law provides the legal guidance for MCS in Liberia. Liberia is operating 100% observer coverage for its domestic vessels and a minimum of 15% for international or third-country tuna vessels that have access arrangements and a mandatory VMS for all vessels. Vessels to wish to obtain access to the fisheries waters of Liberia are subjected to a more rigorous due diligence process, both locally and through the FCWC. Pre and post-inspections are conducted in port, and on sea during patrols. There is an MCS strategy and SOPs in place to guide staff of the MCS department of NaFAA. To enhance the MCS strategy, NaFAA developed an implementing strategy for the implementation of the PSMA. To this end, Liberia has signed MoUs on information sharing and inspections with Ghana, Senegal, and Cote d'Ivoire. The assigned score for this outcome is 100%. However, there are some operational gaps in the execution of the various components and units of the MCS system of Liberia. Some of the main issues are limited sea patrol capabilities, access to stable internet to operate the Fisheries Monitoring Center (FMC) 24 hours a day, limited logistics and equipment to effectively run the inspectorate and the fisheries observer program, and no enhanced training.

Outcome 3 - Healthy ecosystems to support sustainable fisheries and aquaculture: the legal frameworks are adequate to maintain a healthy ecosystem that will support sustainable fisheries and aquaculture. Section 10.24 of the fisheries law detailed the guidelines for research fishing, and Section 3.2.2 of the Fisheries Policy mandates the fisheries authority to conserve the aquatic ecosystems associated with fish production. Table 2 and Appendix III expanded on the need for the protection of spawning grounds, wetlands, and mangroves. Table 5 of the Fisheries Policy also provides the guiding principles for the fisheries authority to endeavor and conduct fisheries resources assessment once a year. However, the fisheries authority has not prioritized fisheries research (zero research funding). This is why fisheries management in Liberia is partially supported by scientific research. Aquaculture is yet to be fully developed. The state of the marine environment is unknown. Nevertheless, some laws prohibit the introduction of deleterious substances into fisheries waters (Appendix 1). The score for this policy outcome is 50%.

Interventions:

1. Consider updating and harmonizing the Fisheries and Aquaculture Policy and Strategy, institutional, legal, regulatory, and monitoring regimes to govern aquaculture operations that occur in waters that go beyond national jurisdiction

2. Elaborate and adopt best standards and norms on aquatic animal health: fish disease, safety, quality, and traceability

3. Develop a mechanism and an SOP for the implementation of quarantine measures for the introduction of exotic and genetically modified genomes

4. Establish priorities for routine in-depth monitoring and assessments of the fisheries management units of Liberia and prepare, implement and routinely update fisheries management plans to include measures to restore production to maximum sustainable yield levels.

5. Strengthen the licensing and vessel registration regime to conform to the fisheries management units and ensure that fishing capacity that is in excess of sustainable, economically viable and optimal levels in the management areas is avoided, so as to encourage favorable economic conditions to promote responsible fisheries and maximize benefits.

6. Cooperate with MRU member states to harmonize fisheries laws and regulations for sustainable management of common fisheries resources and shared stock through a joint management authority as well as a joint scientific body working through a workplan with indicators and reference points for monitoring of the performance of the fishery.

3.2 Policy Area 2A: Small scale Fisheries Development

The AU PFRS Policy Area 2A is 50% in alignment with the fisheries policy and legal framework of Liberia. The main findings based on the various outcomes for which the scored was derived are presented below.

Outcome 1- Role and importance (contribution) of fisheries for improved livelihoods, food and income of small-scale fishing communities and related operators are evident, recognized and secured in Member States: the score obtained for this outcome is 50%. Section 1.2.1 of the fisheries policy highlights the importance of the SSF and Table 2 of the policy detailed programs that needs to be implemented to improve the livelihood small-scale fisherfolks. There have been programs executed by the Fisheries Authority to improve the economic and social benefits of SSF such as the distribution free life jackets, outboard engines, constructions of landing sites, and is in the process of piloting fiber glass boats. However, most of the programs catalog in the fisheries policy is yet to be implemented and there is no value chain system in place. Moreover, SSF is not even mentioned in the Liberian Agricultural Sector Investment Plan (LASIP II). The gaps in the LASIP II needs to be corrected when formulated the new plan for the sector to prioritise the SSF of Liberia, because the sector alone contribute over 70% of the local fish production.

Outcome 2 - Bilateral and regional cooperation for effective management of shared fishery resources and ecosystems is strengthened: the legal framework of the fisheries sector of Liberia provides for the adoption and implementation of internation fisheries instruments. The fisheries authorities can commit Liberia to any fisheries governance instruments that they deemed necessary to the sustainable management and conservation of the sector. However, there are no mechanisms currently in place for efficient and effective regional cooperation on fisheries management, including MCS, migratory and shared stocks. The scored for this outcome is 50%.

Outcome 3 - Fishers are organized to foster good fisheries governance, sustainable development and responsible use of natural resources: The fisheries policy of Liberia expressly encourages the implementation of the FAO SSF guideline and mandate the prioritization and protection of access of legitimate small-scale fishers to the fishery resource that are shared with industrial fleets. Section 4.3 of the 2019 Fisheries Law reserves 6 nautical miles of the IEZ for small-scale fishing. The law also allows for a few shrimp, cephalopods

and other coastal species trawlers in line with best scientific evidence to be licensed to operate beyond 4 nautical mile (NM) using approved fishing gears/nets. If this 4NM is implemented the already existing conflicts between the SSF fishers the industrial vessels will increased and there are currently no mechanisms in place for conflict resolutions. There are still gaps in achieving this outcome such as no allocation of TAC between the SSF and the industrial fisheries, and a partially functional CMA. The scored is 50%.

Interventions:

1. Collaborate with the Ministry of Agriculture to prioritize small Scale Fisheries in Liberia Agricultural Sector Investment Plans (LASIP), Poverty alleviation documents and other National strategy documents.

2. Establish mechanisms adoption and inclusion of efficient and effective regional cooperation on fisheries management, including MCS, migratory and shared stocks into fisheries legal frameworks.

3.3 Policy Area 2b: Identification, Development and Promotion of Estuarine and Mangrove-based Shellfisheries (EMS) among the AU-MS

The results derived from the three outcomes of this policy area is 0%. There are no legislations in placed to regulate estuarine and mangrove-based shellfisheries. The only information available on the estuarine and mangrove-based shellfisheries is the studies conducted by USAID in 2021 (https://pdf.usaid.gov/pdf_docs/PA00ZGN8.pdf)[1]. The fisheries policy and legislations are not in alignment with the PFRS. These gaps need to be addressed by the fisheries authority when they are updating the policy and the regulations.

Interventions:

1. Update the fisheries policy and amend the 2019 Fisheries and Aquaculture Management and Development Law to include aspect of estuarine and mangrove-based shellfisheries.

2. Development a management process that will lead to collections of data and analysis for the development of a management plan for estuarine and mangrove-based shellfisheries in Liberia.

3.4 Policy Area 3: Sustainable Aquaculture Management

Generally, fisheries policy and legal framework of Liberia adequately aligned to the AU PFRS Policy Area 3 with the scored of 83.3%. The legal framework of Liberia, mainly the 2019 Fisheries and Aquaculture Management and development Law and the 2020 Fisheries and Aquaculture Regulations are comprehensive sprout aquaculture developments and effectively regulate the sector. The main findings based on the various outcomes are presented below.

Outcome 1 - Improved market-led aquaculture investments: the aquaculture sector of Liberia is still underdeveloped and fragmented. There are appropriate policies and legislations in place to improve market-led aquaculture investments. However, there have been no market campaigns carryout for aquaculture nationally, market campaigns or awareness are carryout by few farmers to market their farms products. Nevertheless,

[1] *Osei, I. K., Chuku, E. O., Effah, E., Kent, K., and Crawford, B. (2021). Participatory Assessment of Shellfisheries in the Estuarine and Mangrove Ecosystems of Liberia. Centre for Coastal Management (Africa Centre of Excellence in Coastal Resilience), University of Cape Coast, Ghana and Coastal Resources Center, Graduate School of Oceanography, University of Rhode Island. Narragansett, RI, USA. 28 pp.*

progress has been made in providing the needed aquaculture infrastructure. The EU has funded project in this direction. Moreover, the Liberia Sustainable Management of Fisheries Project (LSMFP) is funding the construction of a center of excellence for aquaculture development in Liberia. This center of excellence will be an adaptive research center and demonstration site for aquaculture development in Liberia. The scored for this outcome is 66.5%, detailed on how the score was obtained is in Appendix 1.

Outcome 2 - Improved regional cooperation in shared ecosystems: there are provisions in the fisheries policy and legislations authorizing the fisheries authority to sign bilateral cooperation for transboundary stocks to enhance socio-economic development. The policy also encourages Liberia to have cooperation with RFMOs, regional bodies, and bilateral agreements with Mano River Union (MRU) to management the shared stocks and the promotion of international cooperation for management of shared stocks. The legal framework also authorized the fisheries authority to harmonization of international agreements with national policies and legal framework. The fisheries and aquaculture regulations detailed licensing requirement for commercial aquaculture, guidelines for aquaculture development and best practices. Based on the aforementioned and the references detailed in Appendix 1 the scored for this outcome is 100%.

Interventions:

1. Establish a national aquaculture day and develop a program for routine market campaigns included for aquaculture products (awareness creation, PPPPs – Price, Place, Promotion and Product).

2. Establish an Extension Services Unit in the Department of Aquaculture and Inland Fisheries at the National Fisheries and Aquaculture Authority (NaFAA) for effective disseminations of research results to farmers and demonstration of new and innovative technologies.

3. Promote smallholder aquaculture as a business by providing financial services and incentives and ensure that there measures for the protection of local aquaculture products from imported products.

3.5 Policy Area 4: Responsible and Equitable Fish trade and Marketing

The AU PFRS Policy Area 4 is 40% in alignment with the fisheries policy and legal framework of Liberia. The main findings based on the various outcomes for which the scored was derived are presented below.

Outcome 1 - Improved intra and inter regional trade: Section 3.8.1 of the fisheries policy partially covers trade. The 2014 to 2019 National trade policy is in compliance with agreed regional trade protocols and regulations, but it is outdated (https://faolex.fao.org/docs/pdf/lbr163656.pdf). However, the 2020 fisheries regulations Section 8 establishes the fish import and export committee; Section 14 detailed the requirements for importation and exportations; Section 37 talks about fish sanitary certificate as a requirement; Section 46 detailed requirements on import and export of live fish; and Section 48&49 set the conditions for obtaining authorization. Section 37 of the 2020 Fisheries Regulations talks about fish sanitary certificate as a requirement. It is in compliant, but practically there is no quality control lab. Scored obtained for this section is 50%.

Outcome 2 - Increased competitiveness for African fish and fishery products: The fisheries and aquaculture sector of Liberia is compounded with challenges ranging from lack of designated and or dedicated industrial fishing port, limited post-harvest facilities, non-functional quality control lab, and lack fisheries management plans including limited research capabilities. Liberia has no functioning quality control laboratory for standardization of fishery products in place. NaFAA has a none functioning microbiology lab established by the Icelandic government. There are no appropriate pricing conditions for value addition across value chain segments. Nationally, the trade policy is outdated. However, Liberia is a member states of ECOWAS and is fully implementing the ECOWAS trade policy. The scored obtained for this outcome is 30%.

Interventions:

1. Functionalize the fisheries quality control laboratory for standardization of fishery products by procuring the necessary chemicals, reagents, and equipment; development and adoption of the necessary regulations; and obtain accreditation for the lab.

2. Establish appropriate pricing conditions for value addition across value chain segments to increase value chain efficiencies.

3.6 Policy Area 5: National, Regional and International Cooperation

The policies and legal framework of the fisheries sector of Liberia aligned 66.7% to the PFRS of the African Union. The main issues for which the score was obtained is detailed below.

Outcome 1 - International fisheries issues at regional levels are coherent and harmonized: the Fisheries Law and policies fully aligned (100%) with this outcome. Fisheries Law authorized the management of NaFAA to commit Liberia by cooperating internationally and obtaining membership to any regional fisheries management bodies or organizations. Chapter 10 of the 2019 Fisheries law detailed procedures and guidelines for access to Liberia fisheries including licenses, authorizations and accreditation. Chapter 11 detailed MCS measures. Liberia is implementing the PSMA and has develop mechanism and strategy in this regard. Section 8 of the 2020 Fisheries Regulations establishes the import and export committee that is responsible to conduct due diligence before fish and fish products are imported or exported.

Outcome 2 - RECs and RFBs are positive forces for fisheries management within the framework of regional economic and political integration agenda: Recommendations and resolutions from RFBs and RECs are implemented by Liberia. However, there is no document that detailed mechanisms for linkages. There are also no strategies and mechanisms in place for preventing and resolving regional conflicts. The alignment scored for this outcome is 33.33%.

Interventions:

1. Develop strategies and establish conflict resolution mechanisms for preventing and resolving regional conflicts.

2. Establish mechanisms for linkages between RECs and RFBs that promote a well-defined fishery and aquaculture.

3.7 Policy Area 6: Awareness Enhancing and Human Capacity Development

Human capacity development is key to the success of fisheries and aquaculture development and governance globally. Lack of capacity can lead to mismanagement, overexploitation and overfishing of fisheries resources and as well as collapse of the fisheries. To align the fisheries policies and legislations to the PFRS the average obtained for the outcomes is 66.65%. Presented below are the results of the alignments from the two outcomes.

Outcome 1 - Enhanced sectoral competencies and proficiencies: Sections of the fisheries policy are dedicated to the development of human resources capacity and promoting the environment for self-advancement of personnels in the fisheries sector. It provides for the accreditations of relevant stakeholders/ institutions. In practice, the fisheries authority has accredited non-governmental organisations that are operating the fisheries sector of Liberia. The average alignment scored for this outcome is 83.3%. This is so because there are no provisions in the national fisheries policy and the legislations about establishment of center of excellence. However, efforts have been made on this direction. The Authority through the LSMFP is constructing a center of excellence for aquaculture and is also anticipation establishing a center of excellence at the University of Liberia.

Outcome 2 - Improved evidence-based decision making: All fisheries management decisions are to be guided by the fisheries policy, laws and regulations. However, this has not always been the case because of limited capacity. There are no clear provisions and information sharing mechanism and specific strategy. However, the Authority through donor partners have constructed post-harvest facilities at some landing sites and fishing communities, distributions of free life jackets, outboard engines and trainings. Based on the gaps discussed above, the scored obtained for this outcome is 50%.

Interventions:

1. Establish an information sharing platform to facilitate Information sharing between policy makers and policy consumers.

2. Establish and equip post-harvest facilities in fishing communities to improve enabling conditions in fish producing communities to enhance competence.

3.8 Policy Area 7: High Sea Fisheries

In Africa including Liberia as a least developed country do not have the capacity to effectively control and enforce it legislations that govern its 200NM EEZ. Therefore, they have limited presence in participating in high sea fisheries. Nevertheless, the polices and legislations of Liberia aligned to the PFRS with the average of 16.75%.

Outcome 1 - Greater African Voice in high seas fisheries: Liberia like other African countries is contracting party to the ICCAT, CITES, IWC and other RFMOs and a non-cooperating contracting party to many. However, the issue of finance can limit our participation to the meetings of these organizations and decisions making. Sometimes you have only one or two persons attending these meetings where various subject matters are discussed. Liberia participations can be effective if sector experts are included for participations in these meetings regardless of the cost. One issue is the changed of meeting participants every year with new people that have no ideas of the working of the international institution meetings they are attending. The Fisheries Law provides the legal reliance for Liberia to become a member or cooperating party of appropriate RFMOs. Liberia has ratified the PSMA and has developed a mechanism to implement the instrument. Authority has established donors' coordination steering committees for this purpose and having synergy. This outcome average obtained is 50%.

Outcome 2 - Increased participation and benefits for MS in high seas fisheries: There are no provisions in the policy that ensures high seas resource exploitation. There are no programs and strategies proposed to increase investment for economic value addition (such as harbor). To address these gaps, it is recommended that the authority amend its legislations and update its policies to capture this outcome. The scored obtained for this outcome is 0%.

Outcome 3 - Active participation of MS in RFMOs processes and agenda: there are no provisions in the fisheries policies and legislations on the cooperation for high sea fisheries management, and there are also modalities guiding the participation in newly established partnerships. To effectively address these gaps, the update and amendments of Liberia fisheries legal frameworks are recommended. The scored obtained for this outcome is 0%.

Interventions:

1. Update the fisheries policy to ensure the strengthening of Alignment to and coordination of development partners' efforts with the PFRS.

2. Update the fisheries policy to ensures that Liberia benefit from high seas resource exploitation.

3. Develop programmes and strategies that lead to Liberia accruing benefits to increase investment for economic value addition (such as harbour).

3.9 Policy Area 8: Cross-Cutting Issues in African Fisheries and Aquaculture

The policies and legal framework of the fisheries sector of Liberia aligned 56.5% to the PFRS of the African Union. The main issues for which the score was obtained is detailed below.

A. Strengthening resilience and reducing vulnerabilities to climate change in African fisheries and aquaculture has two outcomes: OUTCOME 1 Adaptive capacity and resilience at the local level built (an average of 20%) and OUTCOME 2 Policy coherence and coordination at the national and regional levels improved (an average of 66.6%). The gaps identified are:

- There are no systems on participatory Climate Change (CC) and Disaster Risk (DR) vulnerability assessment and aquaculture development.
- no early warning system in place.
- there are no mechanisms for disaster-related insurance and compensation in place.
- there are no policies for marine spatial planning.

To address these gaps, it is recommended that these issues incorporated into the fisheries policies and legislations of Liberia and established an early warning system.

B. Gender and Youth: has one outcome on increased access to resources with an average of 62.5%. The main gap is there are no provisions for the prevention/prohibition of Gender-based violence at all levels along the fisheries value-chain. Inclusion of gender-based issues in the fisheries legal frameworks is recommended.

C. Private Sector Investments and Financing Mechanisms for Fisheries and Aquaculture in Africa: has two outcomes: OUTCOME 1: Improved enterprise performance within the fisheries and aquaculture sector (83.3%) and OUTCOME 2: Improved private sector governance (50%). The main gaps are:
   - There are no provisions for awareness creation that enable practitioners and enterprise owners; and
   - best practices mechanisms are not documented.

Documentations of best practices mechanisms is recommended including the inclusion in the fisheries legal framework the issues of awareness creation.

Interventions:

1. Establish a system that allows for participatory Climate Change (CC) and Disaster Risk (DR) vulnerability assessment and aquaculture development.

2. Establish an early warning system that as a focus for disaster and develop mechanisms for disseminations information to consumers.

3. Update the fisheries policy and amend the fisheries law and regulations to provide for marine spatial planning.

4. Update the fisheries policy and amend the fisheries law and regulations to provide for the prevention/ prohibition of Gender-based violence at all levels along the fisheries value-chain.

4. Formulation of Recommendations for Domestication of Relevant Global Instruments

4.1 Liberia Legal Framework

4.1.1 Fisheries Policies

The 2014 Fisheries and Aquaculture Policy and Strategy of Liberia, updated in 2020 is the main policy governing the fisheries and aquaculture sectors of Liberia. The 2014 policy and strategy aimed to address several key issues in the sector as indicated below:

1. The policy aimed to combat overfishing through the implementation of sustainable fishing practices, including the regulation of fishing quotas and establishment of protected areas.
2. The policy sought to strengthen enforcement measures to combat Illegal, Unreported, and Unregulated (IUU) fishing activities.
3. The need to improve the infrastructure and build capacity within the sector is one of the aimed of the policy. Liberia faces huge infrastructure deficit such as designated fishing ports, and value chain facilities.
4. The policy aimed to establish clear regulations, improve coordination among government agencies, and engage stakeholders in decision-making processes.
5. The policy also aimed to promote socio-economic development in coastal communities reliant on fisheries and aquaculture by creating job opportunities, improving food security, and fostering sustainable economic growth.

4.1.2 Fisheries and Related Legislations

Fisheries and aquaculture sectors of Liberia is governed by the below listed laws and regulations.

1. The 2017 Fisheries and Aquaculture Act- the Act that established the National Fisheries and Aquaculture Authority (NaFAA) as an autonomous agency to conserve and manage the fisheries resources of Liberia. The Acts detailed the functions of the Authority and the institutional framework including the tenure and qualifications of the senior managements.
2. The 2019 Fisheries and Aquaculture Management and Development Law- the law aimed to promote responsible fishing practices and long-term viability of the fisheries resources of Liberia. The Law provides for the effective regulations and management of the fisheries sectors of Liberia. Its detailed licensing, conservation, management, and enforcement regimes to ensure sustainable fishing practices and the protection of marine resources. The Law addresses issues related to illegal, unregulated, and unreported (IUU) fishing, artisanal fishing rights, and the establishments of designated fishing zones. The Law provides a framework for cooperation between government agencies and stakeholders in the fisheries sector and adequate penalties for would be violators of the Law.
3. The 2020 Fisheries and Aquaculture Regulations- the regulation was designed to implement the 2019 Fisheries Law. Its set out the various procedures, guidelines, management committees, license categories and fees, and the various inspections and application forms.

4.2 International Fisheries Instruments Signed, Acceded and or ratified by Liberia.

4.2.1 International fisheries instruments

Liberia as a responsible fishing nation is party to three international legally binding fisheries instruments.

I. The 1982 United Nations Convention on the Law of the Sea (UNCLOS)- this instrument establishes a comprehensive legal regime for the conservation and management of fisheries resources. It obligates contracting party to conserve and manage living marine resources in areas within their jurisdiction and to cooperate in the conservation and management of resources in areas beyond their national jurisdiction.

II. The 1995 Fish Stocks Agreement emphasizes management responsibilities through Regional Fisheries Management Organizations and cooperation among parties, building on the 1982 United Nations Convention on the Law of the Sea.

III. The Port State Measure Agreement (PSMA) aimed to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. The Agreement sets the minimum standards for port state measures, based on the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing and the 2005 FAO Model Scheme on Port State Measures to Combat Illegal, Unreported and Unregulated Fishing.

4.2.2 International environmental instruments relevant to fisheries

The legally binding instruments relevant to the fisheries and aquaculture sub-sectors to which Liberia is party are:

I. The 1981 Abidjan Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region that focuses on the collaborative management of coastal ecosystems and the need to rebuild fisheries resources and coastal ecosystems to avoid the loss of environmental goods and services essential for sustainable development;

II. the 1971 Ramsar Convention on wetlands that aims for sustainable use of wetlands through Ramsar designated sites;

III. the 1992 Convention on Biological Diversity that aims to promote equitable sharing of access and the benefits derived from a country's natural resources, such as fisheries; and

IV. the 1963 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) that aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

4.2.3 Maritime and shipping international instruments relevant to fisheries

the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter; the 1973/78 International Convention for the Prevention of Pollution from Ships (MARPOL); the 1977/1993 Torremolinos International Convention for the Safety of Fishing Vessels; and the 2004 International Convention on Control & Management of Ships' Ballast Water are legally binding maritime and shipping instruments to which Liberia is party and are also applicable to fisheries.

4.2.4 *Regional integration bodies*

Liberia is party to five regional fisheries bodies (RFBs): the Committee for the Eastern Central Atlantic Fisheries (CECAF); the Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean (COMHAFAT/ATLAFCO); the Fishery Committee for the West Central Gulf of Guinea (FCWC); the International Whaling Commission (IWC); the Aquaculture Network of Africa (ANAF), the International Convention on the Conservation of Atlantic Tunas (ICCAT); and Sub-regional Fisheries Commission (SRFC). There are four RFBs that Liberia is a cooperating non-contracting party to: South Pacific Regional Fisheries Management Organization (SPRFMO); Indian Ocean Tuna Commission (IOTC); Western Central Pacific Fisheries Commission (WCPFC); and Inter-American Tropical Tuna Commission (IATTC). Furthermore, Liberia is a party to three economic integration bodies, the African Union (AU), the Economic Community of West African States (ECOWAS) and the Mano River Union (MRU).

4.3 International Fisheries Instruments that Liberia needs to Accede to and Ratify

The international fisheries instruments that are very cardinal to the conservation and management of the fisheries sector of Liberia that have not been acceded to and or ratified by Liberia and their importance are catalog below:

1. The 2007 ILO Work in Fishing Convention (C188)- this convention detailed the minimum requirements for decent work conditions onboard fishing vessels such as accommodation and food, medical care and security, and occupational health and safety.

2. The FAO Compliance Agreement - the FAO Compliance Agreement, formally known as the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, is an international treaty aimed at ensuring that fishing vessels adhere to conservation and management measures on the high seas. It requires countries to implement measures to ensure that their flagged vessels comply with the rules and regulations set by regional fisheries management organizations (RFMOs) and other relevant international bodies. The agreement aims to combat illegal, unreported, and unregulated (IUU) fishing and promote sustainable fisheries management globally. It encourages cooperation and information sharing among countries to effectively monitor and enforce fisheries regulations.

3. Code of Safety for Fishermen and Fishing Vessels, 1968 (Code of Safety) - The Code of Safety for Fishermen and Fishing Vessels, 1968 (Code of Safety) is an international standard established by the International Maritime Organization (IMO) to promote safety measures for fishermen and fishing vessels. It outlines guidelines and requirements aimed at ensuring the safety of fishermen, the vessels they work on, and the operations they undertake. The Code covers various aspects such as vessel construction, equipment, stability, navigation, communication, and crew training. Its primary objective is to reduce the risk of accidents and fatalities in the fishing industry by providing a comprehensive framework for safety measures that fishing vessels and their crews should adhere to.

4. The Cape Town Agreement of 2012 is an international treaty aimed at improving the safety of fishing vessels and their crews. It focuses on setting minimum safety standards for fishing vessels of 24 meters in length

and above, which operate beyond the national jurisdiction of any state. The agreement covers various aspects of vessel design, construction, equipment, and operation to enhance safety at sea. It emphasizes the importance of stability, watertight integrity, machinery, navigation, communication equipment, and safety training for crew members. The Cape Town Agreement also establishes a mandatory inspection regime to ensure compliance with its provisions and encourages flag states to enforce these standards effectively. Its goal is to reduce accidents, injuries, and loss of life in the fishing industry by promoting a culture of safety and accountability among vessel owners, operators, and crews. Liberia inclusive of 42 countries signed the Torremolinos Declaration. However, Liberia is yet to take concrete actions toward the accession and ratification of the Agreement.

4.4 Areas of Alignments of Liberia legal framework with international instruments

Areas of alignments of the legal framework of Liberia with some binding or non-binding international instruments that Liberia has signed, acceded to and or ratified are presented in this sub-section.

4.4.1 The 1982 United Nations Convention on the Law of the Sea (UNCLOS)

The 2019 Fisheries and Aquaculture Management and Development Law is aligned with the 1982 United Nations Convention on the Law of the Sea. The major areas of alignments are presented in the Table 1 below:

Table 1: *Areas of alignments of the 2019 Fisheries and Aquaculture Management and Development Law with the UNCLOS in the sustainable conservation and management of marine living resources.*

Relevant provisions and basic requirements of the 2019 Fisheries Law		**Relevant provisions and basic requirements of UNCLOS**		**Weakness of the 2019 Fisheries Law**
Chapter 4 Section 4.1 Section 4.2 Section 4.3 & 4.4 Section 4.6 to 4.14 Section 4.15 & 4.16 Section 5.5 Section 5.6	Chapter 4- of the Law discusses fisheries conservation, management, and sustainable use in alignment with UNCLOS. Conservation and management measures- measures include the total allowable catch and/or total applied fishing effort to be allocated in any year to any fisheries sub-sector and the means of implementation of such measures. It also talks about the sovereign rights of Liberia marine living resources. Presents the guidelines for development of Fisheries Management Plan (FMP). Discusses the various fishing zones and the Inshore Exclusion Zone (IEZ) reserved solely for small-scale fisheries (SSF). Prohibitions of destructive fishing practices, some species and finning. Conservation and protection of the marine and aquatic environment considering the issues of marine pollution and habitat degradation. International agreements on fisheries management. International cooperations.	Article 61, 62, 63, 64, 65, 66, 67, 118, 119, 120, 123, 192 and 194	Article 61- outlines the rights and duties of coastal states regarding the management and conservation of living marine resources in the EEZ. Article 62- elaborates on the obligations of coastal states and the utilization of living marine resources. Article 63 – presents the responsibility of coastal states to adopt measures to promote sustainability and prevent overfishing. Article 64 – talks about assessing and determining the total allowable catch (TAC) using the best scientific evidence available. Article 65 – focuses on straddling fish stocks and highly migratory fish stocks. Article 66 – cooperation with other states and international organizations in the conservation and management of living marine resources. Article 67 – states obligation to adopt measures to prevent, reduce, and control pollution from fishing activities. Article 118 – Jurisdiction of Coastal States over Fisheries Article 119 – Enforcement of fisheries laws and regulations by coastal states Article 120 & 194 – Adoptions of laws and regulations for the prevention, reduction, and control of pollution. Article 123 – measures for the protection and conservation of the marine environment. Article 192 – protection and preservation of the of the marine environment.	The 2019 Fisheries Law does not make the implementation of a Fisheries Management Plan (FMP) compulsory.

4.2.2 The 1995 Fish Stocks Agreement

The entire 2019 Fisheries and Aquaculture Management and Development Law is structured in away that support the implementation of the 1995 Fish Stocks Agreement. Section 2.2- General Principles of the 2019 Fisheries Law as catalogue below (Box 1) is in direct alignment of Article 5 General Principles of the 1995 Fish Stocks Agreement.

Box 1 General Principles of the 2019 Fisheries and Aquaculture Law

a. all fisheries and aquaculture resources of the Republic of Liberia, as well as the environment in which they exist, are a natural asset and heritage of all its people, and the sovereign rights, jurisdiction and consequential custody of the Government shall be exercised in relation to these resources for the benefit of present and future generations in the country as a whole;
b. fisheries resources shall be used sustainably to achieve socio-economic benefits including economic growh, human resource development, employment creation and sound ecological balance;
c. management measures shall be based on the best scientific evidence available to maintain or restore stocks at levels capable of producing sustainable yield, as qualified by relevant environmental and economic factors including fishing patterns, the interdependence of stocks and relevant international standards;
d. the precautionary and ecosystem approaches shall be applied to the management and development of the fisheries and aquaculture at a standard that is equal or superior to agreed international standards, and that take into account the need to conserve habitats and biodiversity;
e. management measures for fishing and related activities shall minimize:
    i. wastes, by-catch, discards, regulatory discards, economic discards and catch by lost or abandoned gear;
    ii. pollution originating from fishing vessels or vessels engaged in related activities;
    iii. negative impact by gear and harvesting methods on the fishery resources; and
    iv. catch of non-targeted species;
f. resources shall be allocated consistently with international standards and, among other things, to promote employment and develop the fisheries and aquaculture sectors of the Republic of Liberia;
g. the standard of optimum utilisation of resources shall be applied and adapted to value creation, markets and industries in relation to the fisheries and aquaculture sectors;
h. the best available data and information concerning activities falling within the scope of this Act and fisheries and aquaculture resources shall be collected as appropriate and, as appropriate, shared, in a timely manner;
i. over-fishing and excess capacity shall be prevented or eliminated and levels of fishing effort managed so they do not exceed those commensurate with sustainable use of fishery resources;
j. customary fishing rights shall be recognised and access for customary fishing ensured;
k. the interests of artisanal and subsistence fishers shall be taken into account, including their participation in management of their respective fisheries;
l. an understanding of, and broad and accountable participation by, stakeholders in the conservation, management, development and sustainable use of fisheries resources shall be promoted to the extent practicable;
m. conservation and management measures, including those agreed by a regional fisheries management organization in which the Republic of Liberia is a member, shall be implemented and enforced through effective monitoring, control and surveillance;
n. measures and actions in the FAO Code of Conduct for Responsible Fisheries and other internationally agreed plans of action, guidelines and other fisheries instruments shall be implemented; and
o. the Republic of Liberia may effectively implement international agreements and relevant international law and cooperate effectively with other States and organisations in the management and development of fisheries and aquaculture.

The 2019 Fisheries and Aquaculture Law did not mention in any of the Articles the 1995 Fish Stocks Agreement or the words Straddling Fish Stocks and Highly Migratory Fish Stocks. However, Section 2.2 (o) encourages Liberia to endeavour to effectively implement relevant international laws and agreements and cooperate with other states and organizations. Moreover, the 2019 Fisheries and Aquaculture Law generally covers the conservation and management of the entire fisheries sector including the straddling and highly migratory fish stocks. Nevertheless, there is need to amend the 2019 Law to incorporate the in it totally or partially the 1995 Fish Stock Agreement.

4.2.3 The Port State Measure Agreement (PSMA)

The 2019 Fisheries and Aquaculture Management and Development Law is aligned with the Port State Measure Agreement. The major areas of alignments are presented in the Table 2 below:

Table 2: *Areas of alignments of the 2019 Fisheries and Aquaculture Management and Development Law with the PSMA in the sustainable conservation and management of marine living resources.*

Relevant provisions and basic requirements of the 2019 Fisheries Law		**Relevant provisions and basic requirements of PSMA**		**Weakness of the 2019 Fisheries Law**
Chapter 11	Chapter 11 of the Law prescribed adequate laws for Monitoring, Control, and Surveillance (MCS) stronger than PSMA. However, it is stronger alignment of the PSMA. It covers the entry into port, the use of port, inspections, arrest, hot pursuit, mandatory vessel monitoring system (VMS) for all vessels, recruitment and functions of inspectors and fisheries observers, and calls for implementations of all international agreements relating MCS functions and operations. The 2020 Fisheries and Aquaculture Regulations adopted the inspection results form in the PSMA.	Article 5 to Article 16	These articles including the entire PSMA ranging from international cooperation, integration and cooperation at national levels, cooperation, and exchange of information, all the requirements for entry into port, requirements for the use of port including inspections and presentation of the results of inspections are all covered in the 2019 Fisheries and Aquaculture Law including its implementing 2020 Regulations. The port states measure in the fisheries law is stronger than what is in the PSMA.	Implementation of the 2019 Fisheries and Aquaculture Law mainly in penalizing would be violators is still a major challenge. However, inter-agencies coordination among states agencies and ministries responsible for the implementation of the PSMA is stronger.
NPOA-IUU	Liberia has developed and is now implementing its National Plan of Action to Deter and Eliminate Illegal, Unreported and Unregulated Fishing. To this end an implementing strategy has been developed and adopted for implementation. Memorandum of Understating (MoU) have been signed with countries like Ghana, and Cote d'Ivoire for inspections of Liberian vessels landing in their respective fishing ports.	IPOA-IUU	The Liberia's NPOA-IUU is in direct alignment with the IPOA-IUU	Weak implementation in the control of distance water fleets, and limited financial capability in the implementation of the strategy.

4.2.4 The 1995 Code of Conduct for Responsible Fisheries (CCRF)

The 2014 Fisheries and Aquaculture Policy and Strategy updated in 2020 from which the 2019 Fisheries and Aquaculture Management and Development Law including its 2020 implementing regulations were developed was mirror after the 1995 Code of Conduct for Responsible Fisheries. The 2019 Fisheries and Aquaculture has 19 Chapters, and its two schedules are for the sustainable management, conservation, and exploitation of the aquatic resources of Liberia. This is why the overall goal and mission of the fisheries and aquaculture is very resounding in the 2014 Policy and Strategy. Please see below the overall goal and mission of Liberia's fisheries and aquaculture policy and strategy.

Overall goal: "the overall fisheries and Aquaculture sector goal is to have a sustainably managed and economically viable fisheries that generate prosperity and food security".

Mission: "in order to facilitate the attainment of the overarching vision by the year 2030, Government, as essential operational actions, will promote: an improved institutional and legislative framework for fisheries management;adaptive research;community and stakeholder participation in capture and culture-based fisheries management and development; effective international, regional, sub-regional and bilateral cooperation for fisheries management; enhanced monitoring, control and surveillance capabilities; and improved fish quality and value addition technologies for enhanced economic returns in fisheries".

Moreover, the objectives of the code and the objectives of the updated 2014 Policy and Strategy align in various areas such as: sustainably managing the fisheries resources and associated ecosystems, research, improvement of legal and institutional frameworks, promotion of fisheries contribution to food security and nutrition and conforming with relevant international instruments. Comparatively, Liberia has one of the best fisheries policy and strategy, and fisheries law within the sub-region. The 2019 Law covers every aspect of fisheries management and governance.

4.2.5 International Convention on the Conservation of Atlantic Tunas (ICCAT)

The 2014 Fisheries and Aquaculture Policy and Strategy updated in 2020 has specific interventions areas for the management of highly migratory fish species and mandate the implementation of all the recommendations and resolutions of ICCAT. The specific areas in the 2014 Policy and Strategy are catalog in Box 2 below:

Box 2 Areas in the 2014 Policy and Strategy that align with ICCAT

Section 3.2.5 Intervention 5: "Conform to ICCAT recommendations by denying or cancelling fishing permits to any vessel that is either on the ICCAT IUU or any contracting party's list of IUU vessels".
Section 5 Management framework for the large offshore pelagic fisheries- it mandates Liberia to implement all the management recommendations of ICCAT

Section 2.3 of the 2019 Fisheries and Aquaculture Management and Development Law gave the authority for formulation of National Fisheries and Aquaculture Policy for the development of the fisheries sector of Liberia and the identification of relevant sub-regional, regional and international obligations of the Republic of Liberia. Liberia as a contracting party to ICCAT, it is obligated to implement all the recommendations.

4.3 Strategies for the Accession and Ratification of International Instruments that Liberia is not Party to

There are some important international instruments catalogue in Section 3.4 of the report that Liberia is not member of but are cardinal to the sustainable management and conversation of the fisheries sector of Liberia. Before developing strategies for the accessions and ratifications of these instruments, we need to enlighten our minds about the processes involved, mainly an example from the ratification of the PSMA.

The decision to accede to the PSMA was initiated by the National Fisheries and Aquaculture Authority (NaFAA). Firstly, a stakeholder's workshop was conducted by the FAO through NaFAA on the importance and benefits of acceding and ratifying the PSMA. The workshop ended with a unanimous agreement for NaFAA to endeavor for Liberia to accede to the instrument. The Ministry of Foreign Affairs was informed through a written communication by the Director General of NaFAA with all the necessary documentations

attached. The Ministry of Foreign Affairs had an engagement with NaFAA management, and all their concerns were addressed during the meeting or engagement. The ministry then deposited the accession documents with the FAO. Thereafter, the publication was made by the FAO, and the PSMA document in its totality was submitted by the Office of the President to the legislature for ratification.

Considering the practical example about how the PSMA was ratified, please Table 2 below with a proposed strategy for the accession and ratification of international instruments relevant to the conservation and management of the fisheries sector of Liberia.

Table 3: *Strategies for the accession and ratification of relevant fisheries instruments*

Step	Strategy	Objectives	Comments
1	Identification of the responsible agencies/ ministries.	• Identify key institutions including the lead institution. • Identify the responsibilities of these institutions in the implementation of the proposed instrument. • The importance and benefits of the instrument to the identify institutions.	There are instruments that needs the collective efforts of more than one institutions/ agencies/ ministries for effective implementations of all the provisions.
2	Assessments of the human resources capacity and funding for implementations.	• Conduct an independent assessment of the human resources. • Identify funding source and develop a funding mechanism.	It is always good for a third party to conduct independent assessment to erase any perceived bias.
3	Stakeholders' consultations	• Conduct a workshop for the identified stakeholders about the importance of the instrument. • Develop a roadmap that leads to the ratification of the instrument.	The relevant stakeholders that will implement the instrument needs to inform about any difficulties in the implementation of the instrument.
4	Capacity buildings	• Build capacity of key staff on the domestication of the instrument, and its implementation.	
5	Awareness	• Create public awareness on the importance of the instrument and its benefits. • Work with existing advocacy groups to create awareness.	In Liberia, importances are attached to things that are much talk about.
6	Accession and ratification	• Develop a follow-up mechanism to track the progress of the instrument.	

5. Alignment of NAIPs and RAIPs to climate Change and environmental management Guidelines for Assignment

Results of the alignment of Liberia NAP and NEAP to climate change and environmental management guidelines is presented in Appendix II.

The Liberia National Adaptation Plan (NAP) for 2020-2030 aims to enhance the country's resilience to climate change impacts. It focuses on several key areas: strengthening governance and coordination, conducting vulnerability assessments, integrating climate adaptation into policies and planning, enhancing climate information and early warning systems, promoting climate-resilient agriculture and natural resource management, and mobilizing financial resources for adaptation actions. The plan emphasizes the involvement of various stakeholders and sectors to ensure comprehensive and effective adaptation strategies across Liberia. While the National Environmental Action Plan (NEAP) for Liberia (2019-2023) outlines strategies and actions to address environmental challenges and promote sustainable development. Key objectives include improving environmental governance, managing natural resources sustainably, addressing pollution and waste management, enhancing climate resilience, promoting biodiversity conservation, and mainstreaming environmental considerations into national policies and plans. The NEAP emphasizes stakeholder engagement, capacity building, and institutional strengthening to achieve its goals and ensure long-term environmental sustainability in Liberia.

The main climate stressors and climate change risk affecting the fisheries and aquaculture sector of Liberia is presented below:

Climate stressors	Climate change risk
Increased temperatures	• Disruption to reproductive patterns and migratory routes • Reduced aquatic biodiversity and productivity
Increased frequency of intense precipitation	• More frequent loss of fishing days due to bad weather • Loss of income and livelihoods • Reduced protein intake and nutrition deficits for the human population

6. Conclusions and Recommendations

6.1 Conclusions

Liberia is striving to achieve excellence in the governance of its fisheries and aquaculture sector and sustainable use and conservation of its fisheries resources. There is a greater need to improve the governance of the fisheries sectors through the inclusion of some of the gaps identified in the policies and legal frameworks, and implementation of the intervention areas in the fisheries policy, the NDC, and NAP.

6.2 Recommendations

1. At the ministerial/agency level, it is recommended that a Coordination Steering Committee and a Technical Committee are established among fisheries and maritime stakeholders. The Technical Committee will annually assess the effectiveness of instruments that have already been domesticated, and conduct needs assessments of instruments relevant to the sustainable management of the fisheries and aquaculture sector. The Coordinating Steering Committee is responsible for reviewing the technical brief from the Technical Committee on the effectiveness of international instruments that have been domesticated, and on instruments that need to be ratified and domesticated.

2. Establish effective enforcement and follow-up mechanisms at the institutional level and development activities that align with implementations of the domesticated instruments.

3. To create more visibility and receive the necessary attention needed for the accessions, ratifications, and domestications of fisheries and maritime instruments, it is recommended that the president has a Blue Economy Advisor. The person should have extensive experience and expertise in fisheries governance, maritime studies, and climate change.

4. Considering the average score from the alignment and the proposed intervention areas for the sustainable management and development of the fisheries sector of Liberia, it is recommended that Liberia in the medium term update its Fisheries and Aquaculture Policy and Strategy to incorporate these interventions mentioned herein. In the long term, Liberia should amend its 2019 Fisheries and Aquaculture Management and Development Law and the 2020 Regulations to account mainly for the shell fisheries of Liberia and other areas mentioned herein.

5. It is also recommended that NaFAA develop a five to ten-year master plan for the sustainable management and development of the fisheries and aquaculture sector for eradicating poverty and improving the livelihoods of the state actors within the sector.

7. National Documents Reviewed

1. Instruments of LIBERIA
Fisheries Policies
2021 Liberia's Revised Nationally Determined Contribution
2020 – 2030 Liberia National Adaptation Plan
2019 – 2023 National Environmental Action Plan
2019 National Plan of Action for Sharks and Rays
2018 National Plan of Action to prevent, deter and eliminate Illegal, Unreported and Unregulated Fisheries
2018 – 2022 Liberia Agriculture Sector Investment Plan
2017-2025 National Biodiversity Strategy and Action Plan-II
2014 National Fisheries and Aquaculture Policy and Strategy
2014 National Export Strategy Fish and Crustaceans Export Strategy
2010 National Capacity Development Strategy
2008 National Adaptation Plan Process
2008 National Food Security and Nutrition Strategy
Fisheries Primary Legislation
Fisheries and Aquaculture Regulations of 2020
Fisheries and Aquaculture Management and Development Law of 2019
National Fisheries and Aquaculture Act of 2017 (An Act to Amend Title 23, Natural Resource Law, Liberian Codes Revised by Repealing Subchapter B, Fish Resources and to Amend title 30, Public Authorities Law to Create the National Fisheries and Aquaculture Authority)
Marine Fisheries Law of 1958, Title 24 of the Code of Laws (Natural Resources Law)
Fisheries Secondary Legislation
Executive Order No. 84/2017 on the Management of Liberia's fishery resources
Regulations No. 43/2010 relating to Fisheries, fishing and related activities for the marine fisheries sector in the Republic of Liberia
Marine Notice FTP-001/2015 on requirements for Engaging in Transshipment Activities
Other Sector's Primary Legislation
Maritime Authority Act of 2010
Marine Vessels, Registration and Control Act of 2009
Environment Protection and Management Law of 2002
National Defense Act of 2008
Wildlife and National Parks Act of 1988
Natural Resources Law of 1956, Wildlife and National Parks, Title 24 of the Code of Laws
Other Sector's Secondary Legislation
Regulation No. 113-08/2009 on Environmental Impact Assessment
Maritime Regulations of 1949

Appendixes

Appendix 1: Results of the alignment of the National Fisheries and Aquaculture Strategies and the National Agricultural Investment Plans to the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa

Document(s) Perused:

1. Results of the Alignment of National Fisheries and Aquaculture Strategies and the National Agricultural Investment Plans to the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa

Overall Level of Alignment:

Computed Percentage (%) of Alignment of Policy Areas: 54.26 %

1. POLICY AREA 1: Conservation and Sustainable Fisheries and Aquaculture Resource Use: 79.2 %
2. POLICY AREA 2A: Small Scale Fisheries Development: 50 %
3. POLICY AREA 2B: Identification, Development and Promotion of Estuarine and Mangrove-based Shellfisheries (EMS) among the AU-MS: 0 %
4. POLICY AREA 3: Sustainable Aquaculture Management: 83.3 %
5. POLICY AREA 4: Responsible and Equitable Fish Trade and Marketing: 40 %
6. POLICY AREA 5: Regional and Sub-Regional Cooperation: 66.7 %
7. POLICY AREA 6: Awareness Enhancing and Human Capacity Development: 66.65 %
8. POLICY AREA 7: High Seas Fisheries: 16.7 %
9. POLICY AREA 8: Cross Cutting Issues in African Fisheries and Aquaculture: 56.5 %

Alignment Scoring:

Note: Alignment Scoring, a 'Yes' is given a unit (1) score, 'In part' is assigned 0.5 and 'No' is given zero (0). Percent averages are computed for the various policy outcomes, policy areas, as well as the overall level of alignment of the document(s) perused. Mathematically, a sum total of the 'Yes' (1) and In-part (0.5) scores were expressed as a percentage of the number of questions under the policy outcome, area and the overall framework. Non-applicable (N/A) scores are not included in the computing the alignment score.

POLICY AREA 1: CONSERVATION AND SUSTAINABLE FISHERIES AND AQUACULTURE RESOURCE USE						
Criteria for Alignment YES		Check X to Indicate if:			Level of Alignment (%)	Comment and Reference
		IN PART	NO			
Outcome 1: Policies, frameworks and tools in place to sustainably increase national benefits from fisheries and aquaculture					87.5 %	2014 Fisheries and Aquaculture Policy and Strategy, updated in 2020
1	Fisheries and aquaculture are mainstreamed into national development					National Fisheries and Aquaculture Act of 2017 (2017 Act)
	a. Member States should increase allocation of national budgets to fisheries and aquaculture			X		- Section 3.1- established NaFAA as an autonomous institution - Chapter 6- financial autonomy
	b. The aquaculture development programme should focus on areas where market-led aquaculture investments and developments are underway and accelerated rates of aquaculture production are being achieved, or great potentials exist?	X				Fisheries Policy 2014, updated 2020 • Section 3.4.1; 3.4.2; 3.4.3- talks about strengthening the aquaculture sector, creating and enabling environment for Aqua-business, and improving capacity through human resource development and training. Private sector engagement and strengthening. • Appendix III Action plan for operationalization of the policy framework
	c. The state should focus on strengthening the private and public sectors' capacity to develop comprehensive and realistic strategic plans and their implementation in the short to medium term?					2014 National Export Strategy Fish and Crustaceans Export Strategy
	d. The State must encourage the development, expansion or introduction of new and proven production techniques		X			2019 Fisheries and Aquaculture Management and Development Law • Chapter 6- details about the development of commercial aquaculture.
		X				Section 6.6 of the 2019 Fisheries Law expressly allows the introduction of new and proven production techniques, but it must be authorized.
	At regional level: a. harmonize policy, institutional, legal, regulatory, and monitoring regimes to govern aquaculture operations that occur in waters that go beyond national jurisdiction					General comments: aquaculture development in Liberia is still at the subsistence level, only few people are engaged in semi-intensive aquaculture activities. The laws and regulations are not fully implemented.
	b. endorse and apply standards and norms on aquatic animal health: fish disease, safety, quality and traceability			X		
			X			There is no policy and or legal framework that govern aquaculture operations that occur in waters that go beyond national jurisdiction.
	c. implement quarantine measures for the introduction of exotic and genetically modified genomes					
	d. elaborate mechanisms to support and harmonize the activities of regional aquaculture and capture fisheries bodies			X		Endorsement and application of standards and norms on aquatic animal health is not explicit the legal framework and policy.
						Section 6.7 of the 2019 Fisheries Law and Section 59 of the 2020 Fisheries Regulations is explicit about how exotic and genetically modified genomes are treated.
		X				Section 5.6 of 2019 Fisheries Law talks about Liberia cooperating internationally by obtaining membership to any regional fisheries management bodies or organizations.
						Section 1.4.1- 2014 Fisheries Policy

2	Globally accepted best practices integrated into national policy frameworks and tools a. Does the policy promote globally accepted best practices and pursuing excellence in fisheries science and integrated evaluations? b. Does it promote effective management, improved product processing, utilization and technology transfer?	X				Section 2.4 of the Fisheries Policy (2014) Section 2.5.4 enhancement of value addition- Fisheries Policy. Section 5.6 of the 2019 Fisheries Law Section 2.2 (l &m) of the 2017 Fisheries and Aquaculture Act Overall, the policy and legal framework of Liberia accepts and promotes globally accepted best practices.
3	Are policy and management decisions made based on the existence of reliable data and information management systems?	X				Section 2.2c, 3.4.1 & 5.6.6 of the 2019 Fisheries Law says management decision should be based on the best scientific evidence. Liberia has not been able to increase its demersal industrial vessels because of the provisions of the Law. Series of independent resource surveys have been conducted to inform the preparation of fisheries management plans.
4	Adoption of participatory fisheries management mechanisms/approaches	x				Section 2.2d of the 2017 Fisheries and Aquaculture Act mandate Liberia to apply the precautionary and ecosystem approaches in the management of the fisheries and aquaculture sector.
Outcome 2: Effective and sustainable national and regional Monitoring, Control and Surveillance systems in place to ensure that sustainable benefits are realized					100 %	
1	Are there aspects of MCS in place?	X				Chapter 11 of the 2019 Fisheries Law adequately deals with MCS. Section 3.2.5 Fisheries Policy Comments: 100% observer coverage, mandatory VMS for all vessels, pre and post inspections in port, sea patrols.
2	Are there mechanisms in place for efficient and effective regional cooperation on fisheries MCS?	X				MCS strategy developed and is being implemented. PSMA strategy and implementation plan developed, and implementation is ongoing. Signed MoU on information sharing and inspections with Ghana, Senegal and Cote d'Ivoire.
Outcome 3: Healthy ecosystems to support sustainable fisheries and aquaculture					50 %	
1	Are Scientific research (natural, social, economic and technological) that support fisheries management and aquaculture development in place?		X			Fisheries Policy Table 5 talks about conducting resources once a year. Section 10.24 detailed the guidelines for research fishing. Generally, fisheries management in Liberia are partially supported by scientific research. Aquaculture is yet to be fully developed.
2	a. Are there tools and programmes in place to protect fishery resources and their habitats? b. Are there measures to adhere the policy to national, regional and international pollution instruments, standards and practices, especially regarding chemical products and plastics?		X			Section 3.2.2 – Fisheries Policy talks about conservation of aquatic ecosystems associated with fish productions. Table 2 and Appendix III- protection of spawning grounds, wetlands and mangroves. Section 4.15 of the 2019 Fisheries Law- no introduction of deleterious substance into fisheries waters. Part V of the Environmental Protection Law of 2003- detailed guidelines for pollution control. Part X Section 98 & 99 talks about harmonization of regional environmental agreements and domestication. Liberia is party to MARPOL

POLICY AREA 2A: SMALL SCALE FISHERIES DEVELOPMENT						
Criteria for Alignment YES		Check X to Indicate if:			Level of Alignment (%)	Comment and Reference
		IN PART	NO			
Outcome 1: Role and importance (contribution) of fisheries for improved livelihoods, food and income of small-scale fishing communities and related operators are evident, recognized and secured in Member States					50 %	
1	Are there mechanisms and strategies that highlight the economic and social importance of small-scale fisheries development?	X				Section 1.2.1 -highlights the importance of the SSF (2014 Fisheries Policy. Table 2- of the policy detailed programs that needs to be implemented to improve the livelihood of the SSF. There have been programs executed by the Fisheries Authority to improve the economic and social benefits of SSF. To this end, the Authority has distributed free life jackets, outboard engines, constructions of landing sites, and is in the process of piloting fiber glass boats.
2	Are there mechanisms and strategies to unlock and unleash potentials of the subsector to generate socio-economic benefits?		X			Section 1.2.1 -highlights the importance of the SSF (2014 Fisheries Policy. Table 2- of the policy detailed programs that needs to be implemented to improve the livelihood of the SSF. However, the programs catalog in the fisheries policy has not been effectively implemented.
3	Is there a system to facilitate organized value chain development in order to effectively derive the benefits from small-scale fisheries?		X			The Liberia Sustainable Management of Fisheries Project (LSMFP) has plans to build some postharvest facilities. However, there is no system in place.
4	Are small Scale Fisheries prioritized in National Agricultural Investment Plans (NAIP), Poverty alleviation documents and National strategy documents, etc.?			X		Small Scale Fisheries Is Not Even Mentioned in the Liberian Agricultural Sector Investment Plan (Lasip II) (2018-2022)
Outcome 2: Bilateral and regional cooperation for effective management of shared fishery resources and ecosystems is strengthened					50 %	
1	Are there provisions for the adoption and implementation of Regional and intra-regional minimum terms and conditions for access?	X				2019 Fisheries Law Chapter 5 detailed international cooperation and access. Section 17.1 gave authority to the fisheries Authority.
2	Are there mechanisms in place for efficient and effective regional cooperation on fisheries management, including MCS, migratory and shared stocks?			X		There are no mechanisms currently in place for efficient and effective regional cooperation on fisheries management, including MCS, migratory and shared stocks. However, Chapter 17 of the 2019 Fisheries Law gave authority to the Director General to issue regulations.
Outcome 3: Fishers are organized to foster good fisheries governance, sustainable development and responsible use of natural resources					50 %	
1	Are the international Guidelines for Securing Sustainable Small-scale Fisheries appropriately applied?		X			Section 2.4.7 of the fisheries policy express the implementation of the FAO SSF guideline. Appendix III of the policy mandate the prioritization and protection of access of legitimate small-scale fishers to the fishery resource that are shared with industrial fleets. Section 4.3 of the 2019 Fisheries Law reserves 6 nautical miles of the IEZ for small-scale fishing. However, there are no mechanisms in place for conflict resolutions, allocation of TAC between the SSF and the industrial fisheries.

2	Are provisions made for the capacity of fisheries stakeholders and institutions for participatory management of the fisheries to be developed and nurtured?		X			Section 3.2 establishment of CMA. Section 3.3 and the Frist Schedule of the 2019 Fisheries Law provide for the establishment of a Fisheries Advisory Council. The CMAs have not been established in all of the nine coastal counties. Even in those counties that CMAs have been established, they are not fully functional.

POLICY AREA 2B: Identification, Development and Promotion of Estuarine and Mangrove- based Shellfisheries (EMS) among the AU-MS						
Criteria for Alignment YES		Check X to Indicate if:			Level of Alignment (%)	Comment and Reference
		IN PART	NO			
OUTCOME 1: Recognition of EMS among AU-MS					0 %	
1	Are there provisions to account for EMS among AU-MS?			X		There is no provision in the legal framework of Liberia on EMS.
2	Do AU-MS assign budget allocations to the conservation and development of EMS?			X		The shellfisheries in Liberia is not managed.
OUTCOME 2: Management of EMS among AU-MS					0%	
1	Are the estuarine and mangrove-based shellfisheries co-managed?			X		No estuarine and mangrove-based shellfisheries are co-managed
2	Are catch data in EMS recorded regularly to inform management strategies?			X		https://pdf.usaid.gov/pdf_docs/PA00ZGN8.pdf
OUTCOME 3: Promotion of EMS among AU-MS					0%	
1	Are there strategies to promote EMS on the local and international markets?			X		There is no strategies or management measures in place for EMS.

POLICY AREA 3: SUSTAINABLE AQUACULTURE MANAGEMENT						
Criteria for Alignment YES		Check X to Indicate if:			Level of Alignment (%)	Comment and Reference
		IN PART	NO			
Outcome 1: Improved market-led aquaculture investments					66.5 %	
1	Are market campaigns included for aquaculture products (awareness creation, PPPPs – Price, Place, Promotion and Product)?			X		Few farmers are creating awareness for the products. However, there is no market campaigns carryout for aquaculture nationally.
2	Aquaculture infrastructure- Are there measures for the state to provide basic infrastructure for aquaculture development?	X				Fisheries policy • Section 2.5.2 & 3.3 defined the aquaculture policy objectives for Liberia • Section 3.4.1 strengthening institutional framework for capacity development Progress has been made in providing the needed aquaculture infrastructure. The EU has funded project in this direction. Moreover, the Liberia Sustainable Management of Fisheries Project (LSMFP) is funding the construction of a center of excellence for aquaculture development in Liberia. This center of excellence will be an adaptive research center and demonstration site for aquaculture development in Liberia.
3	Financing/investment strategy - Are there strategies for the promotion of financial instruments such as guarantee funds, micro-credit institutions?	X				Fisheries Policy: Section 3.4.2 provide for the provisions of financial services and incentives for promotion of smallholder aquaculture as a business as an intervention area. However, access to finance is a major challenge
4	Quality assurance and standards - Are there provisions for aquaculture product labelling and traceability through certification programmes?	X				Section 49 of the 2020 Fisheries Regulations set labelling as a pre-condition for import and export, and Schedule 8 provide for the use of CODEX standard for labelling.
5	Skills development plan - Are there provisions in the policy for aquaculture development plan and strategies to appropriately address competencies and skills development?	X				Fisheries Policy: Section 3.4.3 improve capacity for aquaculture promotion through human development and training.

6	Research and Extension Services - Are there provisions of adequate funding for research to enhance technology development and innovation?		X			Fisheries Policy: Section 3.4.2 talks about establishment of aquaculture research and technology center, provision of extension services and demonstrations. To this end, the LSMFP is constructing a center of excellence. However, there is no research funding provided by the Authority or the government of Liberia.
7	Fish farmers associations or cooperatives- Is there the existence of an institutional framework to allow Fish farmers associations and cooperatives to flourish?	X				Fisheries Policy: Section 3.4.1 Support the development of partnerships between the fish famers federation, farmer organizations, donors and NGOs to enhance development of aquaculture as an intervention area. These types of coordination have been successful over the years.
8	Enabling environment – Is there provision of policy and institutional framework as well as one stop shop to facilitate registrations and investments by the private sectors?		X			Fisheries Policy: Section 3.4.2 creating an enabling environment for development of aqua-business for growth. However, there has been no effort in establishing a one stop shop to facilitate registrations and investments by the private sectors.
9	a. Growth in trade of locally produced aquaculture products- Are there measures for the protection of local aquaculture products from imported products? b. Are there programmes in place to increase competitiveness of locally produced aquaculture products?			X		Currently there are no measures in place for the protection of local aquaculture products from imported products.
Outcome 2: Improved regional cooperation in shared ecosystems					100%	
1	Common strategies on management and research on transboundary resources: Are there provisions to harmonize coherent policies, institutional and legal frameworks for aquaculture shared ecosystems?	X				Fisheries Policy: Section 3.1.2 -bilateral cooperation for transboundary stocks to enhance socio-economic development. Encourages Liberia to have cooperation with RFMOs, regional bodies, bilateral agreements with Mano River Union (MRU) to management the shared stocks etc. Section 3.2.4 advances the promotion of international cooperation for management of shared stocks. 2019 Fisheries Law: Section 5.5 -harmonization of international agreements with national policies and legal framework. Section 6.13 of the law is specific on transboundary aquaculture ecosystem.
2	Are the policies consistent with best ecosystems management approaches (e.g. FAO, EAF, EAA, CCRF)?	X				The Fisheries Policy was developed CCRF, Section 2.2. Legal report on the ecosystem approach to fisheries in Liberia, 2021 (https://openknowledge.fao.org/server/api/core/bitstreams/963b261b-8300-449a-8462-0fb7f27809f1/content).
3	Conformity with accreditation mechanisms- Are the Best Management Practices (BMPs) required for certification and standardization for sustainable aquaculture practices included in the policies?	X				Fisheries Policy: Section 2.4 (2) sustainable aquaculture. 2019 Fisheries Law: Chapter 6 detailed aquaculture development and regulations. Fisheries Regulations: Part VIII – detailed licensing requirement for commercial aquaculture, guidelines for aquaculture development and best practices.

	POLICY AREA 4: RESPONSIBLE AND EQUITABLE FISH TRADE AND MARKETING				
Criteria for Alignment YES	Check X to Indicate if:			Level of Alignment (%)	Comment and Reference
	IN PART	NO			
Outcome 1: Improved intra and inter regional trade				50 %	

1	Is there compliance with agreed regional trade protocols and regulations?		X			Section 3.8.1 of the fisheries policy partially covers trade. The National trade policy of 2014 to 2019 needs to be updated (https://faolex.fao.org/docs/pdf/lbr163656.pdf). The 2014 to 2019 is compliance with agreed regional trade protocols and regulations, but it is outdated. However, the 2020 fisheries regulations Section 8 establishes the fish import and export committee; Section 14 detailed the requirements for importation and exportations; Section 37 talks about fish sanitary certificate as a requirement; Section 46 detailed requirements on import and export of live fish; and Section 48&49 set the conditions for obtaining authorization.
2	Is it coherent with fish trade policies and other policies?		X			Section 3.8.1 of the fisheries policy partially covers trade. The National trade policy of 2014 to 2019 needs to be updated (https://faolex.fao.org/docs/pdf/lbr163656.pdf). The 2014 to 2019 is compliance with agreed regional trade protocols and regulations, but it is outdated. However, the 2020 fisheries regulations Section 8 establishes the fish import and export committee; Section 14 detailed the requirements for importation and exportations; Section 37 talks about fish sanitary certificate as a requirement; Section 46 detailed requirements on import and export of live fish; and Section 48&49 set the conditions for obtaining authorization.
3	Is it Compliant with sanitary standards and market requirements?		X			Section 37 of the 2020 Fisheries Regulations talks about fish sanitary certificate as a requirement. It is in compliant, but practically there is no quality control lab.
Outcome 2: Increased competitiveness for African fish and fishery products					30 %	
1	Economically efficient fisheries sector - Are fisheries sustainably managed and supported by appropriate infrastructure and prudent macroeconomic management?		X			The fisheries and aquaculture sector of Liberia is compounded with challenges ranging from lack of designated and or dedicated industrial fishing port, limited post-harvest facilities, non-functional quality control lab, and lack fisheries management plans including limited research capabilities.
2	Standards and supportive technology – a. Is infrastructure, such as the National fisheries quality control laboratory for standardization of fishery products in place? b. Does it conform to international guidelines for certification of fishery products?			X		Liberia has no functioning quality control laboratory for standardization of fishery products in place. NaFAA has a none functioning microbiology lab established by the Icelandic government.
3	Competitiveness through increasing value chain efficiencies - Are there appropriate pricing conditions for value addition across value chain segments?			X		There are no appropriate pricing conditions for value addition across value chain segments.
4	Coherence of trade policies (harmonization) - Are national trade policies coherent and harmonized at sub regional or regional levels?		X			Nationally, the trade policy is outdated. However, Liberia is a member states of ECOWAS and is fully implementing the ECOWAS trade policy.
5	Consumer Information - Is symmetric information ensured between buyers and sellers?		X			Sellers do not fully shared information with buyers. Buyers sometimes have limited information.

	POLICY AREA 5: REGIONAL AND SUB-REGIONAL COOPERATION					
Criteria for Alignment YES		Check X to Indicate if:		Level of Alignment (%)		Comment and Reference
		IN PART	NO			
Outcome 1: International fisheries issues at regional levels are coherent and harmonized					66.7%	
1	Are there provisions for entrenched awareness of important international instruments for sustainable fisheries management and frameworks that identify the need for their domestication in realizing sustainable fisheries management?	X				Section 5.6 of 2019 Fisheries Law talks about Liberia cooperating internationally by obtaining membership to any regional fisheries management bodies or organizations. Section 1.4.1- 2014 Fisheries Policy
2	Are there measures in place to address Illegal, Unreported and Unregulated (IUU) fishing?	X				Chapter 10 of the 2019 Fisheries law detailed procedures and guidelines for access to Liberia fisheries including licenses, authorizations and accreditation. Chapter 11 detailed MCS measures. Liberia is implementing the PSMA and has develop mechanism and strategy in this regard.
3	Are there mechanisms to address seafood fraud?	X				Section 8 of the 2020 Fisheries Regulations establishes the import and export committee that is responsible to conduct due diligence before fish and fish products are imported or exported.
Outcome 2: RECs and RFBs are positive forces for fisheries management within the framework of regional economic and political integration agenda						
1	Are there mechanisms for linkages between RECs and RFBs?		X			Recommendations and resolutions from RFBs and RECs are implemented by Liberia. However, there is no document that detailed mechanisms for linkages.
2	Are RECs and RFBs vehicles to promote a well-defined fishery and aquaculture?		X			Recommendations and resolutions from RFBs and RECs are implemented by Liberia.
3	Are there strategies and mechanisms in place for preventing and resolving regional conflicts?			X		There are no strategies and mechanisms in place for preventing and resolving regional conflicts.

	POLICY AREA 6: AWARENESS ENHANCING AND HUMAN CAPACITY DEVELOPMENT					
Criteria for Alignment YES		Check X to Indicate if:				Comment and Reference
		IN PART	NO	Level of alignment (%)		
Outcome 1: Enhanced sectoral competencies and proficiencies					83.3 %	
1	Continuous professional education, mentorship and training: - Are there provisions to facilitate continuous awareness and enabling environment to seize and utilize opportunities for sectoral development?	X				Fisheries policy: Section 4.1 & 4.1.2 mandate the Authority to develop their human resources capacity. Log 3 talks about promoting the environment for self-advancement.
2	Accreditation of practitioners and institutions: - Are there provisions for relevant stakeholders/institutions to be accredited to maintain relevance?	X				Fisheries policy: Section 4.1.2 accreditations of relevant stakeholders/ institutions. Chapter 10 Section 10.2 of the 2019 Fisheries Law
3	Facilitate centres of excellence of fisheries and aquaculture: - Are there provisions in the national and regional policies to ensure continual establishment, development and maintenance of minimum operating standards?		X			There are no provisions in the national fisheries policy about establishment of center of excellence. However, efforts have been made on this direction. The Authority through the LSMFP is constructing a center of excellence for aquaculture and is also anticipation establishing a center of excellence at the University of Liberia.
Outcome 2: Improved evidence-based decision making					50%	

1	Is Information based policy decision making evident in the policy?		X			All fisheries management decisions are to be guided by the fisheries policy, laws and regulations. However, this has not always been the case because of limited capacity.
2	What provisions exist to facilitate Information sharing between policy makers and policy consumers?		X			Fisheries policy: Section 3.2.5 detailed information sharing between policy makers and policy consumers through the CMAs. No clear provisions and information sharing mechanism.
3	Responsive to real community needs: - What strategies exist to improve enabling conditions in fish producing communities to enhance competence?		X			There is not specific strategy. However, the Authority through donor partners have constructed post-harvest facilities at some landing sites and fishing communities, distributions of free life jackets, outboard engines and trainings.

POLICY AREA 7: HIGH SEAS FISHERIES						
Criteria for Alignment YES		Check X to Indicate if:			Level of alignment (%)	Comment and Reference
		IN PART	NO			
Outcome 1: Greater African Voice in high seas fisheries					50 %	
1	*a.* Is there an avenue for effective participation of the MS in international deliberations, meetings, etc. and increased access to high seas fisheries? *b.* Have provisions been made for the MS to become a member or cooperating party of appropriate RFMOs? *c.* Are there modalities/provisions for the country to ratify United Nations Convention on the Law of the Sea and the FAO Port States Measures Agreement?		X			Liberia like other African countries is contracting party to the ICCAT, CITIES, IWC and other RFMOs and a non-cooperating contracting party to many. However, the issue of finance can limit our participation to these meetings. Sometimes you have only one or two persons attending these meetings where various subject matters are discussed. Liberia participations can be effective if sector experts are included for participations in these meetings regardless the cost. One issue is the changed of meeting participants every year with new people that have no ideas of the working the international institution meetings they are attending. Section 5.5 & 5.6 of the 2019 Fisheries Law provide the legal reliance for Liberia to become a member or cooperating party of appropriate RFMOs. Nevertheless, Liberia as a responsible nation has ratified the PSMA, and has developed a mechanism to implement the instrument.
2	Are there mechanisms for strengthening the alignment of donor and partner efforts with PFRS?	X				Authority has established donors coordination steering committees for this purpose and having synergy.
3	Are there provisions for strengthening of Alignment to and co-ordination of development partners' efforts with the PFRS?			X		
Outcome 2: Increased participation and benefits for MS in high seas fisheries					0 %	
1	Increased access to high seas fisheries -Is there a provision made in the policy that ensures high seas resource exploitation by MS?			X		There are no provisions in the policy that ensures high seas resource exploitation.
2	Accrued benefits to concerned MS increased - Are there programmes and strategies proposed to increase investment for economic value addition (such as harbour)			X		There are no programs and strategies proposed to increase investment for economic value addition (such as harbor)
Outcome 3: Active participation of MS in RFMOs processes and agenda					0%	

1	*a.* Cooperation for high sea fisheries management - What provisions are there to facilitate management decisions for active roles in intergovernmental cooperation? *b.* Are there modalities guiding the participation in newly established partner-ships?			X		

POLICY AREA 8: CROSS CUTTING ISSUES IN AFRICAN FISHERIES AND AQUACULTURE						
A. Strengthening resilience and reducing vulnerabilities to climate change in African fisheries and aquaculture						
Criteria for Alignment YES		Check X to Indicate if:			Level of Alignment (%)	Comment and Reference
		IN PART	NO			
OUTCOME 1: Adaptive capacity and resilience at the local level built					20 %	
1	Capacity building programme on climate smart fisheries: - Is there promotion of capacity building in the sector on climate change?	X				The fisheries authority through LSMFP has conducted training for fishmongers cost effective and low emission fish smoking technology. The UNDP has also conducted training in this regard.
2	Communication systems: - Are there systems on participatory Climate Change (CC) and Disaster Risk (DR) vulnerability assessment and aquaculture development?			X		There is no system in place.
3	Facilitate the creation of alternative livelihoods: - Are there available opportunities for at least temporary shifting to alternative occupation in the event of shocks?			X		
4	Early warning system in place as a focus for disaster: - Are there provisions for early warning mechanisms at national level?			X		Currently there is no early warning system in place.
5	Are there mechanisms for disaster-related insurance and compensation in place?			X		There is none in the fisheries sector.
OUTCOME 2: Policy coherence and coordination at the national and regional levels improved					66.6 %	
1	Do the Disaster risk management (DRM) and climate change Adaptation (CCA) policies include fisheries and aquaculture?	X				DRM: https://www.mia.gov.lr/doc/Web%201%20National%20Disaster%20Risk%20Management%20Policy-clean-12102012.pdf NAP: https://faolex.fao.org/docs/pdf/lbr214252.pdf
2	Do the fisheries and aquaculture policies include DRM and CCA?	X				Fisheries policy: Log 2, Section 1.4.2 & 3.6, and Appendix III
3	Are there policies for marine spatial planning?			X		
B. Gender and Youth						
OUTCOME 1: Increased access to resources					62.5%	
1	*a.* Do policies and interventions aim at attracting women and youth? *b.* Do they address key barriers and constraints to entry and access to land and water?	X				Fisheries policy Section 1.3, 1.4.2, 2.4, 3.4.2, Table 2 and Appendix III.
2	Child and forced labour: - Does the policy have provisions on the prohibition of child and forced labour?	X				Section 10.5 of 20219 fisheries law prohibit child and force labor.
3	Are there provisions for the prevention/ prohibition of Gender-based violence at all levels along the fisheries value-chain?			X		Not covered.
4	Security of investment and access rights and ownership - Does the policy have provisions for the system to ensure security of investments and market certainty?		X			Fisheries policy Section 3.6.3, Appendix III and fisheries law Section 5.1. covers access right and ownership protection inclusively.

C. Private Sector Investments and Financing Mechanisms for Fisheries and Aquaculture in Africa						
OUTCOME 1: Improved enterprise performance within the fisheries and aquaculture sector					83.3 %	
1	Global competitiveness report of World Economic Forum - Does the policy Conform with the Global Competitiveness Report of World Economic Forum (WEF)?	X				
2	World Bank Fisheries Performance indicators - Does it align with the WB Fishery Performance Indicators (FPIs)?	X				The policy and law are in alignments.
3	Awareness of diversity of business structures - Are there provisions for awareness creation that enable practitioners and enterprise owners?			X		
4	Financing options: - a. Are the options for financing fisheries activities provided for? b. Are there avenues for credit financing of fisheries activities?	X				The fisheries sector has received donors from donor partners like the EU, World Bank, Japanese Government, Icelandic Government, the FAO, ICCAT and others.
5	Does the policy make available provisions of incentives for private sector investment?	X				Fisheries policy Section 1.3.3, 3.2.2, 3.4.2, 3.6.2. 3.6.3 & Appendix III
6	Is the provision of an investment fund catered for in the document?	X				
OUTCOME 2: Improved private sector governance					50 %	
1	Consistency with industry best practices - Are the policies consistent with efficient structures that enable effective and well-documented best practices?		X			The entire policy is designed to enhance private sector participation through a well-structured way. However, the best practices mechanisms are not documented.

Appendix II: Results of the Alignment of NAIPs and RAIPs to climate Change and environmental management Guidelines

Alignment of NAIPs and RAIPs to climate Change and environmental management Guidelines for Assignment

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1. Does your country have a: (Yes/No. If yes, give title, reference and share copy/URL link)
   a. National Climate Change Adaptation Plan- Yes/ LIBERIA NATIONAL ADAPTATION PLAN 2020 – 2030 https://unfccc.int/sites/default/files/resource/LIBERIA_%20NAP_%20FINAL_%20DOCUMENT.pdf
   b. National Fisheries and Aquaculture Development Policy and Plan- Yes/ Fisheries and Aquaculture Policy and Strategy. https://faolex.fao.org/docs/pdf/lbr160051.pdf
   c. National Environmental Management Policy and Plan- Yes/ NATIONAL ENVIRONMENTAL ACTION PLAN (NEAP) FOR THE REPUBLIC OF LIBERIA 2019-2023. https://www.epa.gov.lr/sites/default/files/National%20Environmental%20Action%20Plan%20%28NEAP%29.pdf
   d. National Agricultural Investment Plan- Yes/ Liberia Agriculture Sector Investment Plan (LASIP II, 2018 - 2022)/ https://www.gafspfun`d.org/sites/default/files/inline-files/7.%20LIBERIA_Investment%20Plan.pdf

2. What does the National Climate Change Adaptation Plan describe and qualify (e.g. high, low risk) the:

	Climate-change vulnerabilities and risks	**Anticipated Risks**	**Proposed mitigation measures**
Overall/generally for the country	Irregular rainfall patterns, flooding, high temperature, and coastal erosion	Crop and livestock losses that intensify food insecurity and loss of income	• Enhance the Ministry of Agriculture's capabilities, such as providing training for professionals, improving logistics, and implementing technology for sector administration. • Enhance pest, disease, and weed control methods. • Create integrated soil fertility management (SFM), water harvesting, and conservation strategies. • Back climate-resilient agro-infrastructure systems. • Setup and reinforce early warning systems and insurance programs.

Aquatic ecosystems	Sea level rise and associated coastal flooding and erosion are increasing stress on Liberia's extensive and productive coastal zone.	Loss in infrastructure and land of around $250 million apart from the population's social and psychological stress mainly in Buchanan and Monrovia. immediate threat to economic growth, energy supply, roads and transport, food and agriculture, education, health, water and sanitation, and social protection.	Develop and implement coastal zone policy, design, and management plan. • Assess and build the capacity of agencies and managers responsible for managing coastal adaptive capacity in the sector. • Develop an integrated management plan for coastal zone management as well as an early warning system that includes training and capacity development for coastal management and monitoring • Promote and implement disaster risk management in general (especially disaster preparedness). • Support the rehabilitation and protection of wetlands and mangroves, including awareness and education of their host communities. • Develop and implement a program for climate-proofing new investments in infrastructure (roads, sewers, water supplies, and other infrastructure) in coastal settlements and rural areas to protect continuous access to livelihoods, health care, and education. • Design and implement a strategic communication action plan to inform and educate people about changes and challenges associated with coastal areas related to climate change and how they can adapt to cope with these changes and challenges. • Construct sea walls or revetment.

Fisheries and aquaculture	increased sea surface temperature, sea-level rises, flooding, and coastal erosion	fish species might experience low productivity or may migrate away from Liberian waters; loss of fishing nets.	Strengthen the capacity of the Bureau of National Fisheries, including staffing and logistics for research monitoring and enforcement. • Invest in and support artisanal fishing communities, including training, fishing gear, and alternative livelihoods. • Set up robust monitoring, reporting, and verification system that captures and reports timely and accurate changes in the stock of productivity and pressure on fisheries; and implement adaptive management practices for managing the sector. • Support research to fully understand pressures on fisheries related to climate change impacts and identify appropriate measures, including diversification of livelihood portfolio of fishery-dependent communities. • Identify, map, and protect areas valuable for fisheries (e.g., deep pools in river systems that serve as spawning areas), including the setting up of marine protected areas. • Support the establishment of a system to reduce external stressors on fisheries by instituting changes in a vessel or gear types as well as instituting actions and regulatory measures to reduce land-based sources of pollution (e.g., agricultural, and urban runoff) and destructive fishing practices (e.g., fishing with explosives and poisons). • Integrate fisheries fully into climate change adaptation and food security policies at the national level (draft and enact where non-existent) to ensure incorporation into broader development planning. • Support the diversification of the livelihood portfolio of fishery-dependent communities. • Support the establishment of early warning systems to identify probable threats and risks related to fisheries. Support the establishment of improved information and communication networks for decision making and planning and between fishing communities to support information sharing about potential shocks in the system. • Establish a monitoring system for fishery management and climate change • Establish a surveillance system to promote a smart fishery system (NAPA, 2008) • Promote sustainable fishing practices and policies Regulate fishing practices to prevent overexploitation and fishing in restricted areas (NAPA, 2008) Conduct capacity building among the sector

3. What does the National Fisheries and Aquaculture Development Policies/Plan say about climate change? Can include other relevant documents/policies that influence fisheries and aquaculture development in your country

Name and Reference of Document	**Quote what document states on climate change in the sector** *(e.g. nothing, only mentions 'climate change under sections…., page#)*	**Remarks if any**
Fisheries and Aquaculture Policy and Strategy, 2014	Conduct research to assess the effects of climate or environmental change on fishery and aquaculture systems, including fish stocks, aquatic ecosystems and the people that depend on them (Section 3.6.3 Intervention 4 of the Fisheries Policy Page 28).	
Fisheries and Aquaculture Policy and Strategy, 2014	Conduct research to assess the effects of climate or environment change on fishery and aquaculture systems (Appendix III, Fisheries Policy Page 67)	

4. May you elaborate the climate change risks and impacts identified in the documents above for the fisheries and aquaculture in the table below: (please specify whether referring to freshwater/marine aquatic environment)

Drivers	**Biophysical Impacts**	**Implications**	**Proposed Risk Mitigation Measures**
Changes in surface water temperature	• Alters aquatic ecosystems, affecting fish populations and biodiversity in both marine and fresh water	• Reduced fishery yields and biodiversity loss, and loss of livelihood	• Implement monitoring systems for early detection • Develop adaptive aquaculture practices
El Niño-Southern Oscillation	• Changes in sea surface temperature leading to thermal stress and shift in marine species distribution, • Altered ocean currents and upwelling, affecting nutrient availability and stock productivity • Variability in rainfall and river flows – impacting freshwater habitats	• Economic impact of reduced fish catches and market fluctuations, • Social impact including food insecurity and livelihood disruption, • And ecological impact of biodiversity loss and ecosystem imbalance	• Implement adaptive fisheries management (giving flexible quotas and regulations, diversify target species and fishing practices, and develop early warning system), • Habitat conservation and restoration (protect critical habitats and promote sustainable land use practices), and • community engagement and capacity building in alternative livelihoods
Rising sea level	• Coastal erosion, saltwater intrusion into freshwater sources.	• Displacement of coastal communities, loss of arable land, water scarcity	• Construct sea walls and coastal defenses. • • Implement managed retreat and resettlement plans
Higher inland water temperatures	• Reduced dissolved oxygen levels, affecting aquatic life	• Kills fish, reduced water quality for human use	• Enhance water quality management. • • Develop heat-resistant fish species

Changes in precipitation and water availability	• Altered river flow and hydrology • Water temperature fluctuations • Water quality degradation • Altered reproductive cycles	• Economic, social, and ecological damage; limited fish catch. • Crop failures, water shortages, and • Increased dependency on imports	• Integrate water resource management, • Habitat conservation and restoration, • Community-based fisheries management and capacity building, • Establish fisheries monitoring and research on adaptive strategies
Increase in frequency and/or intensity of storms	• Increased flooding, wind damage	• Infrastructure damage, loss of life and property, increased economic strain	• Strengthen infrastructure to withstand extreme weather. • • Enhance early warning systems and emergency preparedness
Drought	• Reduced water level, • Altered water flow, • Decreased dissolved oxygen levels, and • Ecosystem imbalance	• Reduced fish catches vs increased costs, • Food insecurity and threatened fishing community livelihood, • Loss of biodiversity and disruption of ecosystem services	• Implement efficient water management practices; habitat restoration and conservation, and robust monitoring and research on adaptive strategies, as well as community engagement

5. Are any of the issues raised in table 4 above addressed in the National Environmental Management Policy and Plan and National Agricultural Investment Plan

Issue	**State how it is address in NEMA**	**State how it is addressed in NAIP**	**Remarks**
Changes in surface water temperature	NEMA/NEAP specifically proposes that the government of Liberia create a single public entity for water resource management. Conduct research on ecosystem functions and periodic monitoring of watersheds. Assess fishery stocks and promote sustainable livelihoods.	No specific procedure, however, LASIP II proposes the establishment of forest for watershed protection and implementing measures to conserve soil and water resources	
El Niño-Southern Oscillation	The policy indirectly indicates early warning systems and climate-resilient planning to mitigate the impacts of weather events.	LASIP generally includes strategies to address climate variability, such as early warning systems, disaster risk management, promotion of resilient crop varieties, and support for sustainable agricultural practices.	

Rising sea level	NEMA/NEAP generally imply implementing sustainable land use practices and relocating vulnerable communities.	NAIP specifically address this by: *Supporting the establishment of mangroves and coastal forests, that protect coastal areas from erosion and storm surges *Environmental legislation and guidelines that prohibit coastal degradation *Protect watersheds and wetlands giving natural barriers and buffers against sea level rise, reducing the risk of flooding and saltwater intrusion into agricultural lands	These interventions aim to protect agricultural lands from flooding and saltwater intrusion, preserving the livelihoods of coastal communities.
Higher inland water temperatures	NEMA/NEAP propose enhanced water management practices, including protection of watersheds and promotion of efficient water use.	LASIP generally address by promoting the diversification of agricultural practices, such as introducing temperature-resistant aquaculture systems, and improving water management techniques to sustain productivity and resilience in the face of rising water temperatures.	
Changes in precipitation and water availability	NEMA/NEAP generally emphasize on integrated water resource management to ensure sustainable water use, protect water resources, and adapt to changing precipitation patterns	It addresses this issue generally through the expansion of irrigable land, improved wet and degraded land management, and land policy reform	
Increase in frequency and/or intensity of storms	NEMA/NEAP generally propose the advancement of fishing industry infrastructures, conduct SWOT analysis of the fisheries, as well as community engagement and livelihood diversification. Conduct seasonal monitoring and research on extreme weather events impacts on agricultural productivity. Promote climate-resilient farming practices that cope with increased storm frequency and intensity	LASIP generally or indirectly address this issue through proposal to improve emergency preparedness, response, and contingency plans to maintain national grain reserves, ensuring household food security and preparedness.	

Drought	Generally, NEMA/NEAP emphasizes the implementation of an Integrated Water Resources Management Plan (IWRMP) Upgrading existing water supply infrastructures (pipes, dams, and reservoirs), especially in areas prone to water shortages. NEAP includes conducting SWOT analysis to inform climate impact resilience strategies in the fishery industry	LASIP generally and indirectly addresses the drought impact through several initiatives, including the expansion of irrigable land, the development of diverse irrigation systems, improved land and water management, and the promotion of drought-resistant crop varieties	

6. Based on the information and deductions derived above, what is your SWOT analysis of the NAIP on issues pertaining to climate change and environmental management and related policies for the fisheries and aquaculture

   (i) **NAIPs**

Strengths • NAIP/LASIP maintains a comprehensive framework; covering food security, market linkages, institutional development, land/water resource management. • By adhering to the Comprehensive African Agricultural Development Program (CAADP), NAIP/LASIP maintains coherence with continental goals, ensuring support from international world. • NAIP/LASIP also encourages investment and growth through public-private partnerships (PPPs) • Incorporate diverse needs and perspectives by inclusion of marginalized groups like women and smallholders for enhanced productivity • Specific targets, such as 6% annual growth in agriculture and 10% national budget allocation provide clear goals for monitoring progress. • Proposals to improve governance and coordination among stakeholders will enhance service delivery in key agricultural institutions	Weaknesses • The followings are considered as weaknesses of the Liberia National Agricultural Investment Plan: • Significant funding gaps, estimated at $772.3 million • Weak institutional capacity within MOA and parastatals. • Reliance on international donors and partners. • Challenges in managing coordination among various stakeholders and sectors • Poor rural infrastructure that hinders market access and productivity.
Opportunities • Greater engagement with the private sector and local communities can foster innovation and investment in the agriculture sector. • Developing new strategies for mobilizing domestic and international funding can bridge the existing financial gaps. • Incorporating modern agricultural technologies and innovations can enhance productivity and sustainability. • Building ties with regional bodies like the Mano River Union (MRU) and the ECOWAS can enhance policy harmonization and resource sharing. • Ongoing training and capacity-building programs can strengthen institutional effectiveness and community resilience to climate change • A more conducive environment for agricultural growth can be created through policy reforms, such as liberalizing tree crop marketing and improving land tenure systems	**Threats** • Political or economic instability could undermine the program's progress and sustainability. • Adverse climate conditions and natural disasters could negatively impact agricultural productivity and food security. • Changes in the global economy, such as fluctuations in commodity prices or reduced international aid, could affect funding and investment in the agriculture and related sector. • Potential resistance from stakeholders who are accustomed to the status quo could impede the implementation of reforms and new initiatives. • Ongoing security issues, particularly in post-conflict regions, could pose risks to the implementation and success of agricultural projects.

Your general remarks and recommendations if any

(ii) National fisheries and aquaculture policies and development plans

Strengths • The document provides detailed management plans for various fisheries sectors with clear objectives for sustainable management and ecosystem enhancement • Consistency with global standards and regulations, such as the FAO Code of Conduct for Responsible Fisheries, the Ecosystem Approach to Fisheries, the Convention on Biological Diversity, ICCAT, CECAF, SRFC, FCWC). • The framework includes specific actions, performance indicators, timelines, and responsible actors for effective monitoring and evaluation. • Emphasis on co-management and stakeholder participation and capacity building for communities and support for alternative livelihoods	**Weaknesses:** • Significant financial and human resources needed, and dependence on external funding may hold potential to undermine sustainability. • Lack of recent and comprehensive biomass estimates for certain fish stocks, particularly the inshore pelagic stocks, makes it difficult to set accurate MSY levels and management targets. • High rates of illegal fishing and destructive methods and limited capacity for effective monitoring and control. • Habitat degradation impacting fish stock regeneration and socio-economic reliance on fisheries complicates conservation efforts
Opportunities: • The policy and development plan enhance regional management through collaborations. It holds potential for increased funding and technical support. • The policy also provides opportunity for value-added fish products for export and for establishing fish landing sites and community centers for processing and marketing. • The policy provides for modern monitoring technologies to enhance enforcement and capacity building for sustainable practices and governance. • Implementing marine protected areas and TURFs, as well as promoting environmental awareness and conservation initiatives warrant sustainability efforts	**Threats** • Climate change altering fish distribution and productivity couple with continued habitat degradation and pollution pose serious treat • Global economic instability affecting financial viability and economic pressures driving non-compliance and illegal fishing • Political instability affecting management continuity and institutional weaknesses and lack of coordination. • Vulnerabilities due to over-reliance on donor funding and challenges in sustaining long-term investments without consistent external assistance.

Your general remarks and recommendations if any

(iii) National Environmental Management Policies and Plans

Strengths • National Environmental Management Policies and Plans offer a detailed analysis across various environmental domains including terrestrial, aquatic, and cross-sectional resources. • The plan is inclusive and participatory with input from government agencies, CSOs, NGOs, and research institutions. • The plan provides clear objectives and actionable recommendations with support backed by the EPA and other government ministries. • The plan also emphasizes training and knowledge transfer for effective resource management.	**Weaknesses** • Missing data on atmospheric resources highlights environmental monitoring and data deficiencies. • Limited financial, logistical, and human resources. • Current programs are uncoordinated and inefficient with weak law enforcement in areas like forest management and pollution control. • Reliance on international funding raises sustainability concerns.

Opportunities: • Potential for technical and financial support from global partners. • Strengthening policies and involving local communities can provide a robust legal framework and foster sustainable practices. • Adoption of new technologies in areas such as renewable energy, waste management, and environmental monitoring can improve efficiency and outcomes • Sustainable resource management can boost sectors like eco-tourism and sustainable agriculture and fisheries, contributing to national development.	**Threats** • Increasing impacts of climate change pose significant threats to environmental and socio-economic stability, which affects water resources, agriculture, and coastal areas • The plan implementation and prioritization could be disrupted by political instability • Economic challenges stemming from funding shortages may hinder the execution of planned actions. • Ongoing deforestation and habitat destruction threaten ecological balance.

Your general remarks and recommendations if any

(i) National Climate Change Action Plan

Strengths • The plan covers multiple critical sectors such as agriculture, forestry, energy, fisheries, coastal zones, and waste management for climate change adaptation. • It demonstrates the government of Liberia commitment to addressing climate change through the establishment of policies and a dedicated framework • Involving stakeholders, including public and private sectors, NGOs, CSOs, academic institutions, and international partners like UNDP showcases collaborative efforts and resource mobilization for climate adaptation. • The plan also emphasizes the importance of building scientific, technical, and traditional knowledge to diversify livelihood sustainability.	Weaknesses • Potential difficulties in the actual implementation of the NAP process due to limited resources, institutional capacity, and coordination among various stakeholders. • Heavy reliance on international organizations like UNDP for support, which may pose sustainability issues if external funding or support diminishes. • Data and information gaps could affect the accuracy of climate vulnerability assessments and the effectiveness of adaptation strategies. • The extensive framework and the need for coordination across numerous stakeholders could lead to complexities and delays in execution.
Opportunities • Access to international climate funds and grants can provide financial resources needed for adaptation initiatives. • Adoption of new technologies and innovations as proposed in sectors' climate adaptation strategies can enhance the effectiveness of the NAP process. • Increased awareness and participation from local communities and stakeholders can foster a supportive environment for adaptation measures. • Climate adaptation initiatives can drive economic growth through the development of resilient infrastructure and sustainable practices. • Opportunity to integrate climate adaptation into broader national development plans, ensures a holistic approach to sustainable development.	Threats Unpredictable climate changes and extreme weather events can undermine adaptation efforts and exacerbate vulnerabilities. Potential resistance from stakeholders or communities due to lack of awareness or differing priorities or political changes in government leadership could hinder adaptation efforts. Limited financial, technical, and human resources can impede the implementation of adaptation strategies. Fluctuations in the global economy could affect the availability of international funding and support for climate adaptation projects.

Your general remarks and recommendations if any

General Comments and Recommendations

The document discusses the impact of climate change on agriculture, fisheries, and coastal zones, and proposes strategies such as early warning systems, sustainable fishing, and integrated water management. It stresses the importance of involving multiple stakeholders, including government, NGOs, local communities, and international partners, and aligns policies with global standards for climate adaptation and sustainability.

However, the document identifies significant funding gaps that could hinder the implementation of proposed strategies, indicating weak institutional capacity and complex stakeholder coordination. It notes the risks of relying heavily on international donors and the lack of climate impact data in fisheries and environmental monitoring, which could affect adaptation effort in the fishery sector.

To improve climate change adaptation and environmental management, it is recommended to:

- Implement Ecosystem-Based Management (EBM) to the fisheries to maintain ecosystem health and resilience against climate change, considering the interconnections between species, habitats, and human activities.

- Promote climate-resilient aquaculture practices that can withstand changing temperature and water conditions through the selection of resilient species, improved aquaculture techniques, and investment in research and statistics.

- Strengthen community-based fisheries management to empower local communities in the decision-making process. This can increase the resilience of fisheries by incorporating local knowledge and ensuring that management practices are culturally appropriate and sustainable.

- Develop adaptive management frameworks that allow for flexible and responsive changes in management practices based on real-time environmental and socio-economic data to adjust to the unpredictable nature of climate change impacts.

- Invest in infrastructure improvements, such as more resilient fishing gear and facilities, to withstand extreme weather events and other climate-related changes. Modernizing fish landing sites and storage facilities to reduce post-harvest losses.

- Establish early warning systems specifically for marine ecosystems to predict and respond to adverse conditions such as harmful algal blooms, ocean acidification, and changes in sea temperature.



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