African Union

FishGov 2 Project

EUROPEAN UNION

Alignment of Lesotho 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



Prepared By: Palesa Monongoaha, M.Sc. Eng. – Independent Consultant

Edited by: Mr. Rafik Nouaili, Mr. Delvis Fortes, Mr. Obinna Anozie, Dr. Mohamed Seisay. and Ms. Hellen Guebama AU-IBAR.

Disclaimer: The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official Policy or position of the African Union – Inter African Bureau for Animal Resources.

Citation: African Union - InterAfrican Bureau for Animal Resources (AU-IBAR). 2025. *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 – Lesotho.* Nairobi: AU-IBAR.

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders.

Requests for such permission should be addressed to:

The Director
African Union – Inter African Bureau for Animal Resources (AU-IBAR)
Kenindia Business Park, Museum Hill, Westlands Road
P.O. Box 30786-00100, Nairobi, KENYA
Or by e-mail to: ibar.office@au-ibar.org

Copyright: © 2025 AU-IBAR. All rights reserved.

EXECUTIVE SUMMARY

This report provides a comprehensive review of the **alignment of Lesotho's fisheries and aquaculture sector with the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS)** and other relevant global and continental instruments. The study was undertaken as part of the **FISHGOV2** project, which aims to strengthen fisheries and aquaculture governance across African Union (AU) Member States.

Lesotho's **fisheries and aquaculture sector**, though relatively small, has significant potential due to the country's extensive **freshwater resources**. However, its growth and sustainability are hindered by several structural and policy challenges. The sector currently lacks a **dedicated national policy and regulatory framework**, with governance relying on **outdated legislation**, including the **Freshwater Fish Protection Proclamation of 1951**. Institutional weaknesses, limited monitoring and surveillance mechanisms, and **insufficient integration of climate change adaptation strategies** further constrain sustainable fisheries management. In addition, the sector faces **barriers to market access, weak value chain development, and limited engagement with small-scale fishers, women, and youth**.

The study identifies several key areas requiring intervention, including:

1. **Policy and legislative reforms** – Developing a **national fisheries and aquaculture policy** and enacting a **modernized legal framework**.
2. **Institutional strengthening** – Establishing a **dedicated governance structure** with clear roles and responsibilities.
3. **Climate change adaptation** – Integrating **resilience strategies into fisheries and aquaculture management**.
4. **Monitoring, control, and surveillance (MCS)** – Enhancing **data collection and regulatory enforcement** mechanisms.
5. **Market and value chain development** – Strengthening **infrastructure, trade policies, and certification systems**.
6. **Regional cooperation** – Aligning national strategies with **SADC, FAO, and AU fisheries management frameworks** and leveraging technical and financial support to align Lesotho's fisheries and aquaculture regulatory framework with regional, continental, and international instruments.
7. **Inclusivity and stakeholder engagement** – Promoting **gender equality, women and youth participation, and private sector investment**.
8. **Monitoring and Evaluation** - Institutionalizing M&E Systems, aligning indicators with the **CAADP Results Framework,** and establishing mechanisms for data collection to input into the M&E systems

The report further identifies **enhanced governance, strategic investments, and strengthened institutional coordination** as being critical for **achieving policy coherence** and unlocking the full potential of the **fisheries and aquaculture sector in Lesotho**. Implementing the proposed recommendations will contribute to **sustainable economic growth, food security, and improved livelihoods** while ensuring **compliance with continental and global commitments** under the **PFRS and other environmental management frameworks**.

TABLE OF CONTENTS

EXECUTIVE SUMMARY ***iii***

LIST OF ACRONYMS ***vii***

CHAPTER 1: COUNTRY BACKGROUND AND OVERVIEW OF THE FISHERIES AND AQUACULTURE SECTOR IN LESOTHO ***1***

1.1 COUNTRY BACKGROUND 1

1.2 OVERVIEW OF THE FISHERIES AND AQUACULTURE SECTOR IN LESOTHO 2

1.3 INTRODUCTION TO THE ASSIGNMENT 7

1.4 SCOPE OF THE ASSIGNMENT 8

1.5 APPROACH TO THE ASSIGNMENT 9

CHAPTER 2:ALIGNMENT OF LESOTHO'S FISHERIES AND AQUACULTURE DEVELOPMENT POLICIES WITH THE POLICY FRAMEWORK AND RE-FORM STRATEGY FOR AFRICAN FISHERIES AND AQUACULTURE (PFRS) ***11***

2.1 INTRODUCTION 11

2.2 METHODOLOGY 11

2.3 ASSESSMENT OF LESOTHO'S NATIONAL FISHERIES AND AQUACULTURE INSTRUMENTS AND THEIR ALIGNMENT WITH THE PFRS 13

2.4 SUMMARY OF ALIGNMENT 15

2.5 IDENTIFIED KEY ISSUES IN THE FISHERIES AND AQUACULTURE SECTOR. 21

2.6 RECOMMENDED ACTIONS FOR ALIGNMENT 22

2.7 DETAILED ALIGNMENT SCORING: 28

CHAPTER 3: LESOTHO'S FISHERIES AND AQUACULTURE REGULATORY ENVIRONMENT AND ALIGNMENT WITH REGIONAL AND INTERNATIONAL INSTRUMENTS ***42***

3.1 INTRODUCTION 42

3.2 METHODOLOGY 42

3.3 RELEVANT INTERNATIONAL INSTRUMENTS FOR THE DEVELOPMENT OF FISHERIES AND AQUACULTURE 42

3.4 RATIFICATION STATUS AND LEVEL OF IMPLEMENTATION OF GLOBAL INSTRUMENTS RELEVANT TO LESOTHO 43

3.5 ALIGNMENT GAPS 51

3.6 RECOMMENDATIONS FOR HARMONIZATION OF NATIONAL INSTRUMENTS WITH RELEVANT REGIONAL, CONTINENTAL AND GLOBAL INSTRUMENTS 54

3.7 OVERALL CONCLUSION 62

CHAPTER 4: ASSESSMENT 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 AND CLIMATE CHANGE ADAPTATION **63**

4.1 INTRODUCTION 63

4.2 METHODOLOGY FOR ASSESSING THE INTEGRATION OF CLIMATE CHANGE IN FISHERIES AND AQUACULTURE SECTOR DEVELOPMENT 64

4.3 CLIMATE CHANGE RISKS AND IMPACTS ON LESOTHO'S FISHERIES AND AQUACULTURE SECTOR 65

4.4 THE NDC AND NAPA 66

4.5 IMPACTS OF CLIMATE CHANGE ON FISHERIES AND AQUACULTURE 67

4.6 THE NATIONAL LIVESTOCK DEVELOPMENT POLICY AND NATIONAL AGRICULTURAL INVESTMENT PLAN 68

4.7 NATIONAL AGRICULTURAL INVESTMENT PLAN AND CLIMATE CHANGE 72

4.8 IDENTIFIED GAPS AND KEY ISSUES IN THE FISHERIES AND AQUACULTURE SECTOR. 73

4.9 STRENGTHS, WEAKNESSES, OPPORTUNITIES, THREATS (SWOT) ANALYSIS FOR THE FISHERIES AND AQUACULTURE SECTOR 74

4.10 CASE STUDIES – LESOTHO AQUACULTURE SECTOR AS A SUCCESS STORY 75

4.11 GENERAL COMMENTS AND CONCLUSIONS AND RECOMMENDATIONS 78

4.12 OVERALL CONCLUSION 86

APPENDIXES **87**

APPENDIX 1: ONLINE SURVEY FORM RESPONSES 87

APPENDIX 2: TERMS OF REFERENCE NAIPS 92

REFERENCES **98**

LIST OF ACRONYMS

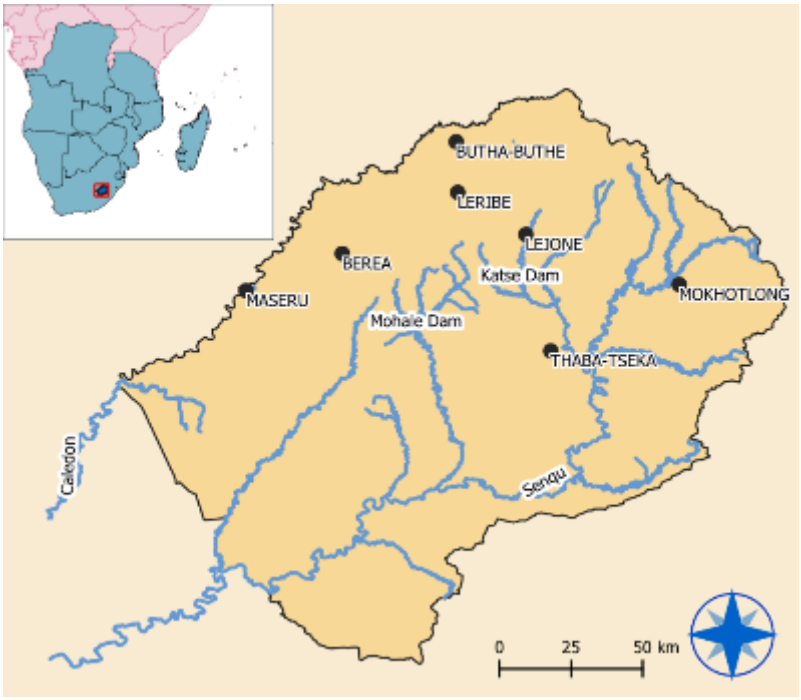
ABES	African Blue Economy Strategy
ABS	Access and Benefit Sharing
AfCFTA	African Continental Free Trade Area
ARF	Aquaculture Regulatory Framework
AU	African Union
AU-IBAR	African Union - Inter-African Bureau for Animal Resources
AU-MS	African Union Member States
BMAP	Biodiversity Management Action Plan
BEDCO	Basotho Enterprise Development Corporation
BVTF	Bearded Vulture Task Force
CAADP	Comprehensive Africa Agriculture Development Programme
CBD	Convention on Biological Diversity
CCA	Climate Change Adaptation
CCRF	Code of Conduct for Responsible Fisheries
CIFAA	Committee for Inland Fisheries and Aquaculture of Africa
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COFI	Committee on Fisheries
CSAIP	Climate-Smart Agriculture Investment Plan
DRM	Disaster Risk Management
EFR	Environmental Flow Requirements
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
EWS	Early Warning System
FAO	Food and Agriculture Organization
FAO-SFS	Food and Agriculture Organization - Sustainable Fisheries Systems
FISHGOV	Fisheries Governance Project (Africa)
FPI	Fisheries Performance Indicator
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
ICM	Integrated Catchment Management
IUU	Illegal, Unreported, and Unregulated (Fishing)
KBG	Katse Botanical Garden
LAC	Lesotho Agricultural College
LHDA	Lesotho Highlands Development Authority
LHWP	Lesotho Highlands Water Project
L-IB-NAIP	Lesotho Integrated and Broader National Agricultural Investment Plan
LMS	Lesotho Meteorological Services

LSL	Lesotho Loti
MAFS	Ministry of Agriculture and Food Security
MCS	Monitoring, Control, and Surveillance
MDA	Ministries, Departments, and Agencies
NAP	National Action Program
NAPA	National Adaptation Programme of Action
NBSAP	National Biodiversity Strategies and Action Plans
NCCIS	National Climate Change Implementation Strategy
NCCPIS	National Climate Change Policy Implementation Strategy
NDC	Nationally Determined Contribution
NUL	National University of Lesotho
NAIP	National Agricultural Investment Plan
NSDP	National Strategic Development Plan
NSDP II	National Strategic Development Plan II
ORASECOM	Orange-Senqu River Commission
PFRS	Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa
PPP	Public-Private Partnership
ROLL	Regeneration of Landscapes and Livelihoods
SACU	Southern African Customs Union
SADP	Smallholder Agricultural Development Project
SLM	Sustainable Land Management
SWOT	Strengths, Weaknesses, Opportunities, and Threats
ToR	Terms of Reference
UMAZ	Upper Malibamatšo Aquaculture Zone
WEF	World Economic Forum
WB	World Bank
WOAH	World Organization for Animal Health

CHAPTER 1: COUNTRY BACKGROUND AND OVERVIEW OF THE FISHERIES AND AQUACULTURE SECTOR IN LESOTHO

1.1 COUNTRY BACKGROUND

The Kingdom of Lesotho, a small, mountainous, and landlocked country in Southern Africa, is characterized by its abundant freshwater resources, including rivers, reservoirs, and wetlands, which play a vital role in rural livelihoods, food security, and national development. These resources are primarily supported by the Senqu/Orange River, one of Southern Africa's longest rivers, and large reservoirs such as Katse and Mohale, created under the Lesotho Highlands Water Project (LHWP). According to the **Lesotho National Biodiversity Strategy and Action Plan (NBSAP)**, these ecosystems are home to unique aquatic biodiversity that requires sustainable management.



Despite the availability of these resources, Lesotho is increasingly vulnerable to climate change, which affects water availability, agricultural productivity, and ecological stability. Climate change impacts are especially critical for the fisheries and aquaculture sectors, where variations in rainfall, temperature, and river flows affect both wild fish populations and aquaculture production systems (FAO-SFS, 2021). Recognizing these challenges, Lesotho has joined regional and continental frameworks such as the Comprehensive Africa Agriculture Development Programme (CAADP) and the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS). These frameworks aim to mainstream climate resilience in National Agricultural Investment Plans (NAIPs) and promote sustainable, climate-smart fisheries and aquaculture practices across African Union Member States (AU-MS).

Lesotho's fisheries sector is predominantly subsistence and artisanal in nature for income generation, local trade, or domestic consumption, with activities concentrated in rivers and reservoirs in the highlands of

Lesotho. These fisheries provide an important source of protein for local communities and contribute to household incomes but remain underdeveloped, with limited infrastructure and commercial activities. The key challenges for the fisheries sub-sector include illegal fishing, especially in the highlands rivers and reservoirs, habitat degradation, and the impacts of climate change. Targeted species include yellowfish (*Labeobarbus aeneus*), and rainbow trout (*Oncorhynchus mykiss*), with the former being particularly significant in terms of sale value for the local fishers.

Aquaculture in Lesotho has experienced modest growth, focusing primarily on trout farming in the Katse dam. The country's cool water temperatures provide an ideal environment for cold-water aquaculture, and commercial trout farming, in the Katse Dam, has become a significant economic activity within the fisheries sector. The **FAO Country Programming Framework for Lesotho (2023–2027)** highlights aquaculture as a key avenue for improving food security and diversifying rural livelihoods. However, challenges that include poor regulatory framework, limited access to feed and fingerlings, inadequate technical expertise, high initial investment costs, and the impacts of climate change on water availability and temperature have been identified as potential barriers and or risks to the full development of the sector.

The fisheries and aquaculture sectors in Lesotho have significant potential for growth. By aligning national policies, strategies, and plans with continental and global frameworks, such as the **African Union Blue Economy Strategy (2020)** and the **FAO Code of Conduct for Responsible Fisheries (1995)**, Lesotho can unlock the full potential of these sectors. This alignment will contribute to national economic development, improved food security, and the conservation of aquatic biodiversity in line with the CAADP results framework and the CCRF.

1.2 OVERVIEW OF THE FISHERIES AND AQUACULTURE SECTOR IN LESOTHO

Lesotho's fisheries sector, though relatively small, holds significant potential due to the country's rich freshwater resources. Its rivers and high-altitude reservoirs are ideal for cold-water fish species, which could contribute substantially to food and nutrition security, job and wealth creation, economic development, and socio-economic benefits to fishing communities. Historically, fisheries have not been a major economic driver, partly because of Lesotho's mountainous landscape and low temperatures, which limit both fish species diversity and growth rates. However, in recent years aquaculture, especially trout farming, has gained traction with the establishment of two aquaculture farms in the Katse Reservoir. These high-altitude LHWP reservoirs are particularly suitable for cold-water species like rainbow trout, which have demonstrated strong potential for both local consumption and export since the farms were established in the early 2000s (FAO-SFS, 2021)

The Lesotho Highlands Water Project (LHWP), which includes the Katse, Mohale, 'Muela dams and the Polihali Dam, which is currently under construction, is critical in creating expansive water bodies that have the potential to support aquaculture and fisheries-based ecotourism. These water bodies provide habitats where fish species, including the smallmouth yellowfish and rainbow trout, thrive in relatively high numbers (LHDA, 2017).

Despite the growth of aquaculture, artisanal and subsistence fishing remain widespread, particularly along the Senqu River and within Lesotho Highlands Water Project (LHWP) reservoirs and in a few lowlands' dams and rivers. However, these face significant challenges due to unregulated and thus illegal fishing. In addition, upstream activities such as mining and overgrazing contribute to soil erosion and sedimentation, which destroy important habitats and threaten fish populations and biodiversity across Lesotho's rivers and reservoirs.

1.2.1 Roles and Responsibilities

The management of fisheries resources at the national level is the responsibility of the Ministry of Agriculture, Food Security and Nutrition, with implementation undertaken by the Fisheries Section in the Department of Livestock Services. The key policy goals for the fisheries sector include promoting the conservation of fish diversity in rivers, reservoirs, and dams, as well as supporting sustainable fishing practices within communities.

The Lesotho Highlands Water Project (LHWP) plays a crucial role in this context by creating significant water bodies that serve as habitats for various fish species and facilitate aquaculture operations. In particular, the LHWP dams, such as Katse and Mohale, have been earmarked to support trout farming and other aquaculture initiatives to enhance local food security and economic opportunities.

However, current monitoring of fisheries is limited to the LHWP scheme area, with data collection primarily focused on the rivers and dams associated with the LHWP. This lack of comprehensive monitoring and data presents challenges for effective fisheries management and the sustainable development of the fisheries and aquaculture sector. Strengthening monitoring efforts and establishing a robust data collection framework are essential to ensure the conservation of fish diversity, the sustainability of fishing practices, and the responsible management of aquaculture operations in these vital aquatic ecosystems.

1.2.2 Policy and Regulatory Environment

Lesotho has no national policy specifically dedicated to fisheries and aquaculture development. The primary legislative instrument governing both aquaculture and fisheries is the outdated Freshwater Fish Protection Proclamation No. 45 of 1951. This proclamation provides a limited framework for fisheries and aquaculture regulations and having recognized its shortcomings, Lesotho Government, through support from the Food and Agriculture Organisation (FAO) is in the process of repealing this old legislation in order to establish comprehensive regulations for fisheries and aquaculture operations in the country. The new regulations will address critical issues such as species introduction, the observation of protected areas, and the protection of water bodies designated for fisheries and aquaculture development against pollution. Instructions for drafting the new law were initiated in November 2023.

In addition to the outdated proclamation, the fisheries and aquaculture sector is also regulated by the Environment Act of 2008, which requires that commercial operations conduct Environmental and Social Impact Assessments (ESIA) and implement Environmental and Social Management Plans (ESMPs). Furthermore, the LHDA has developed the Aquaculture Regulatory Framework (ARF), a tool used to monitor compliance of aquaculture operations with regulatory instruments in LHWP reservoirs. Together,

these frameworks are applied in the LHWP to promote the sustainable development of both fisheries and aquaculture while safeguarding the country's rich aquatic ecosystems. The table below provides a review of Lesotho's regulatory framework relevant to fisheries and aquaculture.

Table 1: Lesotho's Regulatory Framework Relevant to Fisheries and Aquaculture

Regulatory Framework	Alignment status
1. Lesotho Environment Act, 2008	The *Lesotho Environment Act of 2008* outlines various provisions aimed at the sustainable management and protection of environmental resources, including fisheries and aquaculture. Key provisions include: a) **Environmental Impact Assessment (EIA)**: Requires EIAs for projects potentially impacting the environment, such as fish farms and dams, to mitigate adverse effects (Section 19). b) **Pollution Control**: Prohibits water pollution, indirectly safeguarding aquatic habitats and promoting water quality (Section 61). c) **Biodiversity Conservation**: Promotes the conservation of aquatic ecosystems to maintain ecological balance and protect species vital for fisheries (Section 45). d) **Community Involvement**: Supports community participation in environmental management, recognizing local stakeholders in sustainable resource use (Section 6).
2. Proclamation 45 of 1951	*Lesotho's Proclamation 45 of 1951*, also known as the Freshwater *Fish Protection Proclamation*, was designed to regulate fishing activities and conserve fish populations within Lesotho's waters. The proclamation was meant to regulate and protect fisheries through seasonal and spatial restrictions, licensing, daily quota, size limits, and specific capture methods.
3. Fisheries Act (Fisheries and Aquaculture Bill), 2023 (draft)	Makes provisions for the following aspects: a) Establishment of the Fisheries and aquaculture board with representation of role players in the fisheries and aquaculture sector. Some of the mandates of the Board are: b) Licensing for commercial fisheries and aquaculture c) Issuance of Fishing permits d) Control of Transfer and Introduction of alien Fish Species e) Protection of the Ecosystem, Genetic diversity and Biodiversity f) Importation and Exportation of live fish and Health of aquatic organisms g) Food safety and food quality h) Fish health , welfare and Veterinary services
4. LMS 2017. Lesotho's National Climate Change Policy. Ministry of Energy and Meteorology, Lesotho.	The *Lesotho National Climate Change Policy, 2017* does not specifically address fisheries and aquaculture. These sectors are indirectly covered under the following: a) Policy Statement 3: **promoting climate-smart agriculture and food security systems**, and b) Policy Statement 9: **increasing the resilience of the environment, ecosystems, and biodiversity**. Relevant proposed actions for fisheries and aquaculture include promoting the use of biodiversity and ecosystem services as part of climate change adaptation strategies, as well as encouraging economic and social incentives for effective natural resource management. Generally, the proposed actions under this policy primarily focus on agriculture and livestock production, with no direct mention of fisheries and aquaculture.

Regulatory Framework	Alignment status
5. Treaty on the Lesotho Highlands Water Project, 1986	The Treaty for the Lesotho Highlands Water Project 1986 allows for fisheries development as part of ancillary economic projects and mandates the LHDA to implement conservation measures and prevent pollution. Specific provisions of the Treaty include: a) Article 4(2) which states that "without prejudice to the provisions of paragraph (1), each party shall be allowed to undertake ancillary developments in its territory including - (iii) the development of tourism, fisheries and other projects for economic development" b) Article 7(22) which states "The LHDA shall effect all necessary catchment conservation measures as well as all measures necessary to prevent pollution of the water to be delivered to South Africa and pollution caused by the adverse effects of the implementation of the project"
6. Lesotho Highlands Development Authority Order, 1986	The *Lesotho Highlands Development Authority Order of 1986* primarily establishes the Lesotho Highlands Development Authority (LHDA) to oversee the development, operation, and maintenance of the Lesotho Highlands Water Project (LHWP). While the Order does not explicitly focus on fisheries, it includes provisions that indirectly impact fisheries through environmental and resource management responsibilities. The Order mandates the LHDA to ensure the protection and management of natural resources, which encompasses water quality and aquatic ecosystems in project areas. Relevant provisions state that the LHDA must: a) "Maintain an environmental monitoring program to assess and mitigate adverse environmental impacts resulting from project activities." b) "Take necessary actions to ensure the sustainable use of natural resources affected by the LHWP, including water resources and aquatic habitats." These provisions are targeted towards protecting fisheries resources by maintaining water quality and ecological balance in rivers that feed the LHWP reservoirs and in the dams.
7. Lesotho Highlands Water Project (Reservoirs) Fishing Regulations, 1999	The *Lesotho Highlands Water Project (Reservoirs) Fishing Regulations, 1999* provides sustainable fishing practices for Lesotho's reservoirs, contributing to environmental conservation and local fisheries management. Key provisions include: a) **Fishing Permits**: Required for fishing, issued by the Lesotho Highlands Development Authority (LHDA), valid for up to 12 months. b) **Catch Limits and Fishing Seasons**: Limits anglers to a maximum of four fish per day with restrictions based on fish size (minimum 250mm). Seasonal closures apply in specific reservoir areas. c) **Gear Restrictions**: Only artificial flies are permitted for use as bait in designated areas, with disinfection of fishing tackle required to prevent the spread of diseases, while gillnetting is prohibited. d) **Fee Utilization**: Collected fees are used to fund fisheries and other development programs in project areas, supporting local fisheries management, and community livelihoods.

Regulatory Framework	Alignment status
8. Lesotho Highlands Development Authority – Environment Policy 2020	The LHDA Environment Policy provides as follows **a) Ancillary and Social Development Initiatives:** • 6.4.1. As part of its livelihoods improvement initiatives, the LHDA shall create an enabling environment for business ventures to operate in and around the LHWP reservoirs through development and implementation of initiatives intended to maximise opportunities for Public Private Partnership (PPP) ventures in the LHWP Area **b) Environmental and Social Management Plans**: • 6.2.1.(b) During and post-construction activities, the LHDA shall develop and implement Environmental Action Plans (EAP) including but not limited to: ○ Integrated Catchment Management (ICM) plan that includes rangeland rehabilitation, conservation and management initiatives; prevention and control of unnatural soil erosion; waste management and pollution control and water quality and quantity monitoring including catchment surveillance. ○ Wetlands Rehabilitation, Conservation and Monitoring Plans. ○ Biodiversity Conservation and Management Plans that address conservation of threatened and highly endangered fauna and flora species such as Maloti minnow (*Pseudobarbus quathlambae*), Bearded Vulture (*Gypaetus barbatus*), and Spiral aloe (*Aloe polyphylla*). ○ Climate Change vulnerability assessment and development and implementation of adaptation and mitigation plans
9. Regulations for the Management of Fresh Water Aquaculture in the Lesotho Highlands Water Project Reservoirs (Aquaculture Regulatory Framework (ARF))	The *Regulations for the Management of Fresh Water Aquaculture in the Lesotho Highlands Water Project Reservoirs* also known as the LHWP Aquaculture Regulatory Framework (ARF) create a framework for the allocation of aquaculture licenses; prescribes measures to facilitate the orderly development of sustainable commercial aquaculture in the LHWP reservoirs and ensure the ecological integrity of Lesotho's vital fresh water bodies; prescribes fees and levies for the undertaking of commercial aquaculture; establish a framework to support local community beneficiation from commercial aquaculture investments; determine guidelines for the conducting of Environmental Impact Assessments in terms of the Environment Act of 2008; and prescribes matters ancillary to the regulation of fresh water aquaculture in Lesotho Highlands Water Project area. In addition, the framework makes provisions for **a) Environmental Management**: Require Environmental Impact Assessments (EIAs) in line with the Environment Act of 2008 and emphasize the importance of evaluating and mitigating potential impacts of aquaculture activities. **b) Community Benefits**:The framework establishes mechanisms for local communities to benefit from aquaculture investments. c) Other aspects provided for under this framework include: ○ Authorization of operations (licensing). ○ Ecosystem integrity. ○ Fish health and biosecurity. ○ Food quality and safety. ○ Water quality monitoring. ○ Reporting

1.3 INTRODUCTION TO THE ASSIGNMENT

The African Union Inter-African Bureau for Animal Resources (AU–IBAR) is a specialized technical office of the Department of Agriculture, Rural Development, Blue Economy, and Sustainable Environment (DARBE) of the African Union Commission (AUC). It is mandated to support the sustainable utilization and management of livestock, fisheries, aquaculture, and wildlife resources for the benefit of human well-being and economic development across African Union Member States (AU–MS). In line with its Strategic Plan 2018–2023, AU–IBAR envisions an Africa where animal resources contribute significantly to integration, prosperity, and peace (AU-IBAR, AU-IBAR Strategic Plan 2018–2023, 2019).

Africa's rich aquatic ecosystems, including seven Large Marine Ecosystems (LMEs), rivers, and lakes, are vital for biodiversity and provide livelihoods for millions. However, their sustainability is increasingly at risk from over-exploitation, pollution, invasive species, unplanned urban growth, mining, and climate change. To address these challenges, the African Union adopted the African Blue Economy Strategy (ABES), which promotes sustainable development by prioritizing fisheries management, biodiversity conservation, maritime safety, climate resilience, and environmental sustainability, aimed at creating an inclusive, sustainable Blue Economy (AU-IBAR, ABES, 2019) .

As part of its interventions in the fisheries and aquaculture sectors, AU–IBAR is guided by key strategic frameworks, notably the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS) and the African Blue Economy Strategy (ABES). Under this strategy, the AU-IBAR is implementing the **African Union's Fisheries Governance Phase 2 (FISHGOV2)** project, formally known as the **"Enhancing Governance of Fisheries and Aquaculture in Africa Phase II"**, which is funded by the **European Union (EU).** FISHGOV2 aims to strengthen policy frameworks, regulatory environments, and institutional capacities among AU Member States and Regional Economic Communities (RECs), align national policies with global and continental instruments, promote sustainable practices in fisheries and aquaculture, address environmental and economic challenges, and integrate gender inclusivity into governance structures. Through this project, AU-IBAR also aims to improve collaboration amongst member states and capacity building to ensure the resilience and sustainability of Africa's fisheries and aquaculture sector (AU-IBAR, AU-IBAR Strategic Plan 2018–2023, 2019).

As part of this project, AU–IBAR has commissioned a consultancy to review Lesotho's existing national policies, regulatory frameworks, National Agricultural Investment Plans, and institutional arrangements related to fisheries and aquaculture, aquatic biodiversity conservation, and environmental management. The consultancy will assess the extent to which these are aligned with relevant global and continental instruments, including the Convention on Biological Diversity, the Paris Agreement on Climate Change, and other frameworks prioritized by AU–IBAR. By identifying gaps and proposing recommendations for alignment, this assignment will facilitate the domestication of global instruments into Lesotho's regulatory framework.

This report presents the findings of the consultant's review, identifies gaps in alignment with global biodiversity and environmental instruments, and proposes priority actions and guidelines for integrating these instruments into Lesotho's national frameworks. The report also outlines the outcomes of a national-level validation workshop and provides recommendations for future steps to enhance aquatic biodiversity conservation in the Kingdom of Lesotho.

1.4 SCOPE OF THE ASSIGNMENT

1.4.1 Purpose

In line with the provisions of the FISHGOV2 project, AU–IBAR commissioned a consultancy to assess relevant Continental and Global biodiversity and environmental Instruments and develop priority actions for their enhanced ratification and implementation. The studies have been completed and the report validated.

This assignment is implemented under the biodiversity component of the AU-IBAR FISHGOV2 project, and it focuses on supporting selected African Union (AU) Member States in reviewing national policies and regulatory frameworks to align their national instruments with relevant continental and global biodiversity conservation and environmental management frameworks.

The Kingdom of Lesotho has been selected for this initiative within the Southern Africa region due to the critical need to conserve its extensive aquatic ecosystems and the unique biodiversity it sustains. The specific purpose is to:

a. review national fisheries and aquaculture policies and strategies for alignment and coherence with the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS) and relevant international instruments
b. review national fisheries and aquaculture policies and strategies to make specific recommendations for alignment and domestication of global instruments and relevant international conventions
c. support African Union Member States (AU-MS) to successfully develop and implement national fisheries and aquaculture sectoral strategies and National Agricultural Investment Plans (NAIPs) that are aligned to the Policy Framework and Reform Strategy (PFRS) for Fisheries and Aquaculture in Africa and climate change adaptation.
d. benchmark and establish twinning mechanisms for peer review to strengthen coherence in the sector to the PFRS and capacity for realistic fisheries and aquaculture policy making

1.4.2 Objectives

The objective of this consultancy is to engage a National Consultant to undertake a review of the National Policies, Regulatory Frameworks of the Kingdom of Lesotho for coherence with relevant Continental and Global biodiversity and environmental management Instruments. Specific tasks for this consultancy include but not limited to:

a. Liaise with relevant personnel at AU-IBAR for detailed briefings on the tasks;
b. Conduct extensive reading to digest the consultancy report;

c. Identify, source, and review relevant National Regulatory, Policy related documents in National Ministries, Departments, Agencies (MDA) responsible for environmental management and aquatic biodiversity conservation;
d. Identify gaps in the National Instruments based on the provisions of the prioritized Global Instruments on conservation of aquatic biodiversity and environment management;
e. Develop guidelines or mechanisms for filling the identified gaps for domestication of prioritized Global Instruments on conservation of aquatic biodiversity and environmental management into identified National Instruments relating to aquatic biodiversity conservation and environment management;
f. Facilitate National level workshop to validate the reviewed relevant National Instruments and the guidelines to facilitate domestication of relevant Global Instruments; and,
g. Develop a comprehensive report on the consultancy and the workshop report.

1.5 APPROACH TO THE ASSIGNMENT

To achieve the objectives of this consultancy, a systematic approach structured around the terms of reference and the specific tasks was employed. The step-by-step methodology followed can be summarized as follows:

a. Engagement with AU-IBAR

A comprehensive list of documents relevant to the assignment was received from AU-IBAR including the following:

- A Guide for the Implementation of the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa, AU-IBAR 2015
- The CAADP Results Framework (2015-2025)
- Strategy for Rational Management of African Inland Fisheries, AU-IBAR 2018.
- Online Survey to Monitor the Alignment of National and Regional Fisheries and Aquaculture Policies with the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa
- Alignment of NAIPs and RAIPs to climate change and environmental management, Guidelines for the Assignment
- Assessment of The Alignment of National and Regional Fisheries Aquaculture Strategies and The National and Regional Agricultural Investment Plans to The PFRS and climate change Adaptation (2023).
- Consultancy to review and align national fisheries and aquaculture policies and laws with PFRS, regional instruments, and global best practices for 15 AU Member States, AU-IBAR (2023).
- Comprehensive Africa Agriculture Development Programme (CAADP)-BIENNIAL REVIEW REPORT 2015 - 2018

This set of briefing documents together with related documents sourced from the internet were reviewed to better understand the scope of the assignment and the expected deliverables and where applicable, were used as reference material in the execution of the assignment. In the case of documents sourced from the internet, a literature search was conducted to gather documents from the internet, and, where applicable, AI tools (Adobe AI Assistant at https://www.adobe.com/) were utilised to review and synthesize the retrieved materials, focusing on areas specifically relevant to the assignment.

b. Comprehensive Literature Review

Consultations with the Department of Livestock Services were done to identify key stakeholders in Lesotho's fisheries and aquaculture sector. This was followed by consultations with key personnel in these national Ministries, Departments, and Agencies (MDAs) to access relevant national policies, legal frameworks, and regulatory instruments related to fisheries and aquaculture, environmental management, and aquatic biodiversity conservation. The relevant documents from these institutions were accessed through their official websites or obtained from authorized officials and were reviewed as part of the literature review process.

c. Stakeholder Engagement

In addition to the consultations with key sector stakeholders outlined above, stakeholders were engaged through an online survey titled **"Online Survey to Monitor the Alignment of National and Regional Fisheries and Aquaculture Policies with the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa**" shared for stakeholders to provide inputs and insights before the validation workshop attended by relevant MDAs, and civil society stakeholders to validate findings and identify additional gaps or context-specific concerns and recommendations for alignment in the context of Lesotho.

d. Gap Analysis

A gap analysis was undertaken through a comparison of the national instruments against the African Union Policy Framework and Strategy for Fisheries and Aquaculture (PFRS) and prioritized global and continental frameworks such as the Convention on Biological Diversity (CBD), African Blue Economy Strategy (ABES), and other relevant instruments.

Gaps in alignment were identified through the assessment of the alignment of Lesotho's regulatory framework with the PFRS policy areas and the status of ratification and/or domestication of the prioritized global and continental frameworks, as well as areas requiring enhancement to address emerging challenges like climate change, gender mainstreaming, and sustainable resource management.

e. Recommendations for alignment

Based on the identified gaps, actionable guidelines and mechanisms to address the identified gaps and facilitate the domestication of global instruments into national policies and regulatory frameworks were developed in consultation with the key stakeholders for input and refinement to ensure broad acceptance and applicability.

f. Validation Workshop

A three-day national workshop with relevant stakeholders, including MDAs, civil society, academia, and private sector representatives was organized by the Department of Livestock Services with support from AU-IBAR. Presentations on key findings of the assessment were made and facilitated validation sessions were done to review and validate the findings, identify gaps, and gather feedback and consensus on the recommendations.

g. Final Reporting

Feedback from the workshop was used to prepare the draft consultancy report that includes: a summary of the review process and findings, identified gaps and proposed solutions, and detailed recommendations and mechanisms for domestication.

CHAPTER 2: ALIGNMENT OF LESOTHO'S FISHERIES AND AQUACULTURE DEVELOPMENT POLICIES WITH THE POLICY FRAMEWORK AND RE-FORM STRATEGY FOR AFRICAN FISHERIES AND AQUACULTURE (PFRS)

2.1 INTRODUCTION

Under the FISHGOV2 project, implemented by the African Union-Inter-African Bureau for Animal Resources (AU-IBAR) with funding from the European Union, the program *"Improving Sustainable Fisheries Management and Aquaculture Development in Africa"* seeks to accelerate reforms in fisheries and aquaculture. This initiative aims to enhance the sector's contribution toward achieving the African Union Agenda 2063 goals of food security, livelihoods, and wealth creation.

The program's primary objective is to implement activities aligned with the objectives and principles outlined in key declarations, recommendations, and resolutions consistent with AU Agenda 2063 and the African Union Policy Framework and Reform Strategy for Fisheries and Aquaculture (PFRS). To support the development of sustainable fisheries and aquaculture policies, AU-IBAR has identified 15 member states, including Lesotho, as vulnerable in terms of their development strategies for these sectors.

The African Union Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS) provides a comprehensive roadmap for the sustainable management of fisheries and aquaculture across the continent. In the Kingdom of Lesotho, with its unique aquatic resources, aligning national policies, regulatory frameworks, and strategic plans with the African Blue Economy Strategy (ABES), the PFRS, and relevant regional, continental, and international instruments is essential. This alignment will enhance food security, promote economic growth, and ensure the sustainable use and management of fisheries resources, in line with the commitments of the AU Malabo Declaration of 2014.

In addition to the PFRS, the African Union has developed the Strategy for Rational Management of African Inland Fisheries (SRMAIF), with the objective "to improve and strengthen the contribution of inland fisheries to poverty alleviation, food and nutrition security, wealth creation and socio-economic benefits to fishing communities". The strategy has seven thematic areas which were also referred to in assessing Lesotho's alignment.

2.2 METHODOLOGY

The methodology used to assess Lesotho's alignment with the PFRS, and the objectives of AU Agenda 2063 included a comprehensive review of the country's policy and strategic frameworks. In the absence of sector-specific policies and strategies, the review was limited to the relevant sector policies and regulatory instruments, the *Lesotho Instrument Based National Agricultural Investment Plan (L-IB-NAIP)* and the *Lesotho Climate-Smart Agricultural Investment Plan (CSAIP)*, developed in partnership with the World Bank. In addition, documents from

government institutions, particularly the Lesotho Highlands Development Authority (LHDA), were reviewed due to their potential for small-scale fisheries development and current involvement in Lesotho's aquaculture sectors. The following were actions undertaken in the review process:

a) Literature Review

The literature review focused on Lesotho's policy and strategic frameworks to assess their alignment with the PFRS and the *Guide for the Implementation of the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa.* An extensive list of national and regional documents was reviewed, including AU-IBAR reports, Lesotho's environmental and climate change policies, such as the *National Environment Policy (1998)* and *Lesotho's Climate Smart Agricultural Investment Plan (2019),* LHWP-specific policies, including the *Maloti Minnow Conservation Action Plan (2019)* and the *Biodiversity Management Action Plan (2021),* Fisheries management tools, such as the *Freshwater Fish Proclamation (1951)* and the draft *Fisheries and Aquaculture Bill (2023)* were also reviewed. Specific actions undertaken in the literature review process included:

- Review of *Lesotho Instrument Based National Agricultural Investment Plan (L-IB-NAIP)* and the *Lesotho Climate-Smart Agricultural Investment Plan (CSAIP)* for alignment with the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS). In addition, the role of the Lesotho Highlands Water Project (LHWP) in supporting PFRS objectives for small-scale fisheries development, while evaluating its contribution to aquaculture development, conservation initiatives, and the sustainable use of aquatic resources in alignment with PFRS goals.
- Review of national laws and regulations, including the *Environment Act 2008* and the draft *Fisheries and Aquaculture Bill 2023*, to determine their alignment with PFRS principles.
- Assessment of the extent to which these frameworks support sustainable fisheries and aquaculture management in line with PFRS policy areas, identifying policy and strategic gaps in the context of PFRS objectives, to draw conclusions and provide recommendations for alignment.

b) Stakeholder Engagement and Data Collection

Engagements with key stakeholders were carried out to ensure inclusivity and collect relevant data. Specific actions included:

- **Consultations with** the Ministry of Agriculture, Food Security and Nutrition, Ministry of Environment and Forestry, Ministry of Trade, Katse Fish Farms, SanLei Trout, and the Lesotho Highlands Development Authority (LHDA).
- **Distribution of o**nline survey, **Online Survey to Monitor the Alignment of National and Regional Fisheries and Aquaculture Policies with the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa** to key stakeholders before the validation workshop to gather preliminary insights.
- **Validation of the findings in a stakeholder workshop** held in Maseru, Lesotho from 23rd to 25th October 2024, where facilitated discussions were conducted to validate the preliminary findings and to solicit recommendations on the way forward for alignment in Lesotho.

c) **Assessment of alignment with PFRS Policy Areas**

- National documents were compared against AU-IBAR guidelines and the PFRS policy areas to identify gaps and opportunities for alignment.
- Excluded policy areas (e.g., estuarine and high seas fisheries) were noted as not applicable to Lesotho's context.

2.3 ASSESSMENT OF LESOTHO'S NATIONAL FISHERIES AND AQUACULTURE INSTRUMENTS AND THEIR ALIGNMENT WITH THE PFRS

2.3.1 Results from the Questionnaire

Of the 30 participants invited to the workshop, only six (6) completed the online questionnaires. Those who did not respond cited unfamiliarity with the PFRS and other instruments referenced in the questionnaire, stating they lacked sufficient knowledge to provide informed answers. This sentiment was supported by the analysis of the responses received. The following observations were made from the review of the results:

a. One respondent answered "YES" to all the questions across all policy areas, including those related to high seas; a policy area that is not applicable to Lesotho.
b. Five (5) of the respondents also answered questions in Policy Area 7: High Seas Fisheries, which is not applicable to Lesotho as it is a landlocked country.
c. Another respondent addressed only two questions related to Outcome 3 of Policy Area 8.
d. The remaining respondents answered "YES" to most questions, with a few responses marked as "NO" or "NOT SURE",

Given the low number of responses, the sample was deemed unrepresentative of the key sector stakeholders. The observations highlighted above reveal a general lack of understanding among key sector stakeholders regarding Lesotho's fisheries and aquaculture sector, as well as the policies, strategies, and plans governing it. This lack of understanding and appreciation of the sector was cited by participants as the primary reason for not responding to the request to complete the questionnaire. While the responses that were received offered some useful insights, they were ultimately excluded from the overall assessment of alignment status.

2.3.2 Results from a Review of Documents

In the absence of sector-specific national policies and/or strategic plans, Lesotho's alignment was tested against the two strategic documents namely the **Lesotho Instrument Based National Agricultural Investment Plan (L-IB-NAIP)** and the World Bank's **Lesotho Climate-Smart Agricultural Investment Plan (CSAIP).** In addition, relevant documents from government parastatals notably the Lesotho Highlands Development Authority (LHDA) were included in the assessment due to its strategic potential for small-scale fisheries development, its participation in conservation and sustainable fisheries and aquaculture resource use, and sustainable aquaculture management. LHDA has also participated in the climate risk assessment space and has developed adaptation and mitigation strategies for the LHWP.

The Lesotho's alignment to the PFRS was tested against the Policy areas of the PFRS, these Policy areas are:

a. POLICY AREA 1: Conservation and Sustainable Fisheries and Aquaculture Resource Use
b. POLICY AREA 2A: Small Scale Fisheries Development
c. POLICY AREA 3: Sustainable Aquaculture Management
d. POLICY AREA 4: Responsible and Equitable Fish Trade and Marketing
e. POLICY AREA 5: Regional and Sub-Regional Cooperation
f. POLICY AREA 6: Awareness Enhancing and Human Capacity Development
g. POLICY AREA 8: Cross-Cutting Issues in African Fisheries and Aquaculture

Policy areas 2B - Identification, Development and Promotion of Estuarine and Mangrove-based Shellfisheries (EMS) among the AU-MS and Policy area 7- high seas fisheries were excluded from the assessment as they are not applicable in the context of Lesotho.

2.3.3 Documents Perused:

a. AU-IBAR 2018. Strategy For Rational Management of African Inland Fisheries.
b. AU-IBAR Reports
c. A Guide for the Implementation of the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa
d. Lesotho Environment Act, 2008
e. Proclamation (Freshwater Fish Proclamation) 45 of 1951
f. Fisheries Act (Fisheries and Aquaculture Bill), 2023 (draft)
g. Lesotho Water Act 2008
h. LMS 2017. Lesotho's National Climate Change Policy. Ministry of Energy and Meteorology, Lesotho.
i. Treaty on the Lesotho Highlands Water Project, 1986
j. Lesotho Highlands Development Authority Order, 1986
k. Lesotho Highlands Water Project (Reservoirs) Fishing Regulations, 1999
l. National Environment Policy for Lesotho, 1998
m. Lesotho Environment Impact Assessment Regulations, 2021
n. Lesotho Highlands Development Authority – Environment Policy 2020
o. Regulations for the Management of Fresh Water Aquaculture in the Lesotho Highlands Water Project Reservoirs, 2012
p. Lesotho Climate Smart Agricultural Investment Plan (CSAIP), 2019. The World Bank.
q. Lesotho Instrument-Based National Agricultural Investment Plan. Maseru: Ministry of Agriculture and Food Security, Lesotho, 2022-2026
r. LHWP Maloti Minnow Conservation Action Plan, 2019
s. LHWP Biodiversity Management Action Plan, 2021
t. LHWP Integrated Catchment Management Strategy, 2019

2.4 SUMMARY OF ALIGNMENT

Overall, Lesotho demonstrates partial alignment with regional and global frameworks such as the African Union's Agenda 2063, the Malabo Declaration, and various trade protocols (SACU, SADC, AfCFTA). However, significant gaps exist in sector-specific policies, particularly in fisheries and aquaculture. The following is a summary of the alignment status of Lesotho to the African Union Policy Framework and Reform Strategies for Fisheries and Aquaculture in Africa (PFRS). The detailed alignment assessment and scoring is presented in Table 4 of this report.

Table 2: Summary Alignment to the PFRS

Policy area	LIB-NAIB Alignment with PFRS
Policy Area 1: Sustainable Fisheries and Aquaculture Management	Based on the alignment levels of the three outcomes Lesotho has attained an **average alignment score of 54.3%**. the scores for each of the outcomes under this policy area are as follow**s:** a) **Outcome 1: Policies, frameworks, and tools in place to sustainably increase national benefits from fisheries and aquaculture** • **Level of Alignment**: 45.8% • **Key Points**: o Fisheries and aquaculture are partially mainstreamed into national development plans and strategies especially those of the LHWP o National budget allocation and external funding (e.g., SADC, FAO) support specific aquaculture initiatives related to policy and strategy development and capacity building, but there is no specific budget for fisheries and aquaculture development o Challenges include outdated legal frameworks, lack of quarantine measures, and minimal data systems at the national level. b) **Outcome 2: Effective and sustainable national and regional Monitoring, Control, and Surveillance (MCS) systems in place to ensure sustainable benefits** • **Level of Alignment**: 50% • **Key Points**: o Some MCS mechanisms exist, such as the issuance of fishing permits and LHWP-specific regulations. o Regional cooperation for MCS is limited to awareness campaigns and LHDA collaboration with ORASECOM in monitoring fisheries resources as part of EFR activities. o Broader national MCS systems require strengthening. c) **Outcome 3: Healthy ecosystems to support sustainable fisheries and aquaculture** • **Level of Alignment**: 67% • **Key Observations**: o Collaboration exists with industry experts for aspects like water quality management and vaccine development in the LHWP space. o Research and conservation efforts are emerging but need broader implementation. o Tools to protect fishery resources and address pollution are present but are partially effective (e.g. adherence to Environmental Management Plans (EMPs).

Policy area	LIB-NAIB Alignment with PFRS
POLICY AREA 2A: Small-Scale Fisheries Development	The overall average alignment score under this policy area is **37.5%** based on the three (3) outcomes. The key areas of alignment for each of the outcomes can be summarized as follows: a) **Outcome 1: Role and importance of fisheries for improved livelihoods, food, and income of small-scale fishing communities and related operators are evident, recognized, and secured** • **Level of Alignment**: 37.5% • **Key Observations:** o Results of conducted subsistence fisheries surveys show growing reliance of communities that reside around LHWP dams on fish resources for livelihoods, income and food security o Small-scale fisheries are partially prioritized, but there is no explicit focus in national strategies like the L-IB-NAIP or NSDP II. o Value chain development is not known because most of the fishing and related sale are illegal b) **Outcome 2: Bilateral and regional cooperation for effective management of shared fishery resources and ecosystems is strengthened** • **Level of Alignment:** 50% • **Key Observations:** o Regional protocols (e.g., SADC, ORASECOM) provide a framework for cooperation and shared resource management. o Mechanisms to monitor illegal, unreported, and unregulated (IUU) fishing exist but are limited in scope. These are applied in the LHWP areas where structured monitoring of illegal fishing exists. c) **Outcome 3: Fishers are organized to foster good fisheries governance, sustainable development, and responsible use of natural resources** • **Level of Alignment**: 25% • **Key Observations:** o Outdated policies and lack of a finalized Fisheries and Aquaculture Bill hinder progress. o No fishery resources user/management groups o Environmental education drives on sustainable use of fisheries resources is limited to the LHWP area o Limited capacity-building initiatives exist for the management of fisheries operations, and these are supported by agencies such as FAO, SADC, and other partners. Due to resource limitations, the Department of Livestock is unable to provide technical support and guidance to small-scale farmers, however, the department provides professional expertise and guidance to the LHDA for the regulation of the aquaculture operations within the LHWP dams

Policy area	LIB-NAIB Alignment with PFRS
POLICY AREA 3: Sustainable Aquaculture Management	The overall average alignment score under this policy area is **55.5%** based on the alignment levels of the two outcomes. The key areas of alignment under each of the outcomes can be summarized as follows: a) **Outcome 1: Improved market-led aquaculture investments** • **Level of Alignment**: 61% • **Key Observations:** o General marketing campaigns exist but lack specific focus on aquaculture. o Infrastructure and financing strategies are partially in place, with donor-funded projects like SADP II and BEDCO supporting small-scale aquaculture operations. o Quality assurance standards, such as HACCP and FSSC certifications, are applied to aquaculture operations, particularly in the LHWP reservoirs. o Skill development and research funding are limited; training plans exist but are not consistently focused on aquaculture. b) **Outcome 2: Improved regional cooperation in shared ecosystems** • **Level of Alignment**: 50% • **Key Observations:** o LHWP regulatory instruments are partially aligned with SADC protocols and FAO guidelines. o Policies on accreditation mechanisms and certification for sustainable aquaculture practices are partially implemented.
POLICY AREA 4: Responsible and Equitable Fish Trade and Marketing	The overall average alignment score under this policy area is **58.5%** based on the alignment levels of the two outcomes. The key areas of alignment under each of the outcomes can be summarized as follows a) **Outcome 1: Improved intra and inter-regional trade** b) **Level of Alignment**: 67% c) **Key Observations:** o Lesotho complies with regional trade protocols under SACU, SADC, and AfCFTA agreements. o The National Trade Policy Framework supports trade efficiency but there are no specific provisions for fisheries and aquaculture. o Compliance with sanitary and market standards is partial; certification mechanisms like HACCP exist for aquaculture operations in the LHWP dams but are not uniformly applied to all fisheries products from other farming operations that sell their products in Lesotho. d) **Outcome 2: Increased competitiveness for African fish and fishery products** e) **Level of Alignment**: 50% f) **Key Observations:** o Infrastructure to support fisheries management is limited to the farms in the LHWP dams, and national quality control laboratories are not accredited. o Value addition is undertaken by one of the trout farmers in the LHWP dams, the second operator transfers whole fish to the Republic of South Africa for further value addition, however, there is limited Government participation. o National trade policies are generally coherent with regional frameworks, though gaps exist in laboratory accreditation and harmonization with regional and other instruments. o Market information exchange is supported through buyer-seller meetings and exhibitions but is not specific to fisheries and aquaculture.

Policy area	LIB-NAIB Alignment with PFRS
POLICY AREA 5: Regional and Sub-Regional Cooperation	The overall average alignment score under this policy area is **50%** based on the alignment levels of the two outcomes. The key areas of alignment under each of the outcomes can be summarized as follows: a) **Outcome 1: International fisheries issues at regional levels are coherent and harmonized** • **Level of Alignment**: 50% • **Key Observations:** o In certain respects, Lesotho's policies align with overarching regional frameworks, such as AU Agenda 2063 and CAADP, but lack specific provisions for fisheries and aquaculture. o Mechanisms exist to address IUU (Illegal, Unreported, and Unregulated) fishing through the Protection of Freshwater Fish Proclamation, engagements with subsistence fishers, and fishing regulations, but there are no comprehensive frameworks to address illegal fishing. o Certification programs like HACCP and BAP are applied to ensure traceability, but broader measures to address seafood fraud are lacking. b) **Outcome 2: RECs (Regional Economic Communities) and RFBs (Regional Fisheries Bodies) are positive forces for fisheries management** • **Level of Alignment**: 50% • **Key Observations:** o Lesotho participates in key bodies like CIFAA and COFI, and benefits from support from the AU-IBAR under the Blue Economy Strategy, but lacks association with regional fisheries bodies such as AWFISHNET. o Specific linkages between RECs and RFBs are not well-defined, though programs like ORASECOM and SADC Protocol on Fisheries provide support to Lesotho through skills development initiatives. o Strategies to prevent and resolve regional conflicts exist under the LHWP being a transboundary water resources development initiative that also incorporates ancillary developments, including fisheries. ORASECOM also provides a platform for the prevention and resolution of regional conflicts.

Policy area	LIB-NAIB Alignment with PFRS
POLICY AREA 6: Awareness Enhancing and Human Capacity Development	The overall average alignment score under this policy area is **16.7%** based on the alignment levels of the two outcomes. The key areas of alignment under each of the outcomes can be summarized as follows a) **Outcome 1: Enhanced sectoral competencies and proficiencies** • **Level of Alignment**: 33.3% • **Key Observations:** o Continuous Professional Education and training exists through LHDA, NUL, LAC, and workshops by the Ministry of Agriculture, but no structured continuous education program is in place that is specifically tailored for fisheries and aquaculture. o Certifications like HACCP and FSSC 22000 are applied by the trout farmers in the LHWP dams, but broader accreditation systems for other stakeholders are lacking. o Lesotho lacks designated centres of excellence for fisheries and aquaculture, and minimum operating standards are not defined in national policies. The ARF provides minimum operating standards for operations in the LHWP dams b) **Outcome 2: Improved evidence-based decision-making** • **Level of Alignment**: 0% • **Key Observations:** o Information-Based Policy Decision Making: LHDA conducts fish stock assessments and uses data to inform policy and decision-making. Nationally, data on fisheries resources is not available hence data is unavailable to guide decision-making and policy on fisheries and aquaculture. o LHDA shares data with stakeholders, research institutions, and students and mechanisms like concept notes and reports are used to inform decision making, and public outreach programs exist. o Workshops, media programs, and collaborations with NGOs address community needs, but outreach and technical guidance and support to small-scale operators is limited due to insufficient resources and personnel.

Policy area	LIB-NAIB Alignment with PFRS
POLICY AREA 8: Cross-Cutting Issues in African Fisheries and Aquaculture	The alignment of Lesotho's policies with key outcomes under Policy Area 8 varies across the themes of resilience, policy coherence, inclusivity, and private sector investment. The overall average alignment score under this policy area is **23%** based on the alignment levels of the five outcomes. The key areas of alignment under each of the outcomes can be summarized as follows: **Outcome 1: Adaptive Capacity and Resilience at the Local Level Built (40%)** **Key Observations:** • Insufficient Capacity-Building: Training programs on climate-smart fisheries are underdeveloped, hindering the sector's ability to adapt to climate challenges. • Incomplete Vulnerability Assessments: Participatory climate change and disaster risk assessments for fisheries and aquaculture are only partially implemented. • Lack of Alternative Livelihoods: Mechanisms to support temporary livelihood shifts during shocks are absent, leaving communities vulnerable. • Insurance and Compensation Gaps: There is no disaster-related insurance or compensation specifically tailored to fisheries and aquaculture, limiting sector resilience. **Outcome 2: Policy Coherence and Coordination at National and Regional Levels Improved (16.7%)** **Key Issues:** • Disaster Risk Management (DRM) and Climate Change Adaptation (CCA) policies do not explicitly provide for fisheries or aquaculture. • There are no specific fisheries and aquaculture policies hence there is a lack of integration of climate change adaptation and disaster risk management strategies. **Outcome 3: Increased Access to Resources (25%)** **Key Observations:** • The regulatory framework (Land Act 2010) partially addresses systemic barriers to women's and youth's access to land and water resources. However, participation of these groups in the sector is limited due to lack of access to financing and technical support • No policies for the security of investments and to ensure market certainty in the fisheries and aquaculture sector. **Outcome 4: Improved Enterprise Performance within the Fisheries and Aquaculture Sector (33.3%)** **Key Observations:** • Partial alignment with the World Bank and WEF competitiveness indicators due to limited investments in infrastructure, and access to financing. ○ In terms of the World Bank Ease of Doing Business Index, Lesotho aligns with some efficiency and inclusivity practices required for enterprise development. ○ Lesotho's policies show partial alignment with the World Economic Forum (WEF) Global Competitiveness Report, particularly in areas such as infrastructure development, business environment enhancement, and human capital growth. Government initiatives targeting education, health, and infrastructure reflect key components of competitiveness. However, challenges like political instability, inadequate infrastructure, and limited access to finance are barriers to full alignment. ○ Alignment with the World Bank Fisheries Performance Indicators (FPIs) is limited. Although efforts in sustainable fisheries and aquaculture exist, particularly in the LHWP, full alignment is challenged by lack of specific financing, infrastructure deficiencies, and technical capacity for the small-scale operators in the lowlands of Lesotho. ○ Awareness raising is undertaken through general campaigns like flea markets and expos but are not specific to fisheries and aquaculture enterprises. **Outcome 5: Improved Private Sector Governance (0%)** **Key Observations:** • Lesotho's performance in Improved Private Sector Governance within the context of the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS) is relatively low. This is largely due to several systemic challenges, including the following: ○ The fisheries and aquaculture sector in Lesotho remains underdeveloped, with minimal private sector investment and engagement. ○ In the absence of a sector specific policy, critical factors required for private sector participation in the sector such as access to finance, public-private partnerships, and business-friendly regulatory environments are non-existent. ○ Small and medium enterprises (SMEs) lack the technical and managerial capacity needed to effectively contribute to the sector's growth and governance.

2.5 IDENTIFIED KEY ISSUES IN THE FISHERIES AND AQUACULTURE SECTOR.

The **Lesotho fisheries and aquaculture sector**, recognized in the NSDP II and other national documents for its potential to significantly contribute to **food security, livelihoods**, and **biodiversity**, faces several policy and regulatory gaps that hinder its sustainable development and management. The key issues for the fisheries and aquaculture sector in Lesotho can be summarized as follows:

a. **Outdated fisheries legislation** – the current legal framework such as the ***Lesotho's Proclamation 45 of 1951***, is outdated and does not adequately address modern fisheries management practices. It does not integrate **current challenges** like **climate change**, **gender mainstreaming**, and regional cooperation, which are core components of the **PFRS**.

b. **Lack of comprehensive fisheries and aquaculture regulatory framework**: Lesotho does not have a standalone national fisheries and aquaculture policy. Whilst the sector may benefit from the provisions in related regulations under the environmental management and agricultural frameworks, the lack of a specific policy targeting the sector limits strategic planning, regulation, and coordinated development of the fisheries and aquaculture sectors.

c. **Inadequate monitoring and data collection:** there is a gap in regular and systematic monitoring of fish stocks especially in areas outside the LHWP scheme area. This may inhibit effective management and conservation efforts and potentially limit the development of the fisheries and aquaculture sector in Lesotho.

d. **Climate change adaptation:** although climate change is predicted to have an on the fisheries and aquaculture sector in Lesotho, the existing legal framework, policies, and strategies do not integrate climate resilience or adaptation that is focused on fisheries and aquaculture. This sector is an indirect beneficiary of initiatives aimed at rehabilitation and restoration of rangelands and wetlands with no specific targeted interventions for the sector. While the general ecosystem management initiatives such as ReNOKA, ROLL, and the LHWP ICM implementation plan address climate change, they do not explicitly cater to the needs of the **fisheries and aquaculture sector**.

e. **Limited access to markets and financing**: the absence of clear policy direction in fisheries and aquaculture development has resulted in limited national budget allocations and missed opportunities to access regional and international financing mechanisms. Consequently, Lesotho's market share in this sector is restricted to aquaculture exports from operations in the LHWP dams. Operators independently seek and secure markets with minimal or no structured support from the government to facilitate market access for their products.

f. **Institutional Weaknesses: Monitoring, Control, and Surveillance (MCS)** systems, along with **data-driven decision-making** mechanisms, are inadequately developed, and the absence of **specialized capacity-building programs** and designated centres of excellence limits skills development necessary for full participation of all stakeholders in the sector.

g. **Economic Development and Trade:** While progress has been made in **regional trade**, the absence of comprehensive value chain development strategies and national **quality control** mechanisms have a potential to limit market access and competitiveness.

h. **Sustainability and Regional Cooperation:** Mechanisms to address IUU fishing are limited to engagement with fishers in the LHWP dams and rivers and comprehensive frameworks and measures against seafood fraud are missing. Lesotho participates in engagements under the Committee for Inland Fisheries and Aquaculture of Africa (CIFAA) and the Committee on Fisheries (COFI) but participation at regional bodies like African Women Fish Processors and Traders Network (AWFISHNET) is inconsistent, and linkages between Regional Economic Communities (RECs) and Regional Fisheries Bodies (RFBs) is weak.

i. **Awareness and Inclusivity:** Awareness campaigns and stakeholder engagement remain generic, with insufficient focus on **empowering small-scale operators** and artisanal and subsistence fishing communities.

2.6 RECOMMENDED ACTIONS FOR ALIGNMENT

The alignment gaps between Lesotho's fisheries and aquaculture policies and the **PFRS** are primarily centered around the lack of a comprehensive, integrated policy framework, weak governance and regulatory structures, limited scientific research capacity, and inadequate attention to climate change and small-scale fisheries. The following are the identified alignment gaps and recommended actions for alignment:

a. **Outdated Legal Framework for Fisheries and Aquaculture:**
   - **PFRS Alignment Gap:** The PFRS advocates for modern legal frameworks to ensure sustainable fisheries. Lesotho's draft Fisheries and Aquaculture Bill has not been passed, and existing laws are outdated. The outdated legal and policy frameworks hinder the sector's ability to adopt sustainable practices and address emerging challenges, including climate change, gender inclusion, and value chain development.
   - **Recommendation for Alignment:** Lesotho should seek support from SADC, AU-IBAR, FAO, and other regional and international cooperating partners in drafting and enacting a **Fisheries and Aquaculture Act** that establishes a comprehensive legal framework for managing and developing the fisheries and aquaculture sector. This Act should cover key areas such as sustainable resource management, climate change adaptation, gender mainstreaming, socio-economic development, and should align with international conventions and best practices. The drafting process of the Fisheries and Aquaculture Bill currently underway should be halted as in its current state it does not fully align with the PFRS, international conventions, and best practices.

b. **Lack of a Comprehensive Fisheries and Aquaculture Policy:**
   - **PFRS Alignment Gap:** the absence of a comprehensive policy and strategy for fisheries and aquaculture in Lesotho is a significant gap. The PFRS advocates for the creation of clear, comprehensive policies that promote sustainability, equitable access, and responsible management of fisheries and aquaculture.
   - **Recommendation for Alignment:** Develop a national fisheries and aquaculture policy that aligns with the PFRS and related instruments, focusing on sustainable resource management, social equity, and climate resilience. Lesotho has received financing from FAO for the development of the aquaculture policy and strategy. In developing this policy and strategy, it is essential to ensure that
     - It is aligned with regional and global frameworks and incorporates both fisheries and aquaculture into a unified policy.

- Efforts are made to align with existing regulatory frameworks to prevent potential conflicts between policy provisions and these instruments. In this regard, care should be taken to ensure that provisions of this policy and strategy do not conflict with the LHWP Treaty and LHDA Order of 1986.
- Baseline data collection is undertaken to inform policy decisions regarding the zoning of fisheries and aquaculture operations across the country. The current zoning structure, which separates the highlands and lowlands, could be retained, with the Lesotho Highlands Water Project (LHWP) area designated as a distinct fisheries and aquaculture zone, considering its unique regulatory framework.
- The strategy includes mechanisms for establishing a robust M&E framework to track the performance of Lesotho's fisheries and aquaculture sector against CAADP goals and the goals of other regional and international instruments to ensure accountability and transparency, coordination, and reporting.

c. Lack of Fisheries and Aquaculture Regulations:

- **PFRS Alignment Gap:** Lesotho lacks comprehensive aquaculture regulations to govern the operation of fish farms, which is essential for ensuring environmental sustainability, preventing pollution, and protecting aquatic ecosystems. The absence of guidelines on water quality, fish health, feed management, and disease control have the potential to undermine effective governance of the sector.
- **Recommendation for Alignment:** Lesotho should develop and implement aquaculture regulations that align with the PFRS, the FAO Protocol, and other related instruments, covering aspects such as water quality, fish health, feed management, and disease control. AU-IBAR, SADC, and FAO can provide technical and/or financial assistance for the drafting of these regulations, to ensure that aquaculture practices meet environmental and sustainability standards, protect aquatic ecosystems, and prevent potential pollution. The LHWP ARF largely aligns with the PFRS and other international instruments and can be used as a foundation in the development of the proposed regulations.

d. Weak Institutional Framework:

- **PFRS Alignment Gap:** Lesotho's institutional framework for fisheries management is weak, with no dedicated fisheries department or unit to oversee the sector. There is a need for strengthened capacity through targeted capacity-building programs to develop the technical expertise required for sustainable fisheries management. In addition, the country lacks accredited laboratories and certification systems to meet international market and sanitary standards, which may limit competitiveness in regional and global trade.
- **Recommendation for Alignmen**t: Lesotho should establish a dedicated fisheries department or unit with clear mandates and responsibilities for managing the fisheries and aquaculture sectors.
- Institutional capacity should be developed through dedicated capacity-building programs to develop technical expertise in sustainable fisheries management and should aim to facilitate centres of excellence of fisheries and aquaculture in line with the provisions of the PFRS. In addition, accredited laboratories and certification systems should be established to meet quality and sanitary standards for the regional and international markets.

e. **Weak Governance Framework for Small-Scale Fisheries:**
   - **PFRS Alignment Gap:** The PFRS and the FAO CCRF highlight the importance of recognizing and supporting small-scale fisheries by ensuring their inclusion and active participation in decision-making processes. Although the Lesotho Highlands Water Project (LHWP) has made efforts to engage subsistence fishers, Lesotho's governance framework for small-scale fisheries remains outdated and lacks an integrated national development strategy. Current efforts, such as the issuance of special fishing permits, resource monitoring, and seasonal restrictions, are confined to the LHWP project area and are not applied nationally.
   - **Recommendation for Alignment:** Modernize the governance framework for small-scale fisheries and ensure the inclusion and participation of small-scale fishers and fishing communities in decision making to ensure that their interests and rights are taken into consideration in the development of policies, strategies, and plans in line with the PFRS's and the CCRF.

f. **Inadequate Capacity for Participatory Fisheries Management:**
   - **PFRS Alignment Gap:** The PFRS and the CCRF promote participatory management involving local communities and stakeholders. Lesotho's fisheries sector lacks sufficient capacity-building programs and frameworks for involving local communities in decision-making processes.
   - **Recommendation for Alignment:** Develop and expand capacity-building programs focused on participatory management, by actively engaging communities, local stakeholders, and government agencies in fisheries decision-making processes. This can be achieved by incorporating targeted extension programs into the fisheries strategy currently under development. These programs should address various stakeholder levels to ensure inclusive participation in the design and implementation of fisheries projects and programs.

g. **Lack of Regional Cooperation and Monitoring Systems:**
   - **PFRS Alignment Gap:** The PFRS and SADC Protocol on Fisheries encourage stronger regional and international cooperation for the management of shared fisheries resources. Lesotho's regional cooperation on fisheries management is limited to the Lesotho Highlands Water Project (LHWP), a transboundary water transfer project that incorporates ancillary developments, including fisheries and hydropower. However, collaboration in this area between the two countries remains limited to specific aspects of the project, notably fish monitoring as part of Environmental Flow Requirements (EFR) implementation. Misalignment has been observed as follows:
     - The absence of a strong and cohesive regional cooperation framework in fisheries and aquaculture management limits the ability to fully participate in the continental initiatives and impedes the effective sharing of knowledge, resources, and technology.
     - **Monitoring, Control, and Surveillance (MCS) Systems**: Although not a regional concern for Lesotho as a landlocked country, illegal, unreported, and unregulated (IUU) fishing poses a significant threat to fisheries resources in the highland rivers and dams. Lesotho can benefit from lessons learned and best practices from other AU Member States that have successfully implemented strategies to combat IUU fishing in inland water resources.
   - **Recommendation for Alignment:** Develop a cohesive regional cooperation framework aligned with the PFRS and the SADC Protocol on Fisheries to enhance collaboration in fisheries and aquaculture management; Expand partnerships beyond the Lesotho Highlands Water Project (LHWP) to include broader knowledge-sharing, capacity-building, and resource-sharing initiatives with

neighboring countries and other AU Member States.

- At the national level, strengthen Monitoring, Control, and Surveillance (MCS) systems to address illegal fishing, which poses a significant threat to fisheries resources in the LHWP reservoirs and the rivers flowing into the dams.

h. Lack of Clear Policy on Climate Change Resilience:

- **PFRS Alignment Gap:** The PFRS emphasizes the need to integrate climate change adaptation into fisheries and aquaculture practices. While Lesotho has developed a National Climate Change Adaptation Policy and fulfilled its commitments under relevant regional and international treaties, such as the Paris Agreement, the UN Framework Convention on Climate Change (UNFCCC), and the Kyoto Protocol, it lacks a targeted climate change adaptation strategy specifically tailored to the fisheries and aquaculture sectors.
- **Recommendation for Alignment:** Develop a comprehensive climate resilience strategy for the fisheries sector, focusing on adaptation measures and integrating them into national fisheries management policies, strategies and plans.

i. Limited Value Chain Development for Small-Scale Fisheries:

- **PFRS Alignment Gap:** The PFRS highlights the need for robust value chains in fisheries, particularly for small-scale operations. However, in Lesotho, small-scale fisheries remain undeveloped, and no value chains have been established. While the aquaculture sector has some value chains, they are also underdeveloped and are primarily driven by individual operators in the LHWP dams, with minimal government involvement. This lack of institutional support in aquaculture demonstrates that the same would apply to fisheries had they been developed.
- **Recommendation for Alignment:** Create a national strategy to develop and strengthen value chains for small-scale fisheries and ensure their integration into broader national economic and agricultural planning documents. To increase competitiveness, there should be specific strategic provisions that facilitate
  - Investment in infrastructure to support fisheries management beyond the LHWP dams, including the establishment of accredited national quality control laboratories.
  - Prioritisation of value chain development by creating an enabling environment for private sector participation in this space to encourage further value addition through investments in processing facilities and strengthening linkages between local producers and international markets.
  - market information exchange tailored to the fisheries and aquaculture sectors, including support for buyer-seller meetings, exhibitions, and provision of market intelligence specific to fisheries products.

j. Weak Biosecurity Measures and Regulatory Frameworks:

- **PFRS Alignment Gap:** The PFRS highlights the need for strong biosecurity measures and regulatory frameworks to prevent the spread of diseases and invasive species in fisheries and aquaculture. Lesotho's regulatory frameworks are weak, and biosecurity measures need significant improvement.
- **Recommendation for Alignment:** Lesotho should integrate specific provisions into its National Fisheries and Aquaculture Policy Framework to:
  - Strengthen biosecurity measures, including the establishment of quarantine facilities and updated regulations to address emerging challenges in aquaculture and fisheries management

- Ensure that certification mechanisms like HACCP are uniformly applied across all fish products to meet regional and international market standards.

k. Inadequate Scientific Research and Monitoring:

- **PFRS Alignment Gap:** The PFRS calls for enhanced scientific research to support decision-making in fisheries management. Lesotho's fisheries research capacity is limited to monitoring done in the LHWP dams and rivers,
- **Recommendation for Alignment:** Invest in scientific research, particularly focused on sustainable fisheries and aquaculture practices, and enhance monitoring systems to improve decision-making and resource management. Specifically, the following should be considered:
  - Form policies that promote collaboration with regional organisations like SADC and AU-IBAR.
  - Develop policies that encourage collaboration between national institutions, including the National University of Lesotho, Lesotho Agricultural College, and other institutions of higher learning, international organisations, and research entities for studies on sustainable fisheries and aquaculture.
  - Develop and implement policies that promote the use of advanced monitoring technologies in fisheries data collection systems, while also prioritizing training programs for local researchers and fishers on sustainable practices.

l. Limited Gender and Youth Inclusion in Fisheries:

- **PFRS Alignment Gap:** The PFRS advocates for the inclusion of women and youth in fisheries governance and decision-making. While there is some promotion of gender and youth inclusion, barriers to participation in Lesotho's fisheries and aquaculture sector by these groups exist.
- **Recommendation for Alignment:** include policy provisions aimed at strengthening efforts to promote gender and youth inclusion by addressing barriers to resource access and providing targeted technical support for these groups in fisheries and aquaculture development and management.

m. Lack of Awareness and Inclusivity

- **PFRS Alignment Gap:** Awareness campaigns and stakeholder engagement remain generic, with insufficient focus on empowering small-scale operators and promoting private sector governance
- **Recommendation for Alignment:** Include policy provisions for targeted awareness campaigns and outreach programs tailored for small-scale fishers and aquaculture operators.
- Engage private sector stakeholders in governance structures and policy dialogue to promote inclusive and sustainable sector development

The following table provides the focus areas, recommended actions, and expected outcomes to aid planning for alignment

Table 3: Summary of Focus Areas, Actions and Outcomes

Focus Area	Recommended Actions	Expected Outcomes
1. Legal and Policy Reform	• Halt the drafting of the current Fisheries and Aquaculture Bill. • Collaborate with AU-IBAR to draft and enact a new Fisheries and Aquaculture Act. • Develop a national fisheries and aquaculture policy integrating sustainability, equity, and resilience.	• Modernized legal and policy frameworks. • Enhanced sector sustainability and resilience. • Alignment with international standards.
2. Governance and Institutional Strengthening	• Establish a dedicated fisheries department or unit with clear roles and responsibilities. • Develop aquaculture regulations to address issues such as water quality, fish health, and biosecurity. • Modernize governance for small-scale fisheries with participatory decision-making mechanisms.	• Clear institutional mandates and oversight. • Strengthened governance capacity. • Enhanced inclusion of small-scale fishers.
3. Regional and International Cooperation	• Establish formal collaboration frameworks with neighboring countries. • Align national strategies with SADC and ORASECOM protocols. • Strengthen Monitoring, Control, and Surveillance (MCS) systems to address illegal fishing in the highlands of Lesotho.	• Enhanced regional cooperation. • Reduction in Illegal, Unreported, and Unregulated (IUU) fishing. • Sustainable aquatic resource management.
4. Capacity Building and Research Enhancement	• Create participatory capacity-building programs for stakeholders. • Strengthen partnerships with regional and academic institutions. • Invest in monitoring technologies and train local researchers.	• Increased technical expertise. • Evidence-based decision-making. • Advanced resource monitoring systems.
5. Climate Change Resilience	• Develop a fisheries-specific climate adaptation strategy. • Integrate climate resilience into fisheries and aquaculture policies and practices.	• Greater adaptive capacity. • Long-term sustainability of ecosystems.
6. Value Chain Development and Market Integration	• Formulate strategies to strengthen and enhance fisheries value chains. • Invest in essential infrastructure, such as processing facilities, cold storage, cold chain transportation, and quality control laboratories. • Ensure fisheries and aquaculture products meet quality assurance and sanitary standards (e.g., HACCP) and align with regional trade agreements.	• Competitive and sustainable fisheries enterprises. • Increased economic opportunities. • Improved trade and market access.
7. Gender and Youth Inclusion	• Identify and address barriers to participation. • Provide targeted support and opportunities for women and youth in fisheries and aquaculture development and management.	• Increased inclusivity in governance. • Empowered women and youth contributing to sector development.

Focus Area	Recommended Actions	Expected Outcomes
8. Awareness and Engagement	• Launch targeted awareness campaigns for small-scale operators. • Engage private sector stakeholders in governance and policymaking.	• Informed and engaged stakeholders. • Strengthened private sector involvement in sustainability.

2.7 DETAILED ALIGNMENT SCORING:

Note: Alignment Scoring, a 'Yes' is given 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 entire framework.

Table 4: Detailed Alignment Scoring

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**		2	7	3	**% 45.8**	
1	***Fisheries and aquaculture are mainstreamed into national development*** *a. Member States should increase allocation of national budgets to fisheries and aquaculture*	X				a. Lesotho Instrument Based National Agricultural Investment Plan (L-IB-NAIP) strategic axis 6: targeted state support and direct transfers to value chain players. 3 investment areas that can be applied to the fisheries and aquaculture sector: • (6.1) Access to key agricultural inputs and support for improved and sustainable practices for targeted groups. • (6.2) Access to agricultural equipment and improved facilities for targeted group. • (6.3) Access to improved agricultural services for targeted groups. • Total Budget L 227 800 000,00 (In terms of allocation, direct financing goes to agronomy and horticulture) b. In the National budget (2024/2025) Fisheries and Aquaculture was allocated funds for Fisheries and Aquaculture Regulation development. The DLS Fisheries Section is working on proclamation review (Protection of Freshwater Fish Proclamation, 1951). c. Additional funding from cooperating partners: • SADP II funded one (1) Trout Farmer • SADC – Trainings on fisheries and aquaculture
						d. There is potential for small scale farmers to produce fish, however their production at the moment is marketed nationally but are working towards production that can be exported. e. The LHDA strategic plan includes the Goal of "Maximisation of commercial opportunities" and has targeted establishment of at least one aquaculture operation in the Mohale dam

	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? *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?* *d. The State must encourage the development, expansion or introduction of new and proven production techniques* *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* *b. endorse and apply standards and norms on aquatic animal health: fish disease, safety, quality and traceability*		X X X X X			a. Policy Implementation Instrument 6.1.1: enabling access for targeted farmers (livestock, crop, fish etc) to safe and quality agricultural inputs b. The State in collaboration with Private sector are going to develop aquaculture strategy supported by FAO for two years (2024 -2025) Technical Cooperation Programme (TCP) 4001. c. NSDP II – section 7: Key priority areas 1- enhancing inclusive and sustainable economic growth and private sector-led job creation (Table 7.2(4) provides as follows: "Aquaculture: Lesotho's climate conditions present great potential for aquaculture. Trout is currently bred and exported to Japan and the European Union" d. Extension Support in climate smart aquaculture systems introduced in the country (aquaponics in Sehlabeng sa Thuathe) a. FAO support for the development of the fisheries and aquaculture Policy, strategy development and capacity building through TCP funding b. SADC Protocol on Fisheries (shared resources) and SADC Protocol on Shared Watercourses - Regional protocols are applied in ORASECOM joint basin survey. c. The ARF regulates the aquaculture operations in the LHWP dams. LHWP is a subregional initiative within the transboundary Senqu River basin. The spatial scope is limited to the LHWP scheme area and not the whole country d. The Proclamation 57 of 1957 Importation and exportation of Livestock and Livestock products, as amended - the document does not contain any provisions related to fisheries and aquaculture. <u>It focuses solely on the importation and exportation of livestock and livestock products in Basutoland (now Lesotho)</u> e. National Biosafety Policy of Lesotho, 2005 – aimed at managing the use of biotechnology while safeguarding biodiversity and human health (aligned with the Cartegena Protocol on Biosafety) f. L-IB-NAIP - **INVESTMENT AREA 7.1** Emergency preparedness - Establishing and maintaining mechanisms for surveillance and prevention of plant and animal pests and diseases – ***(although fish diseases are not mentioned explicitly, they are assumed to be included)*** g. At the national level, all the laboratories are not certified. Department of Livestock services through the International Atomic Energy Agency (IAEA) Project LES 5013 (2024-2027), is supported for capacity development on Fish diseases, safety and traceability. The agency is also supporting with equipment. h. The Regulations for the Management of Freshwater Aquaculture in the Lesotho Highlands Water Project (LHWP) reservoirs provide for the aquaculture operations in the LHWP reservoirs to obtain a certificate for applied quality control measures (HACCP) • ST processing plant is FSSC 22000, and BAP certified • KFF Farm is FSSC 22000 certified and their processing plant in RSA is HACCP certified
	c. implement quarantine measures for the introduction of exotic and genetically modified genomes			X		a. The Proclamation 57 of 1957 Importation and exportation of Livestock and Livestock products, as amended - the document does not contain any provisions related to fisheries and aquaculture. <u>It focuses on the importation and exportation of livestock and livestock products in Basutoland (now Lesotho)</u> b. No quarantine facilities in all borders. The introduction of exotic species is only guided by import permits. The porous borders can easily allow the trafficking or unauthorized entry and exit of invasive or unwanted species.

	d. elaborate mechanisms to support and harmonise the activities of regional aquaculture and capture fisheries bodies		X			a. Capture fisheries is very low in the country; however, all relevant departments and private sector collaborate in awareness on Illegal Unreported and Unregulated (IUU) fishing and the species that are exploited and facing extinction. The capture fisheries is protected under an old and outdated act (Protection of Freshwater Fish Proclamation, 1951). b. The LHDA undertakes subsistence fisheries assessments and holds meetings and workshops with fishers on sustainable fishing methods – IUU is very high in the Lesotho Highlands rivers and reservoirs c. The production system in aquaculture is cage farming for trout and small-scale farmers are using earthen ponds. There was introduction of recirculating aquaculture system but still at an infant stage
2	*Globally accepted best practices integrated into national policy frameworks and tools* *1. Does the policy promote globally accepted best practices and pursuing excellence in fisheries science and integrated evaluations?*			X		a. There is no Fisheries and Aquaculture Policy in Lesotho. Yet to be developed under FAO TCP 4001
	2. Does it promote effective management, improved product processing, utilization and technology transfer?			X		a. See above
3	*Are policy and management decisions made based on the existence of reliable data and information management systems?*		X			a. National = No b. LHDA undertakes winter and summer fish stock assessments in the Katse and Mohale reservoirs and their influent rivers. The data collected has been used to draw the scope of services for Technical Assistance for the Development of a Management and Business Plan for Small Scale Commercial Fishery in the LHWP Dams.
4	*Adoption of participatory fisheries management mechanisms/approaches*		X			a. Fishers are engaged during subsistence fisheries surveys and their concerns and recommendations are taken onboard in decision making = limited to LHWP scheme area
Outcome 2: **Effective and sustainable national and regional Monitoring, Control and Surveillance systems in place to ensure that sustainable benefits are realized**		0	2		**%** **50**	
1	*Are there aspects of MCS in place?*		X			a. Fishing permits application based on LHWP Fishing Regulations and Proclamation number 45 of 1951. b. Yes, in the case of LHDA
2	*Are there mechanisms in place for efficient and effective regional cooperation on fisheries MCS?*		X			a. Awareness campaigns with relevant stakeholders b. Yes, for LHDA
Outcome 3: **Healthy ecosystems to support sustainable fisheries and aquaculture**		1	2	0	**%** **67**	
1	*Are Scientific research (natural, social, economic and technological) that support fisheries management and aquaculture development in place?*		X			a. The aquaculture operations in the LHWP dams work together with industry experts for aspects such as vaccine development, veterinary services, carrying capacity modelling and water quality management on the LHWP reservoirs. b. National University of Lesotho Student Research tiled "Analysis of factors influencing participation in fish farming among farmers in Lesotho." c. Rhodes University PhD Student Research – South African Ph.D. student granted access to data for their thesis titled '**Breaking Tradition: The Emergence of an Alpine Inland Fishery in Southern Africa Following the Development of a Large Dam Project**

2	1. *Are there tools and programmes in place to protect fishery resources and their habitats?*	X				a. L-IB-NAIP-INVESTMENT AREA 4.2: Conversation and sustainable use of natural resources- Promoting best practices for agriculture to maintain biodiversity in agriculture and the environment: to conserve the environment and maintain biodiversity through best practices in agriculture. Budget: LSL 750 000,00 • Policy Implementation Instrument 4.2.2 – Promoting and implementing protection measures for key ecosystems and habitats providing ecosystem services for agriculture: • Policy Implementation Instrument 4.2.3 – Establishing and promoting agricultural practices that preserve & enhance ecosystem services. • Policy Implementation Instrument 4.2.4 – Promoting and implementing 'payment for the environment' schemes where appropriate. • Policy Implementation Instrument 4.2.5 – Defining and enforcing standards and measures to reduce the pollution of land, air, and water from agriculture. b. Plastic Regulations 2022 - The document does not specifically mention provisions for aquatic ecosystems. However, it does define "environment" broadly to include physical factors such as water, which implies that the regulations could indirectly benefit aquatic ecosystems by addressing pollution and environmental management c. LHDA ICM program, ReNOKA, ROLL, ORASECOM (Source to sea)
	2. *Are there measures to adhere to national, regional and international pollution instruments, standards and practices, especially regarding chemical products and plastics?*		X			

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**		0	3	1	**%** **37.5**	
1	*Are there mechanisms and strategies that highlight the economic and social importance of small-scale fisheries development?*		X			a. LHWP Fishing Regulations of 1999 – Fishing methods: • Each angler is allowed a maximum bag limit of four fish that may be caught and removed per angler per day. • Section 7: No person other than African shall take any trout, black bass or non-indigenous fish from any water without having previously obtained the appropriate permit (if any): provided that any occupy of land or his wife or any of his minor children who are ordinarily resident with him shall be entitled to fish in the water b. LHWP TREATY ARTICLE 4 – The purpose of the Project: Each party shall be allowed to undertake ancillary developments in its territory including tourism, fisheries and other socio-economic projects. c. BEDCO and Redcross provides funding for small-scale fisheries farmers and provides support for business plan development. d. Department of livestock offers capacity building and offer logistics to transport fingerlings, for stocking small-scale farmers ponds,

2	*Are there mechanisms and strategies to unlock and unleash potentials of the subsector to generate socio-economic benefits?*		X			a. Department of livestock assist in proposal writing for small scale. b. SADP II and BEDCO offer matching grants to small scale farmers especially youth to expand their enterprise in fish farming. World Vision assists with construction of fishponds and offer fingerlings to small scale fish farmers c. It is in the mid-term plans of the LHDA to develop a small-scale commercial fishery in the LHWP dams d. The LHDA strategic plan includes the Goal of "Maximisation of commercial opportunities" and has targeted establishment of at least one aquaculture operation in the Mohale dam
3	*Is there a system to facilitate organized value chain development in order to effectively derive the benefits from small-scale fisheries?*		X			a. L-IB-NAIP IMPLEMENTATION ARRANGEMENT - Sustainability - to contribute to sustainable agricultural production and productivity, food security and regional integration, enhanced competitiveness and improved markets and trade of agricultural, livestock, fisheries, and forestry products. Budget: use of donor funding.
4	*Are small Scale Fisheries prioritized in National Agricultural Investment Plans (NAIP), Poverty alleviation documents and National strategy documents, etc.?*			X		b. There are no specific provisions for fisheries and aquaculture in the L-IB-NAIP, the NSDP II and other strategic plans
Outcome 2: **Bilateral and regional cooperation for effective management of shared fishery resources and ecosystems is strengthened**		0	2	0	**%** **50%**	
1	*Are there provisions for the adoption and implementation of Regional and intra-regional minimum terms and conditions for access?*		X			a. SADC protocol (article 7) there is provision for member states parties to co-operate in exchange of information on the shared fishery resources. b. Lesotho is a member of ORASECOM, agreement to share water resources with Southern Africa
2	*Are there mechanisms in place for efficient and effective regional cooperation on fisheries management, including MCS, migratory and shared stocks?*		X			a. SADC protocol is being adopted and implemented to monitor IUU fishing and overexploitation of aquatic resources, this is done by LHDA and Department of Livestock
Outcome 3: **Fishers are organized to foster good fisheries governance, sustainable development and responsible use of natural resources**		0	1	1	**%** **25**	
1	*Are the international Guidelines for Securing Sustainable Small-scale Fisheries appropriately applied?*			X		a. No - policies, strategic plans and laws are outdated, the draft fisheries and aquaculture bill are yet to be promulgated
2	*Are provisions made for the capacity of fisheries stakeholders and institutions for participatory management of the fisheries to be developed and nurtured?*		X			a. Fisheries stakeholders are being capacitated by a number of programmes e.g. TCP, FAO, IAEA project LES 5013

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**		2	7	0	**%** **61**	
1	*Are market campaigns included for aquaculture products (awareness creation, PPPPs – Price, Place, Promotion and Product)?*		X			a. The Department of Marketing, with financial support from government partners, organizes general campaigns such as flea markets, expos, and similar events. However, these initiatives are broad and not specifically tailored to fishing-related activities.

2	*Aquaculture infrastructure- Are there measures for the state to provide basic infrastructure for aquaculture development?*		X			a. L-IB-NAIP - A.5. SECTOR PRIORITIES- Level 3: Strengthening systemic capacity to deliver results: Increased public and private investment in agriculture **(Though not explicit, aquaculture is assumed to be included)**
3	*Financing/investment strategy - Are there strategies for the promotion of financial instruments such as guarantee funds, micro-credit institutions?*		X			a. L-IB-NAIP IMPLEMENTATION ARRANGEMENT - Sustainability - to contribute to sustainable agricultural production and productivity, food security and regional integration, enhanced competitiveness and improved markets and trade of agricultural, livestock, fisheries, and forestry products. Budget: use of donor funding. b. Two consultants, specializing in regulatory and economic aspects, have been engaged to assess the feasibility of establishing an Agriculture Development Fund in the country. Both are in the final stages of preparing their reports for presentation.
4	*Quality assurance and standards - Are there provisions for aquaculture product labelling and traceability through certification programmes?*		X			a. The Regulations for the Management of Freshwater Aquaculture in the Lesotho Highlands Water Project (LHWP) reservoirs provide for the aquaculture operations in the LHWP reservoirs to obtain a certificate for applied quality control measures (HACCP) • ST processing plant is FSSC 22000, and BAP certified • KFF Farm is FSSC 22000 certified and their processing plant in RSA is HACCP certified
5	*Skills development plan - Are there provisions in the policy for aquaculture development plan and strategies to appropriately address competencies and skills development?*		X			b. LHDA develops and implements annual training plan which incorporates training on fisheries and aquaculture, areas of training are informed by skills assessment of relevant officers against policy and compliance requirements
6	*Research and Extension Services - Are there provisions of adequate funding for research to enhance technology development and innovation?*		X			a. The Department of Agricultural Research does not have funding allocated for fisheries and aquaculture research. However, the NUL Department of Animal Science has a sectoral research budget, although it is not specifically designated for aquaculture.
7	*Fish farmers associations or cooperatives- Is there the existence of an institutional framework to allow Fish farmers associations and cooperatives to flourish?*	X				**a. L-IB-NAIP's VISION AND DEVELOPMENT OBJECTIVES - *Food and nutrition security, and decent jobs for all Basotho:*** To achieve that vision, the Government is committed to promoting the transformation of the Lesotho agri-food-systems, with a focus on upgrading and aggregating smallholder farmers into priority commodity value chains. **b. INVESTMENT AREA 2.2: Upgraded Value Chain Organization, Aggregation, Traceability and Operations Visibility:** • **Policy Implementation Instrument 2.2.6 - Promoting and strengthening producer and value chain operator organisations and associations:** The PII will have some *communication and capacity building measures* that will be a requirement for the mobilisation of support among the potential membership of these organisations, assisting them in clarifying their goals and objectives, develop and provide them with appropriate tools and skills and knowledge to manage their organisations and its activities, and to monitor and review their progress as an organisation on a regular basis. **c. LHWP AQUACULTURE REGULATORY FRAMEWORK- Chapter 4, Ecosystem integrity & veterinary services 16.** Sustainable aquaculture: The Authority shall encourage the establishment of aquaculture farmer groups and producer associations with the intention of sharing data, information, resources, and experiences.

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				a. There is a one stop shop at The Ministry of trade to facilitate registration and investments by the private sector.
9	*Growth in trade of locally produced aquaculture products- Are there measures for the protection of local aquaculture products from imported products?* *Are there programmes in place to increase competitiveness of locally produced aquaculture products?*		X			**a. Trade Agreements:** SACU 2002, Article 26 on infant industry protection (not specific to aquaculture). **b. Legislation:** Agriculture Marketing Act of 1967. The purposes of this Act are to ensure fair prices for producers, enhance product value through processing and marketing, maintain quality and fair pricing for products sold in Lesotho, gather information on production and marketing activities, and regulate exportation and importation of products to benefit Lesotho. It also aims to prevent the importation of unsafe or inappropriate products**. There are however no specific provisions related to fisheries and aquaculture.** **c. Grant-Funded Projects: (**is there any specific support to aquaculture) • SADP II (Smallholder Agriculture Development Project) – support aquaculture development in Thaba Tseka. • BEDCO (Basotho Enterprises Development Corporation). – support to youth in aquaculture in the Maseru district and Berea • CAFI (Competitiveness and Financial Inclusion Project) - an opportunity for capacity development
Outcome 2: **Improved regional cooperation in shared ecosystems**		0	3	0	**%** **50%**	
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			a. The LHWP ARF is largely aligned with the SADC Protocol on fisheries and FAO code of conduct for responsible fisheries. In addition, SADC monitoring protocols are applied in the ORASECOM joint river basin monitoring.
2	*Are the policies consistent with best ecosystems management approaches (e.g. FAO, EAF, EAA, CCRF)?*		X			a. LHWP regulatory instruments are partly aligned b. National Livestock Development Policy 2021- The Lesotho Livestock Policy 2020 acknowledges the crucial role that fisheries play in the country's economy and food security. However, it highlights several significant challenges that impede the development of fisheries. These challenges include the lack of efficient and affordable farm-made feeds for different fish development stages, inadequate fish seed for cultured species, declining indigenous fish stocks, insufficient fish handling and storage facilities, poor distribution and marketing systems within the domestic market, a shortage of local personnel with the necessary managerial and technical competencies to operate fish business ventures, and weak institutional, policy, and legal frameworks for fisheries development. There are no policy provisions that are related to fisheries and aquaculture hence no alignment with best ecosystems management approaches
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			a. The Regulations for the Management of Freshwater Aquaculture in the Lesotho Highlands Water Project (LHWP) reservoirs provide for the aquaculture operations in the LHWP reservoirs to obtain a certificate for applied quality control measures (HACCP) • ST processing plant is FSSC 22000, and BAP certified • KFF Farm is FSSC 22000 certified and their processing plant in RSA is HACCP certified

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		1	2	0	% **67%**	
1	*Is there compliance with agreed regional trade protocols and regulations?*	X				a. As a signatory to Regional Trade Agreements such as SACU, SADC, and AfCFTA, Lesotho is obliged to adhere to regional trade protocols and regulations, Lesotho generally complies with its obligations under these Regional Trade Agreements and seeks to continually align its policies and regulations with the provisions of these agreements, including trade facilitation, tariff reductions, and adherence to regional standards b. National Trade Policy Framework (Trade and Sustainable Development) – the Framework aligns with regional trade agreements like SACU, SADC, and AfCFTA by establishing initiatives such as the Trade Information Portal and National Single Window to reduce transaction costs and improve trade efficiency.
2	*Is it coherent with fish trade policies and other policies?*		X			a. They are generic as they cover trade across the board
3	*Is it Compliant with sanitary standards and market requirements?*		X			a. Some products use Good Agricultural Practices (GAP), Ministry of Agriculture (Livestock Services - sanitary, Agric Research- Phyto sanitary) b. The Regulations for the Management of Freshwater Aquaculture in the Lesotho Highlands Water Project (LHWP) reservoirs provide for the aquaculture operations in the LHWP reservoirs to obtain a certificate for applied quality control measures (HACCP) • ST processing plant is FSSC 22000, and BAP certified • KFF Farm is FSSC 22000 certified and their processing plant in RSA is HACCP certified
Outcome 2: Increased competitiveness for African fish and fishery products		0	5	0	% **50%**	
1	*Economically efficient fisheries sector - Are fisheries sustainably managed and supported by appropriate infrastructure and prudent macroeconomic management?*		x			a. There is infrastructure in place, but this is limited, more effort required to ensure infrastructure is requisite for efficient management. b. Fisheries and aquaculture bill is being developed for prudent macroeconomic management among others
2	*Standards and supportive technology - Is infrastructure, such as the National fisheries quality control laboratory for standardization of fishery products in place? Does it conform to international guidelines for certification of fishery products?*		X			a. The laboratories are there, but they are not accredited
3	*Competitiveness through increasing value chain efficiencies - Are there appropriate pricing conditions for value addition across value chain segments?*		X			a. Processing is there but more opportunities for further value addition
4	*Coherence of trade policies (harmonization) - Are national trade policies coherent and harmonized at sub regional or regional levels?*		X			a. National Trade policies are well aligned to regional instruments, e.g. industrial policies, SPS and TBT protocols (shortcoming is that there are no accredited laboratories in Lesotho), customs procedures etc.

5	*Consumer Information - Is symmetric information ensured between buyers and sellers?*		X			a. Information is generally available in the market b. Department of Marketing hold buyer seller meetings so that buyers state their requirements to sellers. c. Market days and exhibitions provide opportunity for buyers and sellers to share information. d. Agricultural Marketing Act 1967 e. Meat Legal Notice No.141 of 1992 f. Agricultural marketing Regulation 1974 Note: None of the above are specific for fisheries and aquaculture but there is opportunity for inclusion at review

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**		1	1	0	**%** **50**	
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			a. The L-IB-NAIP is aligned to the Africa Union and the AUDA-NEPAD Agenda as outlined in the CAADP results framework. The CAADP Results Framework is an integral part of the AU Agenda 2063 and defines the agricultural "space" in the agenda. It is earmarked as the tool that will be used in tracking, monitoring, and reporting on the progress in meeting the Malabo commitments. Specific provisions: • A.5. SECTOR PRIORITIES - A.5.1. International – regional (SADC, AU) overarching policy and objectives • Level 1: Agriculture's contribution to economic growth and inclusive development • Level 2: Agricultural transformation and sustained inclusive growth • Level 3: Strengthening systemic capacity to deliver results **Although aligned, there are no specific provisions for fisheries and aquaculture, these are presumed to be included under Agriculture**
2	*Are there measures in place to address Illegal, Unreported and Unregulated (IUU) fishing?*	X				a. The Lesotho's Proclamation 45 of 1951, also known as the Fish Protection Proclamation and Lesotho Highlands Water Project (Reservoirs) Fishing Regulations, 1999 - provide for issuance of fishing permits which is a mechanism for prevention of illegal fishing
3	*Are there mechanisms to address seafood fraud?*	X				a. CITES b. Importation and Exportation of Livestock and Livestock Products, Amendment Act 1984 – although not specific for fisheries and aquaculture, provisions are applied when fish products are exported from Lesotho c. Certification and traceability programmes – Hazard Analysis and Critical Control Point (HACCP), Best Aquaculture Practices (BAP) and Aquaculture Stewardship Council (ASC) programmes d. FAO awareness, support and guidance to strengthen national food regulatory programmes against seafood fraud in developing countries
Outcome 2: **RECs and RFBs are positive forces for fisheries management within the framework of regional economic and political integration agenda**			2	0	**%** **50**	

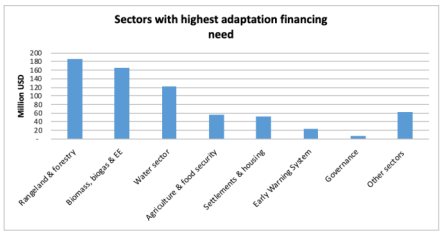
1	*Are there mechanisms for linkages between RECs and RFBs?*		X			a. There is no specific reference to Regional Economic Commissions (RECs) and Regional Fisheries Bodies (RFBs). However, when this outcome is applied in the context of AU-IBAR Strategy for African Continental and Inland Fisheries, the LHDA established fishing groups to develop a long-term sustainable rural community-based fishery in the Katse Dam. Members were capacitated through provision of fishing gear and were trained on gillnetting b. Lesotho is a member of the Committee for Inland Fisheries and Aquaculture of Africa (CIFAA) c. Committee on Fisheries (COFI) d. Member of the Africa Women Fish Processor and Traders Network (AWFISHNET)
2	*Are RECs and RFBs vehicles to promote a well-defined fishery and aquaculture?*		X			a. Committee on Fisheries (COFI) b. SADC Protocol on Fisheries c. AU-AIBAR support for the development of the Blue Economy Strategy
3	*Are there strategies and mechanisms in place for preventing and resolving regional conflicts?*					a. Lesotho is a member of ORASECOM, SADC

POLICY AREA 6: AWARENESS ENHANCING AND HUMAN CAPACITY DEVELOPMENT

Criteria for Alignment YES		Check **X** to Indicate if:				Comment and Reference
		I N PART	**No**	Level of alignment (%)		
Outcome 1: Enhanced sectoral competencies and proficiencies		0	2		**% 33.3**	
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			a. LHDA develops and implements training which incorporates training on fisheries and aquaculture – areas of training are informed by skills assessment of relevant officers against policy and compliance requirements b. There is no special programme for continuous professional education, instead: • **National University of Lesotho (NUL)**: Offers two aquaculture courses as part of its Bachelor of Science program, designed to equip graduates with essential aquaculture skills. NUL offers a two-week aquaculture training for farmers, typically after which participants receive certificates of competence. • **Lesotho Agricultural College (LAC)**: Includes an aquaculture module within its Diploma in Agriculture (Animal Production) program, aimed at enhancing students' skills in aquaculture practices. • **Ministry of Agriculture – Department of Livestock Services (DLS)**: Conducts workshops to equip farmers with practical knowledge and skills in fish husbandry practices.
2	***Accreditation of practitioners and institutions*** - *Are there provisions for relevant stakeholders/institutions to be accredited to maintain relevance?*		X			a. The Regulations for the Management of Freshwater Aquaculture in the Lesotho Highlands Water Project (LHWP) reservoirs provide for the aquaculture operations in the LHWP reservoirs to obtain a certificate for applied quality control measures (HACCP) • ST processing plant is FSSC 22000, and BAP certified • KFF Farm is FSSC 22000 certified and their processing plant in RSA is HACCP certified

3	*Facilitate centres of excellence of fisheries and aquaculture - Provision in the national and regional policies that ensures continual establishment, development and maintenance of minimum operating standards*			x		a. World Organization for Animal Health (WOAH) Terrestrial and Aquatic Animal Health Codes *provide standards for the improvement of animal health and welfare and veterinary public health worldwide* b. Recommendation: The policy that talks to maintenance of minimum OPS should be developed.
Outcome 2: **Improved evidence-based decision making**		0	3	0	**%**	
1	*Is Information-Based policy decision making evident in the policy?*		X			a. LHDA undertakes winter and summer fish stock assessments in the Katse and Mohale reservoirs and their influent rivers. The data collected has been used to draw the scope of services for Technical Assistance for Development of a Management and Business Plan for Small Scale Commercial Fishery in the LHWP Dams. This is aligned with the LHWP Environment Policy b. There is no policy on Aquaculture and fisheries.
2	*What provisions exist to facilitate Information sharing between policy makers and policy consumers?*		X			a. LHDA – concept notes, reports shared with the LHWP governance structures (Board of Directors and LHWC) b. MAFSN has a section that deals with Aquaculture which disseminate information to consumers through public gatherings, social media and manuals.
3	***Responsive to real community needs*** *- What strategies exist to improve enabling conditions in fish producing communities to enhance competence?*		X			a. The Department of Livestock Services conducts workshops in different districts on fish husbandry practices aimed at enhancing the competence of fish-producing communities. b. There are also radio and TV programmes that advocates the best practices in Aquaculture. c. But the officers are few to cover the whole country efficiently. d. DLS works with Lesotho National Farmers Union (LENUFU) to reach famers e. There are NGOs like World Vision which also facilitate producers. f. SADP

POLICY AREA 8: CROSS CUTTING ISSUES IN AFRICAN FISHERIESAND 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
		I N PART	**NO**			
OUTCOME 1: Adaptive capacity and resilience at the local level built		1	2	2	**%** **40**	
1	*Capacity building programme on climate smart fisheries - Is there promotion of capacity building in the sector on climate change?*		X			a. The LHWP Climate Change Vulnerability Assessment Report, May 2023 outlines the consequences of climate change on LHWP in future climates. While the report points out that climate change will affect the availability of water for sectors such as fisheries, it does not provide for capacity building in the sector on climate change. b. The Department of Livestock Services includes the promotion of covered fish structures during their awareness campaigns and workshops
2	*Communication systems- Are there systems on participatory Climate Change (CC) and Disaster Risk (DR) vulnerability assessment and aquaculture development?*		X			a. There is ongoing engagement with the sectors to assess how livestock, including fish and aquaculture, will be impacted by climate change based on the climate projections available in the country.

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		a. No
4	*Early warning system in place as a focus for disaster - Are there provisions for early warning mechanisms at national level?*	X				**a. National Climate Change Policy Implementation Strategy (NCCPIS)** • Strategic Objective 1, Strategic Outcome 1, Strategic Result 1.1 Established early warning system frameworks. • 2.6.2 Resource Mobilization; More than US$20M Budget distribution from 2017 - 2022 **Figure 2: Climate Change Action Budget Distribution 2017-2022**  **Figure 3: Sectors with Highest Adaptation finance need** • Table 2 Key elements of M&E: Robust early warning systems as an indicator to track climate resilience in the economy. • LMS is implementing EWS (Early Warning System) I and II in three components: o establishment of necessary infrastructure and human capacity to enable a fully functional national EWS. o creation of institutional mechanisms for coordination and implementation of EWS and pilot testing of EWS protocols and response strategies and sustainability plan
5	*Formulating mechanisms for disaster-related insurance and compensation*			X		a. There is no evidence of the formulation of the disaster-related insurance and compensation. However, when disasters are declared, the GOL provides disaster relief to affected communities and households. The assumption is that farmers, including those in fisheries and aquaculture would also benefit from disaster relief efforts if impacted
OUTCOME 2: Policy coherence and coordination at the national and regional levels improved		0	1	2	**%** **16,7**	
1	*Do the Disaster risk management (DRM) and climate change Adaptation (CCA) policies include fisheries and aquaculture?*		X			**b. Disaster Management Act 2 of 1997 –** says Nothing on fisheries and Aquaculture **c. Climate Change Adaptation Policy** – Not specific to fisheries and aquaculture but captured under smart agriculture issues
2	*Do the Fisheries and aquaculture policies include DRM and CCA?*			X		d. No policy
3	*Are there policies for marine spatial planning?*			X		e. No policy f. There is no Marine in the country
B. Gender and Youth						
OUTCOME 1: Increased access to resources		0	1	1	**%** **25%**	

1	*Do policies and interventions aim at attracting women and youth?* *Do they address key barriers and constraints to entry and access to land and water?*		X			**a. National Environment Policy** • **Section 4.23: Objective:** Ensure integration of gender. Youth and children's concerns in environment policy, planning and management • **Strategies 6 –** accord to women equal rights and access to credit facilities, pensions and security of employment **b. NSDP II 2024 – 2027 Extended** • All development projects and programs to be inclusive i.e. attracting women and youth into fisheries. Thus, there is an intention to empower women and youth in fisheries. • All development projects and programs to address gender inequalities. There is a commitment to address key barriers and constraints to entry and access to land and water resources. **c. Land Act 2010** – Provides equal land ownership for both females and males **d. Administration of Estates and Inheritance Act 2024** – Provides equal inheritance to males and females children
2	*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		No policy

C. Private Sector Investments and Financing Mechanisms for Fisheries and Aquaculture in Africa						
OUTCOME 1: Improved enterprise performance within the fisheries and aquaculture sector		**0**	**2**	**0**	**%** **33.3**	
1	~~*World Bank ease of doing business index - Does the policy comply with WB for creating efficient and inclusive practices/values for enterprise and business?*~~	~~√~~				
2	*Global competitiveness report of World Economic Forum - Does the policy Conform with the Global Competitiveness Report of World Economic Forum (WEF)?*		X			a. Lesotho has some policies that align with the objectives outlined in the World Economic Forum (WEF) Global Competitiveness Report. For example, policies related to improving infrastructure, enhancing the business environment, and developing human capital are areas where Lesotho's policies may align with the WEF's focus on competitiveness. The government has implemented initiatives aimed at improving education, health, and infrastructure, which are key components of competitiveness according to the WEF. However, challenges such as political instability, limited infrastructure, and insufficient access to finance still hinder the full alignment with the WEF's competitiveness benchmarks. Lesotho's policies require further strengthening and refinement to better meet the standards set by the WEF Global Competitiveness Report.
3	*World Bank Fisheries Performance indicators - Does it align with the WB Fishery Performance Indicators (FPIs)?*		X			a. Lesotho aligns with some World Bank Fisheries Performance Indicators through its efforts in sustainable fisheries management, fish hatcheries, and water quality improvements. These initiatives support biodiversity and sustainable fish production. However, challenges such as limited funding, technical capacity, and infrastructure deficiencies remain. To fully align with the World Bank's indicators, further strengthening of policies, capacity building, and infrastructure investment is needed.

4	*Awareness of diversity of business structures - Are there provisions for awareness creation that enable practitioners and enterprise owners?*		X			b. The Department of Marketing, with financial support from government partners, organizes general campaigns such as flea markets, expos, and similar events. However, these initiatives are broad and not specifically tailored to fishing-related activities.
OUTCOME 2: Improved private sector governance					**%**	
1	Consistency with industry best practices - Are the policies consistent with efficient structures that enable effective and well-documented best practices?			X		Lesotho does not have a specific policy for fisheries and aquaculture. The documents reviewed do not have specific provisions for improved private sector governance as it relates to this sector.

CHAPTER 3: LESOTHO'S FISHERIES AND AQUACULTURE REGULATORY ENVIRONMENT AND ALIGNMENT WITH REGIONAL AND INTERNATIONAL INSTRUMENTS

3.1 INTRODUCTION

The FISHGOV2 project seeks to improve governance frameworks for fisheries and aquaculture across African countries by enhancing institutional capacity, improving policy coherence, and promoting regional cooperation. While Lesotho does not participate in marine-related treaties, the country remains bound by several key regional and international agreements that aim to ensure the sustainable management of inland water resources and fisheries. These include amongst others the Protocol on Fisheries of the New Partnership for Africa's Development (NEPAD), which provides a framework for strengthening fisheries management and promoting sustainable aquaculture practices across the continent, and the SADC Protocol on Fisheries (2001) which holds relevance to Lesotho, as it emphasizes sustainable management and conservation of inland fisheries within the Southern African region.

The assessment of the status of domestication of international instruments relevant to the development of fisheries and aquaculture in Lesotho is essential for evaluating the country's progress in aligning its national policies with global standards and ensuring the sustainable management of its freshwater resources. This report assesses the extent to which Lesotho has ratified or aligned its national policies with these treaties and provides recommendations for improving the country's governance in the fisheries and aquaculture sectors, with an emphasis on promoting resilience to climate change, ensuring biodiversity protection, and promoting economic growth through sustainable inland fisheries management.

3.2 METHODOLOGY

A comprehensive list of regional, continental, and international instruments relevant to the development of fisheries and aquaculture was compiled, and Lesotho's status of ratification was assessed. The compilation of this list was informed by engagements with AU-IBAR and relevant regional reports. The obligations of member states, and the objectives of these instruments were reviewed to evaluate the status of implementation in Lesotho. Alignment gaps were identified, and recommendations for domestication were outlined, focusing on actions that can be implemented at the national level, as well as those that will require support from regional, continental, and international organisations.

3.3 RELEVANT INTERNATIONAL INSTRUMENTS FOR THE DEVELOPMENT OF FISHERIES AND AQUACULTURE

As an inland country, Lesotho faces unique challenges in developing fisheries and aquaculture including the impacts of climate change, and the sustainable use of its freshwater ecosystems. Several international and regional instruments provide a foundation for addressing these challenges while promoting sustainable fisheries, aquaculture, and biodiversity conservation. These international instruments, along with those

focusing on biodiversity conservation such as the Convention on Biological Diversity (CBD), once aligned will play a critical role in shaping the development of sustainable fisheries and aquaculture in Lesotho. These instruments include but are not limited to:

a. **FAO Code of Conduct for Responsible Fisheries (1995)** which provides global guidelines for sustainable management and conservation of aquatic ecosystems, promoting responsible practices in fisheries and aquaculture.
b. **Southern African Development Community (SADC) Protocol on Fisheries (2001)** which promotes sustainable fisheries management and aquaculture development across member states, with relevance to Lesotho as part of the SADC region.
c. **Convention on Biological Diversity (CBD) (1992)** which aims to conserve biological diversity, promote sustainable use, and ensure equitable benefit-sharing from genetic resources.
d. **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973)**: Regulates the international trade of endangered aquatic species to ensure their conservation and sustainable use.
e. **The United Nations Framework Convention on Climate Change (UNFCCC) (1992)** and the **Paris Agreement (2015)** provide a global framework for addressing climate change, including adaptation measures for vulnerable freshwater ecosystems.
f. **Ramsar Convention on Wetlands (1971)**: Provides a framework for the conservation and sustainable use of wetlands, crucial for maintaining Lesotho's freshwater ecosystems and supporting fisheries and aquaculture.

3.4 RATIFICATION STATUS AND LEVEL OF IMPLEMENTATION OF GLOBAL INSTRUMENTS RELEVANT TO LESOTHO

Lesotho has ratified various regional and international Treaties focused on environmental protection, biodiversity conservation, climate change, and sustainable development. Table 2 below presents these treaties, the year they were ratified by Lesotho, their objectives, member states/parties' obligations, and a high-level status of implementation and/or domestication:

Table 5: Relevant Regional and International Treaties Ratified by Lesotho and the status of domestication or implementation

Name of instrument	Date ratified	Objective	Obligations	Status of implementation / domestication
1. SADC Protocol on Fisheries	2001	to promote responsible and sustainable use of the living aquatic resources and aquatic ecosystems of interest to State Parties, in order to promote and enhance food security and human health, safeguard the livelihood of fishing communities, generate economic opportunities for nationals in the Region, and ensure that future generations benefit from these renewable resources	a) **Sustainable Fisheries Management** - controlling fishing effort to prevent overfishing, using the **ecosystem approach** to fisheries, ensuring that impacts on biodiversity and aquatic habitats are minimized, ensuring that the **precautionary principle** is applied, and that lack of full scientific certainty should not be a reason for postponing conservation measures. b) **Harmonization of Legislation** – harmonize their national fisheries laws and regulations with regional and international instruments c) **Conservation of Fish Stocks -** ensure the conservation of fish stocks, particularly those that are shared or migratory through measures for the recovery of over-exploited fish stocks, establishing and monitoring fishing quotas and seasonal closures, protecting critical habitats such as breeding and nursery grounds to support the regeneration of fish populations. d) **Combating Illegal, Unreported, and Unregulated (IUU) Fishing -** take actions to prevent and combat IUU fishing in their waters and across the region. o Strengthening monitoring, control, and surveillance (MCS) systems. o Cooperating in regional efforts to eliminate IUU fishing, including information sharing, joint patrols, and enforcement actions. o Implementing sanctions and penalties for violations, and ensuring that fishers e) **Aquaculture Development -** promote the development of sustainable aquaculture as a means of enhancing food security, creating employment, and reducing pressure on wild fish stocks though: o setting up policies and regulatory frameworks to ensure environmentally responsible aquaculture practices, and o providing technical and financial support to small-scale aquaculture producers. f) **Capacity Building and Institutional Strengthening** o build capacity in fisheries management, research, and enforcement by training personnel, improving institutions, and strengthening regional cooperation. o technical cooperation among member states, including the exchange of expertise, technology, and best practices in fisheries management and aquaculture development.	The LHWP, while primarily a water transfer and hydroelectric project, has integrated fisheries management into its environmental management plans. Precautionarily, gillnetting is prohibited by law, the permitting system and quota setting are also applied to prevent over-fishing while data is being collected for determination of fisheries potential of the waterbodies. The law further prescribes closed seasons and areas as a measure to protect spawning grounds Implemented through enforcement of existing national fisheries and environment legislations as well as the related LHWP Fishing Regulations Promotion of carp Pond culture system Two operators are farming in the LHWP reservoirs, and one planned in the LHDA strategic plan in Mohale. LHWP ARF Smallholder Agriculture Development Project (SADP) funded Ramarumo Trout Farm, while the Ministry of Agriculture, Food Security and Nutrition provides training to small scale fish farmers. NUL offers a semester course on aquaculture for degree students. LHWP subsistence fishing surveys and fish stock assessments South African Ph.D. student granted access to data for their thesis titled '**Breaking Tradition: The Emergence of an Alpine Inland Fishery in Southern Africa Following the Development of a Large Dam Project** LHDA engages with communities during awareness campaigns on sustainable use of fisheries resources. Ministry of Agriculture, Food Security and Nutrition – Fisheries Section, reports progress to SADC. LHWP ARF

Name of instrument	Date ratified	Objective	Obligations	Status of implementation / domestication
			g) **Research and Data Collection** ○ invest in research and data collection to improve understanding of fish stocks, ecosystems, and the socio-economic aspects of fisheries. ○ Countries should share scientific data and collaborate in regional research efforts to support decision-making and sustainable management of fisheries resources h) **Stakeholder Participation** ○ involve **stakeholders** in fisheries management, including fishers, aquaculture farmers, local communities, and industry representatives. ○ **Use community-based management** approaches, for small-scale and artisanal fisheries, to ensure that local knowledge and interests are integrated into decision-making i) **Equitable Access and Benefit Sharing** ○ ensure that all **stakeholders**, particularly small-scale fishers, have equitable access to fisheries resources and the benefits that come from them. ○ address **gender equality** and ensure that women and vulnerable groups are fairly represented and benefit from fisheries development programs. j) **Reporting and Compliance –** ○ regularly report to SADC on the progress of implementing the protocol ○ ensure compliance with the protocol's provisions and participate in peer reviews of national fisheries management practices. k) **Protection of Freshwater Ecosystems** ○ take measures to protect aquatic ecosystems from degradation, including pollution, habitat destruction, and the impacts of climate change.	

Name of instrument	Date ratified	Objective	Obligations	Status of implementation / domestication
2. FAO Guidelines on Sustainable Aquaculture (2010)	Not binding 2024 POSSIBLY NOT RATIFIED BY LESOTHO CONSIDERING THAT LESOTHO DID NOT ATTEND THE MEETING IN WHICH THE GUIDELINES WERE OFFICIATED	Provide normative guidance for the development and implementation of public policies, strategies, and plans and legal and institutional frameworks for sustainable aquaculture growth. ○ enhance the contribution of aquaculture to global food security, nutrition and poverty eradication as well as societal wellbeing and economic development. a) improve the socioeconomic situation of communities depending on aquaculture for their livelihoods through decent work and economic growth; and • contribute towards achieving the sustainable use, responsible management, conservation and restoration of living aquatic resources, ecosystems and biodiversity consistent with the CCRF and other international instruments relevant to aquaculture, as well as climate change mitigation (Annex 2).	a) **Planning at National level**: ○ Provide requisite regulatory frameworks, strategies and plans that are fair and non-arbitrary in line with Nagoya protocol, ensure that institutional and administrative arrangement is adequate, ensure availability of funds for implementation and monitoring compliance with the GSA, the designation and declaration of aquaculture zones aligning aquaculture development objectives with wider development, minimizing resource user conflicts and considering ecological, social and economic aspects; provide guidance (develop and distribute BAMP) to producers and compliance be monitored by the competent authority. Ensure that the sector provides social benefit (decent jobs, youth empowerment and gender equality), ensure availability of sustainable aquaculture value chains and promote market driven approach to aquaculture development) Adopt FAO code of conduct for responsible fisheries, Network with regional fisheries and Aquaculture bodies Further developments may include promoting integration of aquaculture with agriculture, research and innovation, integration of aquaculture with culture-based fisheries and stock enhancement. Educate nationals on Transparent and predictable market requirements and international trade. Monitor and report status of Aquatic Genetic Resources (AqGR) using international instruments such as SDGs, CBD (Kunming-Montreal Global Biodiversity Framework which emphasizes conservation and management of aquatic biodiversity and management of genetic resources). Monitor and report performance of sustainable aquaculture development to stakeholders and international organisations **Planning at farm level**:, site selection, value chain analysis (including identification of inputs suppliers and markets) selects production systems, meet EIA requirements, ensure availability of perennial water sources, identify risks (**have Strategies to address climate change, natural disasters, pollution and pandemics), plan for social responsibility activities,** determine capital investment, develop expansion plan that is aligned with market response.	No specific law for F&A, inadequate capacity (human resources and institutional arrangement), demarcation of aquaculture zones only in Katse none for land-based aquaculture development, Received FAO assistance in developing relevant policies such as Food and Agriculture Policy (2006), Lesotho water and sanitation policy (2007). On international reporting FAO statistics is annually updated Animal disease surveillance strategy (2018) NSDP (2016-2018) National resilience strategic framework (draft) and national adaptation plan. Lesotho is party to Nagoya protocol and has national Access and Benefit Sharing (ABS) clearing house, the last report on implementation of Cartagena protocol on biosafety was in 2022. Existence of biosafety bill 2022 & biosafety policy 2005 Lesotho has two biosafety labs (NUL, Agric Research) based on Cartagena protocol Code not yet adopted, COFI meetings are no longer attended (the last attended was probably in 2014), and CIFAA meetings are being attended. Farmers' trainings, have platforms for coordination and collaboration such as national conservation agriculture task force and Sustainable Land Management working group Systems limited to pond and cage culture. Reports shared by producers LHWP Aquaculture coordination meeting but no National meetings to share information Climate change adaptation policy to mitigate climate impacts Environment Act & Policy on EIA and Water Act are being observed in the LHWP, nationally not National Food and Nutrition policy (2016 – 2025), LHWP Aquaculture Regulatory Framework (ARF) Food safety policy (draft), Environmental Health Policy (draft).

Name of instrument	Date ratified	Objective	Obligations	Status of implementation / domestication
			Operation: Conserve and protect aquatic biodiversity and genetic resources, land & water management and use of low trophic aquaculture species where possible, minimize environmental impact, optimize water consumption (recirculating systems) develop and implement disease management, biosecurity and animal welfare protocols, manage risk; aim for increased productivity (polyculture, integrated aquaculture, integrated multi-trophic aquaculture) employing improved/best/better management practices throughout the value chain including waste management, Reducing aquatic food loss and food waste, implement social responsibility including provision of decent work and youth empowerment, reporting, Observe food quality and safety in production and processing Implement expansion plan that is aligned with market response	
3. Convention on Biological Diversity (CBD) • **Cartagena Protocol** (on Biosafety to the Convention on Biological Diversity) • **Nagoya Protocol** (on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization under the Convention on Biological Diversity)	1995 2001 2018	conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources	**Conservation of Biodiversity** a) **Develop National Biodiversity Strategies and Action Plans (NBSAPs):** Countries must create and implement plans to protect biodiversity within their borders. b) **Protected Areas:** Establish and manage protected areas to conserve ecosystems, species, and genetic diversity. c) **In-situ and Ex-situ Conservation:** Implement measures to conserve species both in their natural habitats (in-situ) and in controlled environments such as zoos or seed banks (ex-situ).	Lesotho prepared its first **National Biodiversity Strategy and Action Plan (NBSAP)** in 2000 and subsequently updated it in **2016** to align with the **Aichi Biodiversity Targets** (2011–2020) and the broader goals of the CBD Lesotho has established **protected areas** such as the Sehlabathebe, Bokong and Tšehlanyane National Parks, which are part of the Maloti-Drakensberg transboundary conservation area Processes are underway in collaboration with LHDA to declare the rest of the MDTP as a protected area. Maloti Minnow Conservation Action Plan also recommends declaration of Upper Maletsunyane and Upper Jorotane as areas for biodiversity of significant importance. Incorporated some elements of the CBD into its national laws and policies, including Environment Act 2008, LHWP Environment Policy 2020, and BMAP (maloti minnow) working on aligning its policies with the post-2020 Global Biodiversity Framework, adopted at the 2022 CBD COP15 – specific project under GEF financing

Name of instrument	Date ratified	Objective	Obligations	Status of implementation / domestication
4. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	2003	to ensure that international trade in specimens of wild animals and plants does not threaten their survival	a) **National Legislation -** Each party must adopt national legislation to enforce the provisions of CITES. b) **Designation of National Authorities – countries** designate at least one **Management Authority** (granting permits for the trade of CITES-listed species) and one **Scientific Authority** (Provides advice on the effects of trade on the status of the species and ensures that trade is sustainable)**.** c) **Compliance with Trade Regulations for CITES-listed Species -** issue permits for trade in species listed under the three CITES Appendices d) **Conservation of Species and Habitats -** promote the conservation of CITES-listed species. e) **Capacity Building and Public Awareness -** engage in education and awareness programs to increase knowledge of CITES regulations and conservation issues among the public and stakeholders f) **Reporting** ○ **Annual Reports:** countries are required to submit annual reports detailing their CITES trade activities**.** ○ **Biennial Reports:** required to submit reports every two years on their legislative, regulatory, and enforcement measures for implementing CITES	Efforts made to align national legal framework with CITES provisions. The key legislation is the Environment Act of 2008, which includes provisions related to biodiversity conservation, trade in endangered species, and environmental management. Designated a **CITES Management Authority (the Department of Environment)**, which is responsible for issuing permits for the export and import of species listed under the CITES Appendices. The authority works closely with customs officials to regulate and monitor trade in wildlife species. Environment Act 2008, LHDA Environment Policy 2020 and LHWP BMAP (Katse Botanical Garden) focus on protecting species that are threatened by international trade. E.g. **Aloe polyphylla and Vultures and Birds of Prey**: efforts to protect these species from illegal trade and habitat destruction. – BVTF, KBG, in terms of fisheries LHDA BMAP includes conservation of maloti minnow Annual reports on trade supervision and national legislation status are up to date. The last (2023) update was made in March 2024. According to the report, the country's compliance is at category 3.
5. United Nations Framework Convention on Climate Change (UNFCCC)	1995	to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system	a) **Development of NAPAs**: develop **National Adaptation Programs of Action (NAPAs)**, which identify the most urgent and immediate adaptation needs to address the impacts of climate change. These plans should focus on key sectors such as water, agriculture, fisheries, health, and infrastructure. b) **Submit - Nationally Determined Contributions (NDCs) reports** – outline national climate actions to integrate climate resilience across sectors, with a focus on adaptation and sustainable development. c) **Mainstreaming Climate Resilience into National Development Plans** d) **Implementation of Climate-Smart Policies -** develop climate-smart policies that promote sustainability and resilience in critical sectors, such as agriculture, water resources, fisheries, and energy e) **Climate Change Adaptation Strategies -** develop and implement **national adaptation strategies** to address the long-term impacts of climate change. f) **Climate finance** g) **Institutional Framework and Coordination**	Submitted the first **National Adaptation Programmes of Action (NAPA)** in **2007** Under the **Paris Agreement**, Lesotho submitted its **Nationally Determined Contributions (NDCs)** in **2017** which was updated in 2021. Climate change adaptation included in the **National Strategic Development Plan (NSDP II)** Developed a comprehensive **National Climate Change Policy** in **2017** **LHWP climate change vulnerability assessment and development of an adaptation and mitigation strategy (2022)** **Developed national climate change implementation strategy (NCCIS) 2017** **Accessed climate finance** to support its adaptation and mitigation efforts, including: • **The Green Climate Fund (GCF)**: • **The Global Environment Facility (GEF)** • **Bilateral and multilateral partnerships** including the **World Bank**, the **European Union**, and the **African Development Bank**, to fund climate-related projects. Established the **Climate Change Unit, which is currently** within the Ministry of Environment and Forestry to coordinate national climate change efforts.

Name of instrument	Date ratified	Objective	Obligations	Status of implementation / domestication
6. United Nations Convention to Combat Desertification (UNCCD)	1995	to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements	a) Development and Implementation of National Action Programs (NAPs) b) **Mainstreaming Desertification into National Policies** - integrate desertification, land degradation, and drought control into broader **national and sectoral (**agriculture, water and rural development) **policies.** c) **Promotion of Sustainable Land and Water Management** - promote **sustainable land management** and **water resource management,** policies to address land degradation through measures such as soil conservation, reforestation, and sustainable agriculture. d) **Drought Mitigation and Adaptation** – develop **drought preparedness** and **mitigation plans. Focus areas** establish early warning systems, promote drought-resilient agriculture, and implement measures to protect local communities and ecosystems from drought impacts. e) **Strengthening Institutional Capacities** - build capacity in government agencies responsible for land management, increase technical expertise, and mobilize resources for sustainable land use practices	Developed NAPA **in 2007 Implemented a project titled** "Improvement of Early Warning System to Reduce Impacts of Climate Change and Capacity Building to Integrate Climate Change into Development Plans" from 2011 – 2017. Its implementation was determined to be moderately satisfactory. Implementing several **sustainable land management (SLM)** initiatives to combat desertification - ReNOKA, ROLL, Ministry of Forestry, LHDA ICM etc. Initiatives are supported by both national efforts and international partnerships Working to improve its **drought resilience** through initiatives such as: **early warning systems, Water harvesting, ICM as above** Benefited from capacity-building programs under the UNCCD, including training for government officials, local communities, and civil society organisations in sustainable land management techniques
7. Kyoto Protocol	2000	to protect the climate system for present and future generations in accordance with their common but differentiated responsibilities and respective capabilities, recognizing that developed country Parties should take the lead in combating climate change and the adverse effects thereof	a) **No Legally Binding Emission Reduction Targets -** not required to reduce or limit GHG emissions due to low contribution b) **Participation in the Clean Development Mechanism** ○ Encouraging renewable energy projects (e.g., solar, wind, hydro). ○ Improving energy efficiency. ○ Supporting reforestation and afforestation projects, which act as carbon sinks c) **Financial and technological support for adaptation and mitigation.** d) **Capacity building and reporting**	Target to reduce emissions by 30% by 2030 Existing and planned renewable energy projects (Muela, Ramarothole, Mohale's Hoek wind energy, Oxbow hydropower, Floating solar in the LHWP dams, Katse Mini hydro)
8. Ramsar Convention on Wetlands	2004		a) **Designation of Wetlands of International Importance:** designate at least one site that meets the Ramsar criteria as a Wetland of International Importance (Ramsar Site) b) **Wise Use of All Wetlands:** maintain the ecological character of wetlands through sustainable practices that consider the needs of the environment and local communities. c) **Establish National Wetland Policies:** develop and implement national policies, strategies, and legislation for the conservation and wise use of wetlands d) **Maintenance of the Ecological Character of Ramsar Sites**: take steps to maintain or restore the ecological character of designated Ramsar Sites. e) **Public Awareness and Education**: raise public awareness of the importance of wetlands and promote education and community engagement in wetland conservation	Letšeng-la-Letsie was designated a Ramsar Site in 2004. Efforts to maintain and rehabilitate wetlands are ongoing under ReNoka and LHDA projects. The **National Strategic Development Plan (NSDP II)** recognizes the importance of wetlands in achieving sustainable development, especially in the context of climate change adaptation. **Water and Sanitation Policy**: Adopted in 2007, this policy includes the principles of Integrated Water Resources Management (IWRM). IWRM considers wetlands when managing water. **Water Act**: Adopted in 2008, this act includes issues related to wetland protection. Restoration of Letšeng-la-Letsie is ongoing under ROLL project.

Name of instrument	Date ratified	Objective	Obligations	Status of implementation / domestication
9. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal		To reduce the generation of hazardous wastes to a minimum, ensure their environmentally sound management, and regulate transboundary movements of such wastes.	a) **Control of Transboundary Movements of Hazardous Waste** o Prior Informed Consent (PIC) b) **Prohibition of Hazardous Waste Export to Certain Countries** - prohibited from exporting hazardous wastes to c**ountries that have banned the import** of such wastes, **Non-parties** to the Basel Convention and countries that do not have the technical capacity or regulatory infrastructure to manage hazardous wastes safely. c) **Environmentally Sound Management of Hazardous Wastes** - ensure that hazardous waste is **managed in an environmentally sound manner (ESM)** at every stage of its life cycle, from generation to disposal d) **Minimization of Hazardous Waste Generation -** reduce the generation of hazardous waste at the source e) **National Legislation and Regulatory Framework -** implement national legislation to regulate the transboundary movements of hazardous wastes and ensure that domestic practices align with the requirements of the convention. f) **Illegal Traffic -** prevent and punish illegal traffic in hazardous wastes g) **Competent Authorities and Focal Points -** designate a **Competent Authority** to oversee hazardous waste movements and a **Focal Point** to communicate with other countries on Convention-related matters.	Environment Act 2008 and National Environment Policy. Key provisions: • Reduction at source • Recycling • Development of appropriate waste disposal infrastructure
			h) **Reporting and Information Sharing -** submit **annual reports** on the generation, movement, and disposal of hazardous wastes, including information on trade and disposal methods. i) **Technical Assistance and Capacity Building -** Promotes the exchange of **technology and expertise** to assist developing countries in managing hazardous wastes in an environmentally sound manner. j) **International Cooperation -** cooperate in implementing the Convention, sharing **best practices**, and developing regional or bilateral agreements consistent with the Convention. k) **Liability and Compensation –** develop national legal frameworks for **liability and compensation** in cases of damage caused by hazardous waste movements and disposal. l) **Adoption of Technical Guidelines -** creation and use of **technical guidelines** for specific waste types to ensure uniform, environmentally sound management practices globally. m) **Financial Assistance - d**eveloped countries to provide **financial support** to developing countries for building capacity to implement the Convention and manage hazardous wastes.	

3.5 ALIGNMENT GAPS

a) **SADC PROTOCOL ON FISHERIES (2001):** Lesotho has partially implemented the SADC Protocol on Fisheries. The assessment of alignment on different aspects of the protocol can be summarized as follows:

- **Sustainable Fisheries Management**: Some progress through subsistence fishing surveys, stock assessments, PhD student research (Rhodes University), and fishing regulations under LHWP.
- **Aquaculture Development**: Limited to carp pond and cage culture systems, with two operators farming in LHWP reservoirs and plans for expansion into the Mohale dam and the Polihali dam which is currently under construction.
- **Harmonization of Legislation**: National laws on fisheries and aquaculture are not fully harmonized with the SADC Protocol and related regional/international instruments and there is no significant progress in aligning national fisheries laws with regional standards.
- **Capacity Building**: Ongoing training efforts (e.g., NUL aquaculture course), but institutional and human resource capacity remain inadequate.
- **Stakeholder Engagement**: Limited platforms for national coordination and collaboration among stakeholders, with no formal national meetings to share aquaculture and fisheries information..
- **Protection of Freshwater Ecosystems**: Observed within LHWP but inconsistently applied nationally.
- **Limited Monitoring and Enforcement of IUU Fishing**: Insufficient monitoring, control, and surveillance (MCS) systems to effectively combat illegal, unreported, and unregulated (IUU) fishing coupled with limited enforcement capacity.
- **Research and Data Limitations**: Insufficient investment in research and data collection to support evidence-based decision-making on fish stocks and ecosystem management.
- **Climate Resilience**: Insufficient integration of climate change adaptation strategies into fisheries and aquaculture management.

b) **FAO GUIDELINES ON SUSTAINABLE AQUACULTURE (2010):** Lesotho has not ratified or formally adopted the guidelines. The following is a summary of the alignment gaps:

- **Lack of Ratification**: Lesotho has not formally ratified the guidelines, and attendance at FAO Committee on Fisheries (COFI) meetings has been inconsistent.
- **Inadequate Institutional Capacity:** Limited human resources, institutional frameworks, and technical expertise to implement sustainable aquaculture practices.
- **National Planning**: Minimal progress in developing aquaculture zones beyond Katse; land-based zones are underdeveloped. There is evidence of some disease surveillance and monitoring activities in the operations in the Katse dam, but overall implementation of best practices is inconsistent and limited to the operations in the LHWP reservoirs.
- **RestrictedValue Chain Development:** There is evidence of underdeveloped value chains especially for the small-scale operations in the lowlands of Lesotho and there is limited focus on market-driven approaches and expansion planning.
- **Environmental and Social Safeguards**: There is limited attention to social responsibility, gender equality, and youth empowerment in aquaculture operations.

- **Monitoring and Reporting Gaps**: Weak monitoring and reporting systems for aquaculture genetic resources, environmental impacts, and alignment with international standards.

c) CONVENTION ON BIOLOGICAL DIVERSITY (CBD) AND ITS ASSOCIATED PROTOCOLS, THE CARTAGENA AND NAGOYA PROTOCOLS

The alignment gaps between Lesotho's national policies and the Convention on Biological Diversity (CBD) and its associated protocols, the Cartagena and Nagoya Protocols, can be summarised as follows:

- **National Biodiversity Strategies and Action Plans (NBSAPs):** While Lesotho developed and updated its NBSAP to align with the Aichi Biodiversity Targets (2011–2020), there is no clear reference to how the current national biodiversity strategy aligns with the post-2020 Global Biodiversity Framework, which was adopted at CBD COP15. This could result in inconsistencies in policy implementation as the framework shifts to new goals.
- **Protected Areas:** While Lesotho has established protected areas such as Sehlabathebe, Bokong, and Tšehlanyane National Parks, and is working to declare the rest of the Maloti-Drakensberg Transboundary Protected Area (MDTP), facilitated by the LHWP, there is no evidence of a comprehensive strategy or policy to ensure the management and expansion of protected areas across different ecosystems and habitats, as suggested by the CBD.
- **In-situ and Ex-situ Conservation**: While in-situ conservation efforts such as protected areas have been initiated, there is limited information on how ex-situ conservation (e.g., seed banks or zoos) is being incorporated into national biodiversity strategies. The implementation of both conservation approaches needs to be balanced and fully integrated into national plans.
- **Integration with National Laws and Policies**: While Lesotho has incorporated some elements of the CBD into national laws (e.g., Environment Act 2008, LHWP Environment Policy 2020), there is an opportunity to further align specific policies related to biodiversity, particularly in the fisheries and agriculture sectors, with the broader CBD goals.
- **Access and Benefit Sharing (Nagoya Protocol):** there is no explicit documented evidence of the implementation of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their utilization.
- **Biodiversity Monitoring and Reporting**: Although Lesotho is working on aligning its policies with the post-2020 Global Biodiversity Framework, there are gaps in monitoring systems for biodiversity, which are critical for tracking progress toward international biodiversity goals.

d) CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA (CITES)

- **Limited Scope of National Legislation**: The Environment Act of 2008 includes provisions related to biodiversity and trade in endangered species but does not fully address all CITES requirements, such as detailed mechanisms for enforcement and penalties for non-compliance.
- **Insufficient Capacity for Enforcement**: While Lesotho has designated a CITES Management Authority, there is limited capacity in terms of trained personnel, financial resources, and equipment to effectively enforce trade regulations and monitor wildlife trafficking.
- **Gaps in Scientific Authority and Research**: Currently, there is no explicitly designated Scientific Authority responsible for evaluating the sustainability of trade in CITES-listed species, which limits the country's capacity to meet the scientific obligations of the Convention on International Trade in Endangered Species (CITES). While there is ongoing collaboration with South Africa under the

Bearded Vulture Task Force, this initiative is focused solely on raptor-related issues and does not extend to broader biodiversity concerns.

- **Inadequate Public Awareness**: Public understanding of CITES regulations and the importance of protecting endangered species remains low, resulting in limited stakeholder participation in conservation efforts.
- **Limited Integration of Fisheries into CITES Framework**:While efforts to conserve the Maloti minnow and other fish species in the LHWP project areas are underway, fisheries conservation under CITES is not comprehensively integrated into national strategies.

e) RAMSAR CONVENTION ON WETLANDS (STATUS: PARTIALLY IMPLEMENTED)

- **Limited Policy Framework:** Lesotho lacks a comprehensive National Wetland Policy to guide sustainable management and conservation of wetlands beyond the designation of Letšeng-la-Letsie as a Ramsar Site. However, it does have policies and legislation that address wetlands. These include the Water and Sanitation Policy 2007, the Water Act 2008, and the Integrated Catchment Management (ICM) program. LHDA has recently (2024) drafted an ICM Policy that incorporates wetlands but the scope of application of this policy, once approved is limited to the LHWP scheme area.
- **Designation of Ramsar Sites**: Letšeng-la-Letsie was designated as a Ramsar Site in 2004.
- **Wise Use of Wetlands**: Efforts remain limited, with no comprehensive national wetland policy.
- **Insufficient Monitoring and Restoration Efforts**:At the national level, there are limited initiatives to monitor or restore the ecological function of wetlands, however, all wetlands in the LHWP scheme area have been mapped and assessed and a wetlands conservation strategy and monitoring plan has been developed and is being implemented.
- **Low Public Awareness:** Community engagement and awareness about the significance of wetlands are generally low. However, ongoing efforts are being made within the LHWP scheme area to raise awareness in preparation for the expansion of a protected area in the headwaters of the rivers that supply water to the LHWP dams. The primary goal of this initiative is to safeguard wetlands that are crucial for the long-term sustainability of the project.
- **Integration into Broader Development Plans:** The **NSDP II** recognizes wetlands as being **c**ritical for sustainable development and climate adaptation, however, wetland conservation is not fully integrated into all national development sectors, such as water resources management and agriculture. However, in the LHWP, a wetlands conservation strategy has been developed as part of the Integrated Catchment Management (ICM) program. The strategy aims to restore wetlands and protect their ecological and hydrological functions
- **Public Awareness and Education**: Minimal activities to engage communities and stakeholders in wetland conservation. On-going efforts in the LHWP scheme area, under the ReNOKA program and ROLL project.

f) United Nations Framework Convention on Climate Change (UNFCCC)

- **Limited NAPA Implementation**: The 2007 National Adaptation Programs of Action (NAPA) has not been fully implemented, and it does not address adaptation measures for the fisheries and aquaculture sector.
- **Lack of Comprehensive Climate-Smart Policies:** There is currently no comprehensive policy that integrates resilience and sustainability in the management of fisheries and water resources
- **Coordination Challenges:** The Climate Change Unit has limited capacity and resources to oversee

and coordinate national climate change risk assessment and adaptation efforts.

- **Insufficient Climate Finance Mobilization:** While some funding has been secured, financial gaps persist in addressing long-term adaptation and mitigation needs.

g) United Nations Convention to Combat Desertification (UNCCD)

- **Fragmented Land Management Efforts**: Sustainable land management initiatives are scattered across several projects and/or programs coordinated under different ministries and/or organisations with no overall coordination at the national level.
- **Inadequate Drought Mitigation**: Early warning systems and drought-resilient practices are underdeveloped and do not address the specific needs of the fisheries and aquaculture sector.
- **Capacity Building Needs**: Institutional and technical capacities remain insufficient to address desertification challenges effectively.

h) Basel Convention on Hazardous Wastes (1992)

- **Control of Hazardous Waste Movements**: Weak enforcement of national legislation regulating transboundary movements.
- **Environmentally Sound Management**: Progress is limited to isolated efforts under the Environment Act (2008).
- **Capacity Building and Technical Assistance**: No substantial capacity-building initiatives reported.
- **Reporting and Compliance**: Reporting to international bodies remains irregular and incomplete.

3.6 RECOMMENDATIONS FOR HARMONIZATION OF NATIONAL INSTRUMENTS WITH RELEVANT REGIONAL, CONTINENTAL AND GLOBAL INSTRUMENTS

Lesotho's fisheries and aquaculture sectors face several challenges in aligning with regional and international frameworks. Key issues include:

a) Legislative and Institutional Gaps: National policies and regulations are not fully harmonized with the SADC Protocol, FAO Guidelines, and other international instruments.

b) Limited Capacity and Resources: Insufficient human, technical, and financial capacity hinders effective fisheries and aquaculture development and management.

c) Underdeveloped Value Chains: Poorly developed value chains restrict market access, economic growth, and livelihoods for small-scale producers.

d) Weak Monitoring and Reporting: Inadequate data collection and reporting systems limit compliance with international standards and evidence-based decision-making.

e) Climate Resilience Deficits: Limited integration of climate adaptation measures into fisheries and aquaculture management undermines long-term sustainability of the sector.

f) Stakeholder Engagement: There are insufficient platforms and mechanisms for collaboration and knowledge-sharing among stakeholders at the national level.

Based on the above alignment gaps and key issues for alignment the following recommendations are made for Lesotho to align with the regional and international instruments. The recommendations are categorized into those that can be implemented at the national level and those for which the country will need to leverage support from the regional and international organisations

3.6.1 Recommendations for Implementation at the National Level

a) **Policy Harmonization and Legal Framework Development**:

- Lesotho should develop a standalone national fisheries and aquaculture policy that incorporates the principles of sustainable fisheries and aquaculture development and management that aligns with regional and continental strategies.
- Update fisheries and aquaculture laws to align with the SADC Protocol, FAO Guidelines, and other international frameworks.

b) **Institutional Capacity Building**:

- Lesotho should seek to strengthen **institutional frameworks** by establishing a dedicated fisheries department or unit with clear mandates and responsibilities for managing the sector. Institutional capacity should be enhanced through targeted capacity-building programs to develop technical expertise and capabilities for sustainable fisheries management and train personnel in fisheries research, management, and enforcement.
- Lesotho should collaborate with SADC to facilitate knowledge exchange by organizing workshops, study tours, and regional learning opportunities to adopt best practices in sustainable aquaculture and fisheries management
- Develop technical assistance programs for small-scale fishers and aquaculture producers.

c) **Aquaculture Development:**

- Lesotho should access SADC funding mechanisms and international grants to finance aquaculture development projects, including infrastructure, capacity building, and technology transfer.
- Lesotho should promote public-private partnerships (PPPs) by working with SADC to attract investments for aquaculture development and create enabling environments for private sector participation.

d) **Value Chain Development**:

- Identify and develop aquaculture zones, including infrastructure for land-based and cage culture systems.
- Promote public-private partnerships to enhance processing, marketing, and export capabilities.
- Efforts should be made to establish accredited laboratories and enhance certification systems to meet international market and sanitary standards.
- Prepare enabling legal and infrastructure environment for the adoption and implementation of a small-scale fisheries value chain below as developed by McCafferty (2024).

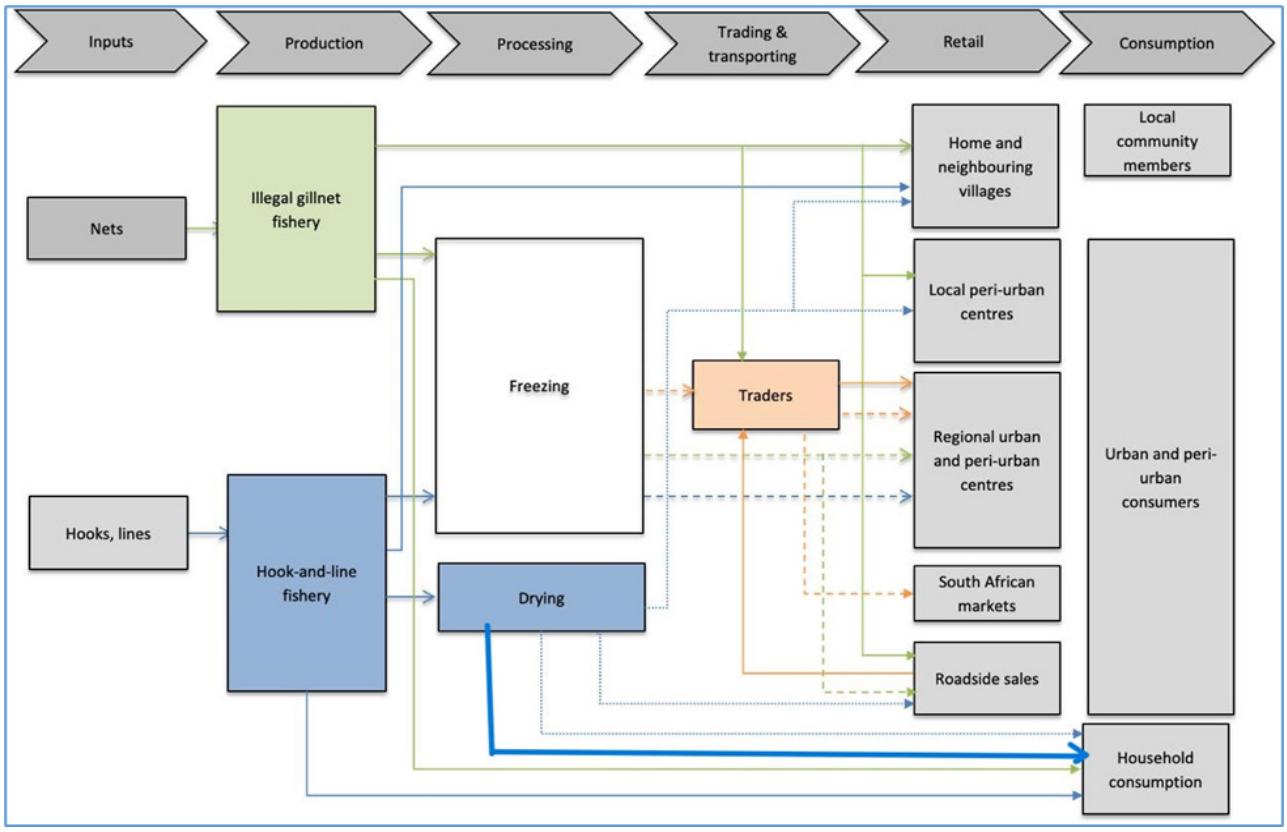


Figure 1:Value Chain for Katse Fishery (McCafferty, 2024)

e) **Climate Resilience and Sustainability**:

- Integrate climate adaptation strategies into policies, focusing on habitat protection, ecosystem restoration, and biodiversity conservation.
- Encourage low-impact aquaculture systems such as Aquaponics and Recirculating Aquaculture Systems (RAS).
- Align national strategies with global frameworks to attract funding and technical assistance for conservation and climate resilience.

f) **Stakeholder Engagement**:

- Establish regular national coordination meetings for fisheries and aquaculture stakeholders.
- Ensure representation of marginalized groups, including women and youth, in decision-making.

g) **Adopt Global Standards**:

- Formally adopt and implement the FAO Guidelines on Sustainable Aquaculture and integrate them into national policies, strategies, and planning.
- Report regularly to international bodies such as the FAO, CBD, and UNFCCC on progress in fisheries and aquaculture sustainability.

h) **Leverage International Support**:

- Seek technical and financial support from international organisations such as the FAO, UNDP, and the World Bank for capacity building, infrastructure development, and research.
- Engage with global fisheries and aquaculture networks, such as AWFishNET to access best practices and innovative solutions.

3.6.2 Recommendations for Support from SADC

a) **Policy Harmonization and Legal Framework Development:** The **SADC Protocol on Fisheries p**rovides a regional framework to promote sustainable and responsible use of living aquatic resources and ecosystems. It emphasizes harmonizing national legislation, combating illegal fishing, and promoting aquaculture development. Lesotho can leverage support from SADC as follows:

- Lesotho should request SADC assistance to review and align its existing policies, regulatory frameworks, and strategies with the PFRS, the SADC RASAP, and relevant international instruments such as the FAO Code of Conduct for Responsible Fisheries.
- Lesotho can seek technical assistance from SADC to align its fisheries and aquaculture policies with regional and international frameworks. In doing this Lesotho can benefit from lessons learned from other SADC member states, a process that is best facilitated by SADC.
- Develop joint enforcement mechanisms to combat IUU fishing, such as coordinated patrols and regional MCS systems.

b) **Capacity Building**: SADC Regional Aquaculture Strategy and Action Plan (RASAP) focuses on building human resource capacity in aquaculture management, providing training in best practices, and supporting knowledge exchange among member states. Lesotho can

- Leverage support under the SADC Regional Aquaculture Strategy and Action Plan (RASAP) to build human resource capacity in aquaculture management by accessing training programs on best practices and participating in knowledge exchange initiatives with other member states. This can be done once the proposed dedicated fisheries and aquaculture unit is established.
- Utilize SADC programs to enhance capacity-building efforts, focusing on training personnel in fisheries management, sustainable aquaculture practices, effective monitoring, and enforcement mechanisms.

c) **Aquaculture Development:** SADC offers a valuable platform for enhancing the development of aquaculture through various collaborative initiatives. The **SADC Aquaculture Working Group** provides an opportunity for Lesotho to engage with neighbouring countries to exchange knowledge, technology, and best practices related to aquaculture development. In addition, Lesotho should

- Utilize the SADC's Technical Guidelines for sustainable aquaculture, which emphasize low-impact systems and market-driven approaches, to guide the growth of Lesotho's aquaculture sector.
- Actively participate in these initiatives to strengthen its aquaculture sector, promote sustainability, and enhance regional cooperation for long-term growth.

d) **Regional Market Access:** SADC helps member states align their fisheries and aquaculture products with regional and international market standards and provides information on market opportunities and facilitates trade within the SADC region. In this regards Lesotho should

- Leverage SADC's support for regional market access by aligning its fisheries and aquaculture products with regional and international standards.
- Take advantage of SADC's market intelligence services to gather valuable information on market trends and trade opportunities to improve Lesotho's competitiveness in the regional and international market.

e) **Research and Data Sharing**: Lesotho can benefit from SADC's **Fisheries and Aquaculture Research Programs**, which support regional collaboration to improve the understanding of fish stocks, ecosystems, and socio-economic impacts. In addition, SADC's **Information Sharing Platforms** can offer valuable opportunities for Lesotho to access scientific data and share best practices with member states.

- Lesotho is encouraged to actively engage and participate in these regional research programs and information-sharing platforms to enhance its data-driven policies to strengthen its fisheries and aquaculture sectors.

3.6.3 Potential Support from Other Regional and International Organisations

To enhance the sustainability and resilience of Lesotho's fisheries and aquaculture sector, it is crucial for the country to seek support from a range of regional and international organisations. These organisations offer valuable technical assistance, capacity building, research collaboration, and financial resources that can help Lesotho align its policies with global standards, adopt climate-resilient practices, and improve market access. Through partnerships with organisations such as FAO, AU-IBAR, the World Bank, and UNEP, Lesotho can advance its efforts in sustainable fisheries management, climate change adaptation, and the development and management of aquaculture. The following recommendations outline specific forms of support from these organisations that Lesotho can leverage in its efforts to ensure alignment with regional and international instruments.

a) **Support from Food and Agriculture Organisation (FAO):**

- **Technical Assistance:** Lesotho can benefit from FAO's **Blue Growth Initiative (BGI)**, which promotes sustainable aquaculture and low-impact fisheries systems. FAO's **Fisheries and Aquaculture Climate Resilience Facility (FishAdapt)** provides technical expertise on integrating climate change adaptation into fisheries and aquaculture management, helping Lesotho build resilience against climate challenges.
- **Climate-Smart Policies and Management:** FAO's **Climate-Smart Agriculture (CSA)** framework can support Lesotho in formulating climate-smart policies, developing climate-resilient aquaculture practices, and enhancing fisheries management strategies. This program emphasizes sustainability and adaptation, aligning closely with Lesotho's needs.
- **Capacity Building:** Through FAO's **Fisheries and Aquaculture Division Training Programs**, Lesotho can access tailored training on fisheries and aquaculture development. FAO's **E-learning Academy** also offers modules on sustainable aquaculture, climate adaptation, and fisheries management, equipping technical personnel with modern knowledge and skills.
- **Market Access and Standards Alignment:** FAO's **Codex Alimentarius Commission** can assist Lesotho in aligning its aquaculture products with international food safety and trade standards. Additionally, the **FAO Global Forum on Food Security and Trade** can support Lesotho in enhancing market access and promoting trade for fisheries products.

b) **Support from AU-IBAR:**

- **Aquatic Biodiversity Management:** Lesotho can benefit from AU-IBAR's **Fisheries Governance Project (FISHGOV)**, which provides technical guidance to align national fisheries and aquaculture policies with continental frameworks such as the Policy Framework and Reform Strategy (PFRS) for Fisheries and Aquaculture in Africa. This program also supports the conservation of aquatic genetic resources (AqGR), helping Lesotho promote sustainable biodiversity management.
- **Research and Data Sharing:** Through AU-IBAR's **African Fisheries Reform Mechanism (AFRM)**, Lesotho can access platforms for research collaboration and data sharing to enhance fisheries and aquaculture management. This initiative supports evidence-based decision-making for better management of fish stocks, ecosystems, and biodiversity.

- **Climate Change Mitigation and Adaptation:** Lesotho can leverage AU-IBAR's **Climate Resilience Initiative for African Fisheries and Aquaculture**, which provides knowledge-sharing platforms to integrate climate change adaptation into fisheries and aquaculture development. This includes technical support to address climate-induced environmental challenges affecting fisheries and aquaculture.
- **Policy Development and Capacity Building:** Through its **Capacity Building Program**, AU-IBAR can assist Lesotho in drafting climate adaptation strategies tailored for the fisheries and aquaculture sectors. This includes developing climate-resilient fish farming practices and strengthening the country's scientific research capacity to address emerging challenges.

c) **Climate Financing, capacity building, and technology transfer opportunities for Support to Lesotho**:

World Bank/Global Environment Facility (GEF):

- **Scientific Research and Data Collection Systems:** The World Bank, through its **Climate Change Action Plan (2021-2025)** and related initiatives, can assist Lesotho in developing robust systems for scientific research and data collection. These systems would enable the monitoring of climate change impacts on fisheries ecosystems, fish populations, and water quality. The World Bank can also provide guidance on designing adaptation and resilience measures informed by this data.
- **Climate-Resilient Aquaculture Initiatives:** Lesotho can benefit from the World Bank's **PROBLUE Program**, which focuses on supporting sustainable and climate-resilient development in fisheries and aquaculture sectors. This includes funding and expertise for nature-based solutions, climate-resilient aquaculture infrastructure, and capacity-building projects tailored to mitigate climate change impacts in the sector.
- **Access to GEF Funding:** Lesotho can leverage the **Global Environment Facility (GEF)** funding streams, such as the **Least Developed Countries Fund (LDCF)** or the **Special Climate Change Fund (SCCF)**, to address the impacts of climate change on fisheries and aquaculture. These funds can support projects like developing aquaculture policies, enhancing water management practices, and implementing sustainable fisheries initiatives aligned with global climate resilience goals.

United Nations Environment Programme (UNEP):

- **Promotion of Sustainable Practices:** Through the **UNEP Green Economy Initiative**, Lesotho can receive support in transitioning its fisheries and aquaculture sector toward sustainability. This includes promoting ecosystem-based management practices, reducing overexploitation, and mitigating environmental impacts, all while enhancing socio-economic benefits.
- **Integration of Climate Change Strategies:** UNEP's **Climate Change Adaptation Unit** can assist Lesotho in integrating climate resilience into its fisheries and aquaculture sector. The Global Adaptation Network (GAN), supported by UNEP, provides tools, technical expertise, and case studies to incorporate biodiversity conservation and climate adaptation strategies into national plans.
- **Capacity Building and Policy Development:** Lesotho can benefit from UNEP's **Capacity Building Programme for Multilateral Environmental Agreements (MEAs)** to strengthen institutional frameworks and policy development in the fisheries and aquaculture sector, ensuring alignment with international standards and sustainable practices.
- **Funding and Resource Mobilization:** Through UNEP's **Finance Initiative**, Lesotho can gain assistance in accessing global environmental funding mechanisms like the **Green Climate Fund (GCF)** and the **Global Environment Facility (GEF)** to implement sustainable fisheries and aquaculture projects.

- **Monitoring and Environmental Reporting**: UNEP's **World Environment Situation Room (WESR)** can provide Lesotho with real-time data and analytical tools for monitoring the environmental impacts of fisheries and aquaculture activities. This will ensure evidence-based decision-making and compliance with international environmental reporting standards.

Green Climate Fund (GCF):

- **Financial Support for Climate Adaptation Projects:** Lesotho can tap into funding from the **Green Climate Fund (GCF)** to implement climate adaptation projects focused on enhancing resilience in the fisheries sector. The GCF offers grants and concessional loans to support initiatives like the development of early warning systems for fisheries, climate-resilient fishpond infrastructure, and adaptation measures for small-scale fisheries.
- • **Early Warning Systems Development:** Through the **Adaptation Fund**, Lesotho can secure financial support to establish early warning systems tailored to fisheries. These systems would provide critical information on climate-related risks, such as extreme weather events and changing aquatic ecosystems, enabling proactive decision-making.

UNDP (United Nations Development Programme):

- UNDP could help Lesotho align its fisheries and aquaculture policies with climate change goals, promoting the integration of climate resilience into national policy frameworks. This support could also include facilitating dialogues and workshops for policymakers, local governments, and stakeholders on climate-resilient fisheries management.
- **International Food Policy Research Institute (IFPRI)**: IFPRI could contribute research and technical assistance to develop climate-adaptive strategies for small-scale fisheries and aquaculture, particularly regarding water scarcity, temperature fluctuations, and fish disease management.
- **Global Partnerships on Climate Change**: Lesotho can engage in international climate networks such as the **UNFCCC** (United Nations Framework Convention on Climate Change) and **IPCC** (Intergovernmental Panel on Climate Change) for knowledge sharing, access to global best practices, and technical support on climate adaptation. This collaboration can enhance climate resilience in the fisheries sector through participation in global dialogue and climate adaptation strategies.

International Fund for Agricultural Development (IFAD):

- IFAD can support the introduction of innovative technologies to improve climate resilience in small-scale fisheries, including sustainable fish feed production and water-saving technologies. IFAD is already supporting Lesotho through the ROLL project which could be extended to include support for fisheries and aquaculture sector development and management

d) **COMMITTEE FOR INLAND FISHERIES AND AQUACULTURE OF AFRICA AND COMMITTEE ON FISHERIES (COFI)**

- As an intergovernmental forum that provides recommendations and policy guidance to governments, regional fisheries bodies, civil society, the private sector, and the global community, Lesotho should seek to actively participate in this forum as it serves as a vital platform for knowledge-sharing, networking, and accessing technical expertise in sustainable fisheries management and aquaculture practices.

3.6.4 Strategies for Incorporating Global Instruments into Lesotho's Domestic Laws and Monitoring Implementation

a) Strengthening Legal and Policy Frameworks

Recommended Actions:

- Conduct a comprehensive review of existing fisheries and aquaculture legislation and policies to identify gaps in alignment with global and regional instruments.
- Draft amendments to the Fisheries Act and related regulations to integrate relevant provisions from international agreements such as the FAO Code of Conduct for Responsible Fisheries, and the Convention on Biological Diversity (CBD).
- Develop and adopt a national strategy for aligning legal frameworks with the regional, continental, and international instruments on aquatic biodiversity conservation, climate change, and sustainable fisheries.

Expected Outcomes:

- Revised legal and policy frameworks that are aligned with international standards and best practices.
- Improved compliance with international commitments**.**

b) Institutional Capacity Building and Coordination

Recommended Actions:

- Establish an inter-ministerial task force involving key stakeholders (Ministry of Natural Resources, Ministry of Agriculture and Food Security, Ministry of Environment, and relevant research institutions) to oversee the domestication of global instruments.
- Conduct capacity-building workshops for policymakers, legal experts, and fisheries officers on the domestication of the relevant international fisheries agreements.
- Develop clear roles and mandates for institutions responsible for the implementation, and/or enforcement of the new regulations.

Expected Outcomes:

- Improved institutional coordination and harmonization of fisheries and aquaculture governance.
- Increased capacity of regulatory authorities to enforce fisheries and aquaculture laws.
- Enhanced awareness and understanding of international obligations among government officials and industry stakeholders.

c) Strengthening Monitoring, Reporting, and Compliance Mechanisms

Recommended Actions:

- Establish a national mechanism for tracking Lesotho's progress in ratifying and implementing international fisheries and aquaculture instruments.
- Develop a digital database and reporting system for documenting compliance with treaties, conventions, and regional agreements.
- Conduct periodic evaluations and audits on the implementation of global commitments, with publicly accessible reports.
- Engage in regional monitoring frameworks to ensure accountability.

Expected Outcomes:

- Transparent and efficient monitoring of Lesotho's commitments to international fisheries and aquaculture instruments.
- Improved data collection and reporting for informed decision-making.
- Strengthened compliance with regional and global environmental and fisheries governance frameworks.

d) Stakeholder Engagement and Public Awareness

Recommended Actions:

- Develop public awareness campaigns to educate fishing communities, aquaculture practitioners, and policymakers about Lesotho's international obligations.
- Create multi-stakeholder platforms to facilitate dialogue between the government, private sector, civil society, and academia.
- Encourage industry participation in sustainable fisheries initiatives and voluntary certification programs such as the Aquaculture Stewardship Council (ASC).

Expected Outcomes:

- Increased public awareness and stakeholder engagement in fisheries governance.
- Higher levels of voluntary compliance with global fisheries and aquaculture instruments.
- Strengthened partnerships between the government and private sector in implementing global commitments.

e) Securing Financial and Technical Support

Recommended Actions:

- Mobilize financial resources from development partners, such as the World Bank, FAO, UNEP, and AU-IBAR, to support the domestication and implementation of global instruments.
- Develop proposals for technical assistance and capacity-building programs from international organizations.

Expected Outcomes:

- Sustainable financial and technical support for fisheries and aquaculture governance reforms.
- Strengthened partnerships with international and regional organizations.

3.7 OVERALL CONCLUSION

A multi-level, collaborative approach is essential for Lesotho to align its fisheries and aquaculture sectors with regional and international frameworks. This includes strengthening national policies, promoting regional cooperation, and leveraging international support for capacity building, infrastructure development, and climate resilience. Through these efforts, Lesotho can unlock the potential of its fisheries and aquaculture sectors to contribute to food security, economic growth, and environmental sustainability

CHAPTER 4: ASSESSMENT 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 AND CLIMATE CHANGE ADAPTATION

4.1 INTRODUCTION

Lesotho, a landlocked country in Southern Africa, faces a growing challenge from climate change, which threatens its ecosystems, water resources, and agricultural sectors. The country's fisheries and aquaculture industries, although not fully developed especially the fisheries sector are particularly vulnerable to the impacts of climate change. Shifts in rainfall patterns, increased frequency of droughts, and rising temperatures have the potential to disrupt fish stocks, damage aquaculture infrastructure, and reduce the productivity of natural water bodies. Given the importance of these sectors, there is a critical need for Lesotho to adopt climate-resilient strategies that address these challenges and ensure the sustainability of its fisheries and aquaculture industries. These sectors when fully developed are vital for food security, job creation, economic development and the livelihoods of rural communities,

At the regional and continental levels, various instruments developed by the African Union-Inter-African Bureau for Animal Resources (AU-IBAR) aim to assist African countries, including Lesotho, in integrating climate change adaptation and mitigation measures into their fisheries and aquaculture development plans. These instruments provide guidance on sustainable fisheries management, climate-resilient aquaculture practices, and the protection of aquatic biodiversity in the face of climate change. They offer a framework for countries to strengthen their national policies, build technical capacity, and collaborate with regional and international partners to effectively address climate impacts on fisheries and aquaculture.

The assessment of alignment for the Lesotho Instrument Based National Agricultural Investment Plan (L-IB-NAIP) and the Lesotho Climate-Smart Agricultural Investment Plan (CSAIP) with regional, continental, and international instruments is critical to ensure that national strategies are in harmony with broader frameworks for sustainable agricultural and fisheries development. This alignment will enable Lesotho to adopt best practices, attract funding, and contribute to shared goals outlined in key regional and international instruments. These include the African Union's (AU) Policy Framework and Reform Strategy for Fisheries (PFRS), the Comprehensive Africa Agriculture Development Programme (CAADP), the Southern African Development Community (SADC) Fisheries and Aquaculture Framework, and the FAO's Code of Conduct for Responsible Fisheries. By evaluating the current state of alignment and identifying potential gaps, this assessment will provide a clear roadmap for strengthening integration between national strategies and these international frameworks, ensuring that Lesotho's fisheries and aquaculture sectors are not only resilient but also competitive within a global context.

This report examines the alignment of Lesotho's policies, strategies, and National Agricultural Investment Plans (NAIPs) to the relevant AU-IBAR instruments and other regional, continental, and international instruments designed to support Lesotho and other African nations in addressing these climate-related challenges. Furthermore, the report aims to identify key areas where Lesotho can leverage these regional and international frameworks to integrate climate change considerations into its fisheries and aquaculture development strategies, ensuring the long-term sustainability and resilience of these vital sectors.

4.2 METHODOLOGY FOR ASSESSING THE INTEGRATION OF CLIMATE CHANGE IN FISHERIES AND AQUACULTURE SECTOR DEVELOPMENT

The methodology adopted was informed by the terms of reference[1]. The aim is to evaluate Lesotho's national policies, strategies, and plans in fisheries and aquaculture for alignment with the AU-IBAR Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS) to identify the gaps and opportunities, and best practices for integrating climate change adaptation and resilience into these sectors. The following steps were followed in the assessment:

a) **Document Review:** This entailed collecting and analyzing relevant national documents, including National Strategic Development Plan II (NSDPII), National Climate Change Policy (2017), Nationally Determined Contributions (NDCs) under the Paris Agreement, Lesotho Highlands Water Project (LHWP) Environmental Management Plans, and Water Act (2008) to assess and identify gaps in their alignment with the AU-AIBAR Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS) and identify opportunities for integration of the provisions of the PFRS into these instruments.

b) **Stakeholder Consultations:** Key stakeholders, including government ministries, fisheries and aquaculture representatives, NGOs, and parastatals were consulted to assess the alignment of national policies, strategies, and plans with the PFRS. These consultations identified challenges and opportunities for enhancing climate change resilience in the sectors. The process concluded with a validation workshop to confirm findings and finalize recommendations.

c) **SWOT Analysis:** The findings of the review of the Lesotho's national documents and stakeholder consultations were used to identify strengths and weaknesses, as well as opportunities and threats, related to integrating climate change adaptation into sustainable fisheries and aquaculture in Lesotho.

d) **Case Studies Compilation:** The case studies highlight successful fisheries and aquaculture initiatives in Lesotho that demonstrate relative alignment with the AU-IBAR PFRS and the integration of climate change resilience into related policies and instruments. They are documented to showcase best practices, and lessons learned that can be incorporated into the development of climate-smart fisheries and aquaculture sector in Lesotho.

e) **Recommendations and Action Plan:** based on the findings from the review of Lesotho's policies, strategies, and plans, the SWOT analysis, and documented case studies, a set of policy recommendations were drafted to strengthen the country's fisheries and aquaculture sectors. The recommendations are focused on improving policies, mobilizing resources, and promoting potential partnerships with regional and international organisations to enhance the alignment of Lesotho's fisheries and aquaculture strategies with climate change adaptation priorities and the guidelines outlined in the Policy Framework and Reform

[1] *Refer to appendix 2 – filled* **Guidelines for Assignment Alignment of NAIPs and RAIPs to Climate Change and Environmental Management**

Strategy for Fisheries and Aquaculture in Africa (PFRS) **and other related instruments.**

f) **Draft Report Preparation:** All information gathered from document reviews, stakeholder consultations, the SWOT analysis, and case studies was compiled into a final draft report. This report offers a detailed overview of the current state, challenges, and opportunities for advancing climate-smart fisheries and aquaculture development in Lesotho and provides a comprehensive summary of the findings, recommendations, and lessons learned throughout the assessment process.

4.3 CLIMATE CHANGE RISKS AND IMPACTS ON LESOTHO'S FISHERIES AND AQUACULTURE SECTOR

Lesotho, like many developing countries, is facing significant challenges from climate change. As a small, landlocked, and mountainous country, it is vulnerable to extreme weather events, changes in rainfall patterns, and rising temperatures. These climate changes affect water resources, agriculture, biodiversity, and livelihoods, especially in rural areas.

Lesotho's climate change policies and strategies do not have detailed, stand-alone provisions focused specifically on fisheries. However, elements relevant to fisheries management can be found within broader environmental and water resource policies. Relevant policy provisions for fisheries can be summarized as follows:

a) **National Strategic Development Plan (NSDP)**: The NSDP promotes **sustainable use of natural resources** and highlights the need to conserve biodiversity in water bodies. Although not specific to fisheries, this can influence the management of aquatic life and therefore fisheries resources.

b) **National Climate Change Policy (2017)**: This policy integrates climate change adaptation into key sectors, including **aquatic ecosystems**. It promotes the conservation and sustainable use of water bodies, which indirectly supports fisheries by maintaining the health of freshwater ecosystems. The policy encourages actions to safeguard biodiversity, including aquatic life, which aligns with fisheries management objectives.

c) **Nationally Determined Contributions (NDCs)** under the Paris Agreement: The NDCs highlight the importance of **aquatic biodiversity conservation** as part of Lesotho's climate adaptation strategies. Protecting aquatic ecosystems ensures that fish populations can thrive despite changing climate conditions.

d) **Lesotho Highlands Water Project (LHWP)** and Environmental Management: The LHWP's environmental management plans include provisions for monitoring the ecological health of rivers and wetlands. Efforts to assess, rehabilitate, and conserve wetlands and rangelands ensure the conservation of aquatic biodiversity and therefore fisheries resources.

e) **Water Act (2008)**: While focused on water management, this act indirectly supports fisheries by regulating water use and pollution, which can affect aquatic habitats critical for fish populations.

4.4 THE NDC AND NAPA

The Lesotho **National Determined Contribution** (NDC) outlines the national priorities in the context of climate change as outlined in the NSDP II as "reversing land degradation, protecting water sources through integrated land and water resource management, improving national resilience to climate change and increasing clean energy production capacity and environment-friendly production methods as some of the main national priorities and strategic goals to reduce poverty and achieve sustainable development. Furthermore, it advocates for improving environment and climate change governance as well as increasing the greening of the economy" (NDC, 2017)

In line with the United Nations Framework Convention on Climate Change, Lesotho developed the **National Adaptation Programme of Action** (NAPA) in 2007. The objectives of which are (i) Identification of regions and communities vulnerable to climate change; (ii) Assessment of impact of climate change on community livelihoods; (iii) Identification and prioritization of responsive adaptation activities for implementation in the vulnerable zones (NAPA, 2007). Overall, the NAPA indicates that Lesotho is prone to stressors including drought, soil erosion and land degradation, desertification, deforestation, and rangeland degradation, loss of biodiversity, degradation, and drying up of the wetlands and mountain sponges. The specific climate vulnerabilities and risks associated with climate change in relation to aquatic ecosystems are as outlined below. There are however no specific provisions regarding fisheries and aquaculture

	climate-change vulnerabilities and risks	**Anticipated Risks**	**Proposed mitigation measures**
Overall/generally for the country	• Variations in rainfall patterns • Changes in cloud cover and wind speed • Extreme temperatures causing surface warming of lakes, rivers, and ponds • Frost due to very low temperatures	**High Risks** • Drought reducing fish production • Decline in crop yields affecting fish feed availability High mortality rates **Moderate Risks** Floods • Strong winds	• Implement climate-smart technologies • Use climate-resilient rearing systems • Install heat-repellent shades • Establish early warning systems in collaboration with stakeholders • Rehabilitate and protect water resources from encroachment (agriculture and settlements)
Aquatic ecosystems	**High risks** • Increased temperatures driving fish to deeper waters, affecting production and supply • Runoff of sediments, nutrients, pathogens, and contaminants due to heavy rainfall • Drought conditions	**High and Moderate risks** • Degradation of water quality • Loss of aquatic habitats • Ecosystem stress	• Adapt to climate-smart resilient technologies • Strengthen monitoring of water quality and ecosystem health • Enhance research capacity • Develop and implement water conservation strategies
Aquatic ecosystems	• Prolonged and Recurring Droughts • Soil erosion and land degradation • Biodiversity loss (high altitude wetlands)	• Water shortages, and reduced water flow in rivers • Reduced water resources • Impact on highlands ecosystems • Soil erosion and land degradation • Habitat loss (biodiversity)	• Development of Early warning system and technical capacity to undertake risk assessment • Conservation and rehabilitation of degraded wetlands in the mountain areas of Lesotho
Fisheries and aquaculture	Same as above	Same as above	Same as above

4.5 IMPACTS OF CLIMATE CHANGE ON FISHERIES AND AQUACULTURE

Based on the climate change risks and impacts identified above, the specific biophysical impacts on fisheries and aquaculture, their implications, and proposed mitigation measures are summarised in the table below

Drivers	Biophysical Impacts	Implications	Proposed Risk Mitigation Measures
Changes surface water temperature	• Increased pH levels with rising temperatures • Reduced dissolved oxygen due to algal blooms • High fish mortality rates in unsuitable temperatures	• Decline in fish health and productivity • Reduced aquaculture yields • Environmentally induced fish kills	• Monitor and regulate water temperature in aquaculture systems • Promote adaptive fish farming techniques suitable for varying temperatures. • Research and development on heat-tolerant species
El Niño-Southern Oscillation	• Increased pH levels with rising temperatures • Reduced dissolved oxygen due to algal blooms • High fish mortality rates in unsuitable temperatures	• Disruption of fish farming cycles • Increased vulnerability of native fish	• Develop early-warning systems for temperature variations • Implement resilient aquaculture practices.
Rising sea level	N/A		
Higher inland water temperatures	• Increased pH levels with rising temperatures • Reduced dissolved oxygen due to algal blooms • High fish mortality rates	• Reduced inland fish production • Stress on aquatic ecosystems	• Enhance riparian vegetation to mitigate heat • Develop thermal-tolerant fish species.
Changes in precipitation and water availability	• High runoff causing sedimentation • Altered habitats affecting aquatic life • Migration of fish due to water level changes	• Habitat degradation • Displacement of fish species • Reduced fish stocks	• Implement sediment control measures • Protect and restore critical aquatic habitats
Increase in frequency and/or intensity of storms	Moderate risk with little to none-biophysical effect	• Disruption to aquaculture infrastructure • Potential physical fish loss	• Strengthen aquaculture infrastructure to withstand extreme weather events.
Drought	Decreased Water quality	• Stress on fish health and productivity • Reduced availability of water for aquaculture	• Implement water conservation practices • Promote efficient use of water in aquaculture

4.5.1 Conclusions

The PFRS emphasizes the need for integrating climate change adaptation into fisheries and aquaculture practices. While Lesotho has developed a National Climate Change Adaptation Policy and fulfilled its commitments under relevant regional and international treaties, such as the Paris Agreement, the UN Framework Convention on Climate Change (UNFCCC), and the Kyoto Protocol, it lacks a targeted climate change adaptation strategy specifically tailored to the fisheries and aquaculture sectors. Based on the assessment, the following conclusions can be drawn:

a) **Vulnerability of Fisheries and Aquaculture to Climate Change:**

- Lesotho's fisheries and aquaculture sectors are vulnerable to multiple climate risks, including extreme temperatures, droughts, variations in rainfall patterns, and changes in aquatic ecosystems.
- Climate change is likely to cause changes in water temperature, reduced water availability, and degraded aquatic habitats, leading to decreased fish productivity and increased mortality rates.
- Although there are several climate change policies addressing aquatic ecosystems, the lack of specific provisions focusing on fisheries and aquaculture management limits the effectiveness of these strategies in addressing sector-specific challenges.

b) **Limited Climate-Specific Provisions:**
   - Lesotho's climate change strategies (e.g., NDC, NAPA) do not explicitly include fisheries and aquaculture, despite these sectors being critical for food security and livelihoods in rural areas. This lack of focus makes it difficult to develop targeted adaptation and mitigation strategies for fisheries and aquaculture.
   - While broader environmental policies reference aquatic ecosystem conservation, they do not provide detailed, climate-resilient frameworks for managing fisheries in light of climate risks.

c) **Climate Impacts on Fisheries and Aquaculture:**
   - Climate change is expected to increase fish mortality, disrupt fish farming cycles, and reduce productivity in both wild fisheries and aquaculture systems.
   - Increased surface water temperatures, changes in precipitation, and extreme weather events such as storms and droughts will stress fish populations and their habitats, causing habitat degradation and displacement of species.

d) **Existing Mitigation Measures:**
   - Some risk mitigation strategies are already being implemented, including the promotion of climate-smart technologies (aquaponics), improved water management practices, and early-warning systems.
   - While these efforts are promising, there is a need for more sector-specific actions and stronger integration of fisheries-focused adaptation measures into national climate change frameworks.

4.6 THE NATIONAL LIVESTOCK DEVELOPMENT POLICY AND NATIONAL AGRICULTURAL INVESTMENT PLAN

4.6.1 National Fisheries and Aquaculture Development Policy

Lesotho does not have a **National Fisheries and Aquaculture Development Policy and Plan**. However, fisheries and aquaculture are included in Section 2.4.2. of the **Livestock Policy, 2020** which acknowledges that "The fisheries industry although not developed, can be an important source of livelihood to fishing communities in the country and also contribute to food security, provide raw materials for production of animal feeds as well as fish oil and bioactive Molecules for the pharmaceutical and medical industry. The industry can support Auxiliary industries such as netmaking, boat building and repair, leathermaking, sports and recreation; thus, contribute to employment and GDP" (MAFS, 2020)

The abundant water resources of high quality are acknowledged as one of the enabling factors for the Lesotho's participation in the Blue Economy but there are no specific policy provisions for the development of the fisheries and aquaculture sector in Lesotho. The policy highlights a number of constraints to the development of the sector which include weak institutional policy and regulatory frameworks, lack of technical expertise and inputs to develop the sector. This policy only refers to climate change as it relates to heat stress for livestock as a result of increase in temperature which has the potential to affect production and productivity.

4.6.2 Alignment of the Lesotho National Agricultural Investment Plan with the PFRS

This assessment examines the alignment of Lesotho's Instrument Based National Agricultural Investment Plan (L-IB-NAIP) with the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS).

The analysis focuses on identifying existing strategies, investment areas, and implementation instruments within the L-IB-NAIP that support sustainable fisheries and aquaculture management, small-scale fisheries development and regional cooperation. While the L-IB-NAIP addresses various agricultural priorities, this assessment highlights areas where fisheries and aquaculture are explicitly included, assumed, or absent, and explores opportunities for integration to enhance alignment with the PFRS. The findings will inform strategic recommendations to promote sustainable fisheries and aquaculture practices, strengthen value chains, and support Lesotho's broader goals of food security, biodiversity conservation, and climate change resilience.

Table 6: Alignment of Lesotho NAIPs with the PFRS

Policy area	LIB-NAIB Alignment with PFRS
Policy Area 1: Sustainable Fisheries and Aquaculture Management	a) L-IB-NAIP-INVESTMENT AREA 4.2: Conversation and sustainable use of natural resources- Promoting best practices for agriculture to maintain biodiversity in agriculture and the environment: to conserve the environment and maintain biodiversity through best practices in agriculture. Budget: LSL 750 000,00 • Policy Implementation Instrument 4.2.2 – Promoting and implementing protection measures for key ecosystems and habitats providing ecosystem services for agriculture: • Policy Implementation Instrument 4.2.3 – Establishing and promoting agricultural practices that preserve & enhance ecosystem services. • Policy Implementation Instrument 4.2.4 – Promoting and implementing 'payment for the environment' schemes where appropriate. b) Policy Implementation Instrument 4.2.5 – Defining and enforcing standards and measures to reduce the pollution of land, air, and water from agriculture. c) Lesotho Instrument Based National Agriculture Investment Plan (L-IB-NAIP) strategic axis 6: targeted state support and direct transfers to value chain players. Three (3) investment areas that can be applied to the fisheries and aquaculture sector: • (6.1) Access to key agricultural inputs and support for improved and sustainable practices for targeted groups. • (6.2) Access to agricultural equipment and improved facilities for the targeted group. • (6.3) Access to improved agricultural services for targeted groups. d) Total Budget LSL 227 800 000.00 **(In terms of allocation, direct financing goes to agronomy and horticulture)** e) L-IB-NAIP **- INVESTMENT AREA 7.1** Emergency preparedness - Establishing and maintaining mechanisms for surveillance and prevention of plant and animal pests and diseases – ***(although fish diseases are not mentioned explicitly, they are assumed to be included)***
POLICY AREA 2A: Small-Scale Fisheries Development	a) L-IB-NAIP IMPLEMENTATION ARRANGEMENT - Sustainability - to contribute to sustainable agricultural production and productivity, food security and regional integration, enhanced competitiveness, and improved markets and trade of agricultural, livestock, fisheries, and forestry products. Budget: use of donor funding. **However, the provision is in the context of agronomy and horticulture, there are no specific provisions for fisheries and aquaculture**

Policy area	LIB-NAIB Alignment with PFRS
POLICY AREA 3: Sustainable Aquaculture Management	b) **L-IB-NAIP - A.5. SECTOR PRIORITIES- Level 3:** Strengthening systemic capacity to deliver results: Increased public and private investment in agriculture **(Though not explicit, aquaculture is assumed to be included)** c) **L-IB-NAIP IMPLEMENTATION ARRANGEMENT - Sustainability -** to contribute to sustainable agricultural production and productivity, food security and regional integration, enhanced competitiveness and improved markets and trade of agricultural, livestock, fisheries, and forestry products. Budget: use of donor funding. d) Two consultants engaged in to assess e) **L-IB-NAIP's VISION AND DEVELOPMENT OBJECTIVES - *Food and nutrition security, and decent jobs for all Basotho:*** To achieve that vision, the Government is committed to promoting the transformation of the Lesotho agri-food-systems, with a focus on upgrading and aggregating smallholder farmers into priority commodity value chains. f) **INVESTMENT AREA 2.2: Upgraded Value Chain Organization, Aggregation, Traceability and Operations Visibility:** g) **Policy Implementation Instrument 2.2.6 - Promoting and strengthening producer and value chain operator organisations and associations:** The PII will have some *communication and capacity building measures* that will be a requirement for the mobilisation of support among the potential membership of these organisations, assisting them in clarifying their goals and objectives, develop and provide them with appropriate tools and skills and knowledge to manage their organisations and its activities, and to monitor and review their progress as an organisation on a regular basis
POLICY AREA 4: Responsible and Equitable Fish Trade and Marketing	No relevant provisions in the NAIP
POLICY AREA 5: Regional and Sub-Regional Cooperation	The L-IB-NAIP is aligned with the Africa Union and the AUDA-NEPAD Agenda as outlined in the CAADP results framework. The CAADP Results Framework is an integral part of the AU Agenda 2063 and defines the agricultural "space" in the agenda. It is earmarked as the tool that will be used in tracking, monitoring, and reporting on the progress in meeting the Malabo commitments. Specific provisions: • A.5. SECTOR PRIORITIES - A.5.1. International – regional (SADC, AU) overarching policy and objectives ○ Level 1: Agriculture's contribution to economic growth and inclusive development ○ Level 2: Agricultural transformation and sustained inclusive growth ○ Level 3: Strengthening systemic capacity to deliver results h) Although aligned, there are no specific provisions for fisheries and aquaculture, these are presumed to be included under Agriculture
POLICY AREA 6: Awareness Enhancing and Human Capacity Development	a) There are no provisions in place for continuous professional education and training, accreditation of professionals and institutions, or mechanisms for effective information sharing between policymakers and stakeholders. Additionally, there are no measures to improve enabling conditions in fish-producing communities to enhance their skills and capacities.
POLICY AREA 8: Cross-Cutting Issues in African Fisheries and Aquaculture	a) No relevant provisions in the NAIP for fisheries and aquaculture, the focus is on livestock and crops .

4.6.3 Assessment of Alignment and Key Observations

The L-IB-NAIP provides a framework that could indirectly support fisheries and aquaculture, but explicit alignment with the Policy Framework and Reform Strategy (PFRS) for Fisheries and Aquaculture in Africa, and regional instruments such as the SADC protocol on fisheries, the FAO guidelines, the FAO CCSF, and other relevant regional and international instruments is limited.

The absence of sector-specific strategies, funding, and implementation instruments highlights the need for targeted interventions to realize the potential of fisheries and aquaculture in Lesotho. The following is a

summary of the level of alignment with the PFRS and the key observations from the assessment presented in Table 4

a) Policy Area 1: Sustainable Fisheries and Aquaculture Management

Level of Alignment: Partial alignment.

The L-IB-NAIP includes provisions for biodiversity conservation and sustainable agricultural practices, which indirectly benefit fisheries and aquaculture. However, these provisions are not explicitly targeted at developing and managing the fisheries and aquaculture sector.

Key Observations:

- Lack of direct budget allocation for fisheries or aquaculture in the budget; LSL 750,000.00 is allocated to general biodiversity conservation and LSL 227 800,000.00 for improved access to agricultural inputs, equipment, and services. This budget allocation although not to the sector, still falls short of 10% target under the CAAD results framework
- Fisheries and aquaculture are only assumed to be included under broader agricultural initiatives in terms of emergency preparedness and response.

b) Policy Area 2A: Small-Scale Fisheries Development

Level of Alignment: Misalignment.

The L-IB-NAIP promotes sustainability and value chain development for agriculture and livestock, but there are no specific provisions or funding for value chain development for small-scale fisheries.

Key Observations:

- While fisheries are mentioned in the text, the specific actions outlined primarily focus on agronomy and horticulture. Fisheries are not explicitly included in strategies for value chain development or market competitiveness.
- No targeted donor-funded projects or programs explicitly include small-scale fisheries.

c) Policy Area 3: Sustainable Aquaculture Management

Level of Alignment: Minimal alignment.

Aquaculture is presumed to fall under broader agricultural goals, but there are no targeted interventions, or investment plans specific to sustainable aquaculture management.

Key Observations:

- Lack of explicit focus on aquaculture in public and private investment priorities.
- Limited capacity-building initiatives for aquaculture stakeholders.
- Absence of specific provisions to enhance aquaculture productivity or mitigate challenges like climate change and disease outbreaks.

d) Policy Area 4: Responsible and Equitable Fish Trade and Marketing

Level of Alignment: No alignment.

The L-IB-NAIP does not include any provisions related to fish trade or marketing strategies for fisheries products.

Key Observations:

- No policies or programs designed to address equitable trade, market access, or the value chain for fish products or to strengthen fish trade..

e) Policy Area 5: Regional and Sub-Regional Cooperation

Level of Alignment: Moderate alignment.

The L-IB-NAIP aligns with broader African Union (AU) and NEPAD frameworks, including the

Comprehensive Africa Agriculture Development Programme (CAADP). However, fisheries and aquaculture are not explicitly prioritized within regional cooperation strategies, strategic focus is on agriculture.

Key Observations:

- Fisheries are presumed to be included under agriculture but there are no specific initiatives or collaborative efforts to leverage regional suport (e.g., SADC, AU) for fisheries and aquaculture development.

f) Policy Area 6: Awareness Enhancing and Human Capacity Development

Level of Alignment: No alignment.

The L-IB-NAIP does not address awareness-building or capacity development for fisheries and aquaculture.

Key Observations:

- No training programs, knowledge-sharing platforms, or awareness campaigns targeting fisheries and aquaculture stakeholders or designed to build technical expertise or enhance stakeholder engagement in fisheries.

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

Level of Alignment: No alignment.

The L-IB-NAIP does not address cross-cutting issues such as climate resilience, gender equality, or environmental sustainability within fisheries and aquaculture sector.

Key Observations:

- No provisions for gender-sensitive or inclusive approaches in fisheries in fisheries and aquaculture and there is a general lack of climate adaptation measures specific to fisheries and aquaculture.

4.7 NATIONAL AGRICULTURAL INVESTMENT PLAN AND CLIMATE CHANGE

The **Lesotho Instrument Based National Agricultural Investment Plan (L-IB-NAIP)** does not specifically address the impacts of climate change on fisheries and aquaculture. Instead, it concentrates on food security, sustainable agriculture, and climate resilience within the livestock and crop production sectors. NAIP recognizes the critical role of agriculture in Lesotho's economy and sustenance, and it therefore outlines specific initiatives to enhance productivity while addressing climate impacts on these sectors. Section D.3 of **L-IB-NAIP, Strategic Axis 4: Sustainable Management of Land, Natural Resources, and the Environment** directly addresses climate change impacts on livestock and crop production. Although fisheries and aquaculture are not specifically targeted, these sectors stand to benefit indirectly, as initiatives focused on mitigating land degradation, securing water resources, and conserving biodiversity are critical to their sustainability. Effective land management and water conservation practices support ecosystem health, which is vital for both terrestrial and aquatic resources, providing resilience across agricultural and environmental sectors, (L-IB-NAIP, 2022-2026).

Similarly, climate change impacts on the fisheries and aquaculture sector are indirectly addressed in the World Bank's **Lesotho Climate-Smart Agricultural Investment Plan (CSAIP)**, which highlights the biophysical impacts of the El Niño Southern Oscillation (ENSO) on Lesotho's agriculture. The CSAIP focuses on adaptation strategies that respond to climate-related threats, including droughts, extreme temperatures, and irregular rainfall patterns that have challenged agricultural productivity in Lesotho. The plan refers to the

ENSO-driven events like the severe 2015-16 drought which significantly impacted food and water security, affecting over 35% of Lesotho's population. In response, the Lesotho CSAIP seeks to promote climate-smart agricultural practices, including conservation agriculture and efficient water harvesting, to help communities build resilience against these stresses. Sustainable land management and natural resource conservation are also prioritized to mitigate soil erosion and support biodiversity, a critical component as extreme weather events are projected to increase in frequency and intensity in the coming years, (CSAIP, 2019). The specific provisions of relevance can be summarized as follows:

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**
L-IB-NAIP	The L-IB-NAIP outlines the specific investment areas that are indirectly related to climate change as follows: • (4.1) Land administration and management. • (4.2) Conservation and sustainable use of natural resources. • (4.3) Sustainable agriculture practices. • (4.4) Climate change mitigation, adaptation, and resilience. • (4.5) Protection and sustainable use of water resources. • (4.6) Renewable energy and energy efficiency.	By supporting efficient land management and environmental conservation, this provision of the NAIP prioritises resource protection by sharing best practices, establishing regulations for sustainable land use, and subsidizing community efforts in land management. This approach aims to enhance resilience in agricultural landscapes, protecting them from erosion, water scarcity, and other climate-related impacts. Specific actions include: • Policy Implementation Instrument 4.1.3– Promoting best practices in land use planning and environmental management. • Policy Implementation Instrument 4.2.2 – Promoting and implementing protection measures for key ecosystems and habitats providing ecosystem services for agriculture

4.8 IDENTIFIED GAPS AND KEY ISSUES IN THE FISHERIES AND AQUACULTURE SECTOR.

The Lesotho Instrument-Based National Agricultural Investment Plan (L-IB-NAIP) and the Lesotho Climate-Smart Agricultural Investment Plan (CSAIP) represent critical frameworks for addressing climate change impacts on agriculture. However, these plans are focused on livestock and crops and have no specific provisions for fisheries and aquaculture, sectors that hold significant potential for enhancing food security, livelihoods, and economic growth in Lesotho. While some of the provisions of these plans indirectly benefit aquatic systems through sustainable land and water management, the lack of targeted strategies for fisheries and aquaculture creates a significant gap in addressing climate-induced challenges such as increased water temperatures, reduced river flows, and habitat degradation. To ensure a holistic and inclusive approach to climate resilience, it is important to integrate fisheries and aquaculture into these plans, to strengthen adaptive capacities. The following conclusions and recommendations provide actionable steps to bridge these gaps and ensure that Lesotho's agricultural investment plan incorporates sustainable development and management of fisheries and aquaculture sectors

a) The L-IB-NAIP and CSAIP primarily address climate change impacts on livestock and crop production, with no specific strategies targeting fisheries and aquaculture.
b) Fisheries and aquaculture indirectly benefit from initiatives targeting land conservation, water resource management, and biodiversity protection, which support ecosystem health.
c) Despite the absence of direct provisions for fisheries, the plans recognize the need for sustainable resource management and climate resilience in agriculture.

4.7.1 Alignment Gaps

a. Omission of Fisheries and Aquaculture: Both L-IB-NAIP and CSAIP lack direct measures addressing climate change impacts on aquatic systems and fisheries.
b. Limited Sector-Specific Focus: While land, livestock, and crop systems receive significant attention, fisheries and aquaculture are excluded as priority areas, limiting investment and capacity development.
c. Inadequate Integration of Ecosystem-Based Approaches: The plans do not explicitly link land and water management to the health and sustainability of aquatic resources critical for fisheries and aquaculture.

4.9 STRENGTHS, WEAKNESSES, OPPORTUNITIES, THREATS (SWOT) ANALYSIS FOR THE FISHERIES AND AQUACULTURE SECTOR

Lesotho's fisheries and aquaculture sector faces a combination of significant strengths and challenges. The country's abundant water resources, favourable climate, and existing legal frameworks offer a solid foundation for growth. However, limited sector-specific policies, lack of data, and environmental degradation pose substantial barriers.

By addressing these weaknesses and capitalizing on emerging opportunities such as new dam construction, growing market demand, and the potential for policy reform, Lesotho can develop a sustainable and competitive fisheries and aquaculture sector. Moreover, addressing threats from climate variability, environmental degradation, and competing water uses will be essential to ensuring the long-term resilience and success of the sector. The sector is a critical part of the country's economy, offering opportunities for sustainable livelihoods, food security, and economic growth. However, the lack of a comprehensive national fisheries and aquaculture policy, along with various sectoral weaknesses, means that the country has yet to realize its full potential in these areas. This SWOT analysis outlines the strengths, weaknesses, opportunities, and threats facing Lesotho's fisheries and aquaculture sector and offers insights into how the country can move forward in a sustainable and effective manner.

4.9.1 SWOT Analysis

Strengths	Weaknesses
• Prioritization of sustainable resource management in NAIP and CSAIP. • Abundant, high-quality freshwater resources from highland rivers and reservoirs. • Temperate climate ideal for fish production. • Internationally recognized high-quality trout, with export and tourism potential. • Existing legal framework for fisheries and aquaculture (foundation for reforms). • Membership in regional and international trade agreements, enabling broader market access.	• Outdated laws and regulations requiring modernization. • Limited infrastructure for large-scale fisheries and aquaculture. • Insufficient funding and technical capacity in the sector. • Challenges in implementing climate-resilient practices at scale.
Opportunities	**Threats**
• Development of sustainable aquaculture aligned with climate-smart agricultural practices. • Expansion of export markets for high-quality trout. • Potential for job creation in rural areas, reducing poverty. • Leverage trade agreements to enhance market access and competitiveness. • Increased investment in infrastructure and capacity building for the sector.	• Vulnerability to climate change impacts on water resources. • Competition from established global fish exporters. • Potential overexploitation of freshwater resources. • Slow policy reform and regulatory updates may hinder growth.

4.10 CASE STUDIES – LESOTHO AQUACULTURE SECTOR AS A SUCCESS STORY

4.10.1 Lesotho's Aquaculture Sector

Aquaculture, the world's fastest-growing food production sector, has immense potential to boost socio-economic development through job creation, food security, and income generation. This industry also addresses declining fisheries resources by providing an alternative source of fish. Lesotho, with its abundant freshwater resources and strategic focus, has successfully tapped into this opportunity, overcoming challenges and positioning itself as a rising star in aquaculture production.

Lesotho's aquaculture is established in two distinct ecological zones: the warm Lowlands and the cold Highlands, within reservoirs constructed as part of the Lesotho Highlands Water Project (LHWP). Warm water aquaculture, initiated in the 1960s, focuses on the production of Common Carp, Tilapia, and Sharptooth Catfish. While Tilapia production is limited by low winter temperatures, the subsistence farming of Common Carp has expanded significantly, contributing to improved food security in rural communities. In contrast, cold water aquaculture is highlighted by the success of Rainbow Trout farming in the pristine waters of Katse Dam. What began as a pilot project in 2006 has grown into a thriving commercial operation. The focus of this success story chapter is the trout farming the LHWP.

4.10.2 Production

The sectors have seen Impressive Production Growth over the years:

- Commercial Trout Farming: Katse Dam's licensed production capacity is 4,200 metric tonnes annually, with an output of 1,530.44 tonnes in 2023. Studies reveal the ecological capacity to sustainably increase production to 5,600 tonnes annually.

4.10.3 .Economic and Social Impact,

The industry's contributions extend beyond production with added benefits as follow:

- **Revenue Generation:** Katse Fish Farms reported an impressive M90,976,681 in revenue for 2023, with over M1.3 million allocated to community development initiatives as part of the community beneficiation strategy included as a condition for licensing aquaculture operations in the LHWP dams.
- **Job Creation**:The commercial trout industry directly employs 50 individuals, providing diverse roles and supporting livelihoods, although gender inclusivity remains an area for improvement.
- **Export Excellence**: Lesotho's trout products, including whole fish, fillets, and roe, are highly sought after in South Africa, Japan, and the USA markets.

4.10.4 Opportunities for Expansion

The Lesotho Highlands Water Project (LHWP) presents significant opportunities for expanding trout farming, thanks to its clean water resources and ideal conditions for cold-water species. With the addition of Mohale Dam as a potential site for expansion, the new Polihali Dam, and the catchment areas around these dams, the LHWP scheme area is well-positioned for growth in the aquaculture sector. This expansion is supported by rising global demand for fish products, particularly trout, and could drive the development of related industries, eco-tourism, and job creation. Moreover, a strong regulatory framework ensures that the growth of trout farming can proceed sustainably, balancing economic development with environmental protection. The following is a summary of the opportunities for expansion within the LHWP scheme area:

a. **Untapped Farming Space in LHWP Reservoirs**: Clean water resources in Mohale Dam, the new Polihali Dam, and areas around the dams' catchment areas provide opportunities for expanding trout farming with ideal conditions for cold-water species.
b. **Increased Global Demand for Aquaculture Products**: Growing global demand for trout and other fish products, especially in South Africa and the United States, has a potential to support the expansion of commercial trout farming in the LHWP scheme area.
c. **Potential for Expansion in Polihali Dam**: Polihali Dam offers significant opportunities for establishing new trout farming ventures, with potential for both large-scale operations in the reservoir and land based small-scale aquaculture operations.
d. **Development of Aquaculture LHWP Catchments**: the areas around LHWP reservoirs provide additional spaces for land-based aquaculture development, including Recirculating Aquaculture Systems (RAS), raceways, and pond culture.
e. **Business Opportunities in Support Industries**:The expansion of trout farming opens opportunities in related industries, such as fish feed production, farm equipment supply, and warm water species fingerling production.
f. **Eco-Tourism Synergies**:The scenic nature of the LHWP reservoirs offers opportunities for agritourism,

fishing experiences, and local hospitality partnerships. The world-renowned Makhanngoa Community fly fishing venture operates in the vicinity of the Katse dam

g. **Job Creation and Community Development**: Increased trout farming operations in the LHWP scheme area can generate employment in both farming and processing sectors, contributing to local economic growth and community development projects.

h. **Environmental Sustainability with Regulatory Support**: The existing regulatory framework, including the ARF and Environmental and Social Impact Assessment (ESIA) requirements, ensures that aquaculture growth in the LHWP area is environmentally sustainable, by protecting water quality and ecosystem health.

4.10.5 Summary alignment with the PFRS

Policy Area	Aquaculture
Policy Area 1: Sustainable Fisheries and Aquaculture Management	• The LHDA strategic plan aims to maximize commercial opportunities, targeting the establishment of at least one aquaculture operation in Mohale Dam. • The ARF regulates aquaculture in LHWP dams, a subregional water transfer and hydropower project within the transboundary Senqu River basin. The ARF only covers the LHWP scheme area. • Regulations for the Management of Freshwater Aquaculture require aquaculture operations in LHWP reservoirs to obtain a certificate for applied quality control measures (HACCP). ST processing plant is FSSC 22000, and BAP certified and KFF Farm is FSSC 22000 certified, and their processing plant in RSA is HACCP certified. • Ecological carrying capacity studies have been conducted for Katse Dam to ensure sustainable trout production.
Policy Area 2A: Small-Scale Fisheries Development	• The LHDA strategic plan aims to maximize commercial opportunities, with efforts made for the establishment of at least one small-scale commercial fishing operation in Katse Dam (Contract 1193). The ToR for this contract have been completed, however, financing has not been secured
Policy Area 3: Sustainable Aquaculture Management	• The licensing for trout production in Katse Dam is currently at 4,200 metric tons, while the annual production capacity is 5,600 tons based on the ecological carrying capacity. • Operations are regulated under the Regulations for the Management of Freshwater Aquaculture in the Lesotho Highlands Water Project Reservoirs (Aquaculture Regulatory Framework - ARF) on the following aspects: Authorization of KFF operations (licensing). Ecosystem integrity. Fish health and biosecurity. Food quality and safety. Water quality monitoring. Reporting. Community beneficiation.
Policy Area 4: Responsible and Equitable Fish Trade and Marketing	• The individual farms have developed a value chain for trout production, including processing into various product forms for export markets, such as whole round, fillets, and smoked trout, primarily to the USA and South Africa markets. • Commercial trout farming supports diverse value chains, including skills development in processing, the use of local transport providers for transportation of inputs (feed), and the engagement of local suppliers for specialised services like waste management.

Policy Area	Aquaculture
Policy Area 5: Regional and Sub-Regional Cooperation	• CITES and the Importation and Exportation of Livestock and Livestock Products Amendment Act (1984) apply to fish product exports from the LHWP. • Certification and traceability programs include HACCP, BAP, and ASC standards and are enforced by the ARF.
Policy Area 6:Awareness Enhancing and Human Capacity Development	• Skill transfer during the expansion of trout production at Katse Dam. Operations were initially managed by RSA-based skilled personnel but are now largely handled by locals through skills transfer initiatives that included sending locals to universities in RSA • Employment and skills transfer in aquaculture, including hatchery operations, production, processing, filleting, packaging, and water quality monitoring – technical support to small-scale farmers e.g. Ramarumo farm. • Community empowerment through aquaculture-linked funds that are applied to community development projects.
Policy Area 8: Cross-Cutting Issues in African Fisheries and Aquaculture	• Addresses climate resilience through diversification of aquaculture practices, including investments in automated water quality monitoring equipment like the LG Sonic, and automated aerators around the aquaculture cages. • LHDA focuses on habitat conservation to mitigate climate change impacts on water resources. Implemented climate resilience measures following the 2014/2015 drought. • Promotes gender and youth inclusion through equal employment opportunities in aquaculture. • Contributed M 1,319,162 to the community fund for local development (contribution from one Operator in one year).

4.11 GENERAL COMMENTS AND CONCLUSIONS AND RECOMMENDATIONS

Lesotho's fisheries and aquaculture sector holds considerable potential for sustainable growth and economic impact, driven by abundant high-quality freshwater resources, a temperate climate ideal for fish production, and internationally recognized trout. Despite facing challenges such as outdated fisheries legislation, limited technical capacity, and dependence on imported inputs and advanced technology for warm-water species, Lesotho has made significant progress in the aquaculture sector. By tapping into its natural resources and fostering innovation, the country is well-positioned to emerge as a key player in the global aquaculture market, delivering long-term socio-economic and environmental benefits.

However, weaknesses like insufficient infrastructure, outdated legislation, and a lack of systematic data collection hinder the sector's ability to address modern challenges, including climate change. There are ample opportunities for growth, such as expanding trout farming with new dam projects, accessing broader export markets, and aligning practices with climate-smart strategies. Investment in infrastructure, capacity building, and leveraging trade agreements can drive further growth and job creation, particularly in rural areas.

Despite these opportunities, threats such as climate change, competition from global exporters, and the overuse of freshwater resources pose risks to the sustainability of the sector. Slow policy reforms and regulatory updates also present challenges in fully realizing its potential. Overcoming these issues will require targeted policy interventions, infrastructure development, and alignment with international best practices.

Strategic planning and coordinated efforts will be essential for ensuring the long-term resilience and success of Lesotho's fisheries and aquaculture sector. The following general comments and conclusions can be drawn from the review of Lesotho's alignment with regional and international instruments governing fisheries and aquaculture:

a. **Lack of Focus on Fisheries and Aquaculture:** Lesotho's policy framework, including the Livestock Policy (2020) and the National Lesotho Instrument Based Agricultural Investment Plan (L-IB-NAIP), lacks specific provisions for the fisheries and aquaculture sector, addressing these industries only indirectly within broader agricultural strategies. This fragmented approach limits their potential for growth, sustainability, and climate resilience, highlighting the need for a dedicated National Fisheries and Aquaculture Development Policy.
b. **Recognition of Fisheries' Potential**: Despite the lack of dedicated policies, the Livestock Policy 2020 acknowledges the importance of fisheries for livelihoods, food security, and economic development. The policy also highlights the potential to contribute to industries such as animal feed production, pharmaceuticals, and auxiliary sectors like boat building and netmaking.
c. **Indirect Climate Change Adaptation for Fisheries**: The climate-related provisions in the NAIP and other relevant frameworks, such as the World Bank's Lesotho Climate-Smart Agricultural Investment Plan (CSAIP), do not directly address fisheries and aquaculture. However, they emphasize land management, water conservation, and biodiversity protection, which are crucial for supporting sustainable aquatic ecosystems and fisheries and aquaculture.
d. **Constraints Identified in Policy**: Weak institutional frameworks, lack of technical expertise, and inadequate resources are identified as significant constraints to the development of the fisheries and aquaculture sector. These challenges hinder the sector's ability to respond effectively to climate change and other development needs.

4.11.1 Recommendations for Addressing Climate Change in Fisheries and Aquaculture

a) Integrate Fisheries and Aquaculture into Climate Change Policies

Actions:

- Include specific provisions for fisheries and aquaculture in national climate change policies, strategies, and plans (e.g., NDC, NAPA, and NSDP).
- Ensure climate adaptation strategies address the unique vulnerabilities of these sectors.

Expected Outcomes:

- Tailored measures for the fisheries sector, enabling targeted interventions for climate resilience.
- Enhanced sustainability and protection of livelihoods in fisheries and aquaculture.

b) Integrate Sector-Specific Adaptation Measures

Actions:

- Develop and implement strategies to mitigate the effects of changing water temperatures, altered river flows, and impacts on fish habitats.
- Promote climate-resilient aquaculture practices and technologies, such as farming temperature-tolerant fish species and adopting water-efficient systems.

Expected Outcomes:

- Reduced vulnerability of fisheries and aquaculture to climate-induced challenges.
- Improved sustainability and productivity of aquatic ecosystems despite climatic changes.

c) Strengthen Institutional Capacity

Actions:

- Provide training and capacity-building programs for government agencies, local communities, and fisheries managers on climate-resilient practices and policies.
- Develop institutional frameworks prioritizing climate adaptation in fisheries and aquaculture planning and implementation.

Expected Outcomes:

- Enhanced ability of stakeholders to implement effective climate-resilient measures.
- Strengthened governance and management of fisheries and aquaculture in response to climate challenges.

d) Strengthen Monitoring, Data Collection, and Research on Climate Vulnerabilities

Actions:

- Enhance research capacity and monitoring systems to assess current and future climate change impacts on fisheries and aquaculture.
- Establish and operationalize monitoring systems to track climate impacts on aquatic ecosystems, fisheries resources, and socio-economic indicators.
- Collaborate with research institutions and regional bodies to collect, analyze, and share climate-related data.

Expected Outcomes:

- Data-driven decision-making to inform adaptive management strategies.
- Availability of high-quality, timely data for evidence-based policies and interventions.
- Improved understanding of climate impacts, enabling proactive responses to emerging risks.

e) Promote Climate-Smart Aquaculture Practices

Action:

- Encourage adoption of climate-resilient aquaculture systems, such as thermal-tolerant fish species, submerged aquaculture systems, water conservation techniques, and infrastructure designed to withstand extreme weather events.

Expected Outcomes:

- Long-term viability of aquaculture through reduced climate-induced losses.
- Enhanced productivity and resilience in aquaculture operations.

f) Protect and Restore Aquatic Ecosystems

Actions:

- Implement measures to restore and protect critical aquatic habitats, including wetlands, rivers, and mountain sponges, from degradation, drought, and changing precipitation patterns.

Expected Outcomes:

- Healthy ecosystems that support fish populations and biodiversity.
- Stable foundation for sustainable fisheries and aquaculture.

g) Enhance Stakeholder Collaboration and Capacity Building

Action:

- Promote collaboration between government agencies, research institutions, and local communities to build capacity for climate-resilient fisheries management.

Expected Outcome:

- Strengthened institutional capacity and stakeholder engagement.
- More effective climate adaptation strategies for fisheries and aquaculture.

h) Develop Early Warning Systems for Climate Risks

Action:

- Establish or enhance early warning systems to address climate impacts on fisheries, providing timely information on temperature fluctuations, droughts, and extreme weather events.

Expected Outcome:

- Improved preparedness and rapid response to minimize risks to fish populations and aquaculture infrastructure.

i) Promote Regional Cooperation

Actions:

- Establish collaboration agreements with neighboring countries and regional bodies like SADC and AU-IBAR for knowledge exchange, resource sharing, and best practices in climate adaptation.

Expected Outcomes:

- Improved resilience in fisheries management through regional cooperation.
- Greater adoption of sustainable practices and enhanced capacity to address transboundary climate challenges.

j) Leverage Funding Opportunities

Action:

- Develop and submit proposals to climate financing mechanisms such as the Green Climate Fund (GCF) and the Adaptation Fund to secure funding for climate-resilient fisheries projects.

Expected Outcomes:

- Secured financial resources for implementing climate adaptation measures.
- Development of climate-smart infrastructure, enhanced research capabilities, and support for small-scale fishers to adapt to climate impacts.

4.11.2 Recommendations for Aligning the National Agricultural Investment Plan (NAIP) with PFRS

The proposed recommendations for aligning Lesotho's National Agricultural Investment Plan (NAIP) with the PFRS aim to promote sustainable development, strengthen food security, and meet regional and global commitments, including the Comprehensive Africa Agriculture Development Programme (CAADP). These recommendations highlight the critical importance of sustainable resource management, equitable economic opportunities, climate resilience, and gender inclusivity within Lesotho's fisheries and aquaculture sector. A comprehensive Monitoring and Evaluation (M&E) framework is also being proposed to ensure that, alongside the implementation of these plans, a robust system is in place to track progress, enhance transparency, and support evidence-based decision-making. By institutionalizing M&E systems, incorporating CAADP-aligned indicators, adopting modern technologies, and engaging stakeholders, Lesotho's fisheries and aquaculture sector can make meaningful contributions to national development while ensuring accountability and long-term sustainability.

a) **Policy Area 1: Sustainable Fisheries and Aquaculture Management**

Recommended Actions:

- Integrate fisheries and aquaculture into national biodiversity conservation and sustainable agriculture frameworks through designated budget allocations and habitat protection measures.
- Develop targeted action plans under the L-IB-NAIP to enhance fisheries management, including water quality control, habitat protection, and sustainable stocking practices.
- Establish budget provisions to support research and development for sustainable fisheries and aquaculture.

Expected Outcomes:

- Increased recognition and investment in sustainable fisheries management.
- Improved resource allocation for conserving aquatic ecosystems.
- Long-term sustainability of fisheries and aquaculture sectors.

b) **Policy Area 2: Small-Scale Fisheries Development**

Recommended Actions:

- Incorporate small-scale fisheries into broader agricultural value chains by funding infrastructure development, capacity building, and market access.
- Allocate specific funding under the L-IB-NAIP for improving post-harvest handling and sustainability.
- Develop donor-funded projects to provide technical assistance and training for local fishers.

Expected Outcomes:

- Empowered small-scale fishers with improved livelihoods.
- Enhanced market competitiveness and economic opportunities for small-scale fisheries.
- Sustainable practices in small-scale fisheries, bolstering food security.

c) **Policy Area 3: Sustainable Aquaculture Management**

Recommended Actions:

- Implement investment plans targeting productivity, disease management, and climate resilience in aquaculture.
- Launch training programs to equip stakeholders with knowledge on biosecurity, sustainable practices, and climate-adaptive techniques.
- Mitigate challenges such as water scarcity and climate change impacts through targeted interventions.

Expected Outcomes:

- Strengthened aquaculture development and productivity.
- Resilient aquaculture systems with enhanced adaptive capacity.
- Improved stakeholder capacity to adopt modern and sustainable practices.

d) **Policy Area 4: Responsible and Equitable Fish Trade and Marketing**

Recommended Actions:

- Develop a comprehensive fish trade and marketing strategy to ensure access to regional and global markets, promote value chain development, and facilitate trade.
- Harmonize trade regulations and standards within SADC and AU frameworks.
- Introduce support mechanisms for small and medium-scale fish producers, processors, and traders.

Expected Outcomes:

- Improved access to markets for fish and fish products.
- Strengthened value chains in fisheries and aquaculture.

- Increased regional cooperation and market integration in fish trade.

e) Policy Area 5: Regional and Sub-Regional Cooperation

Recommended Actions:

- Promote transboundary cooperation with neighboring countries.
- Utilise regional resources for capacity building, research, and development.

Expected Outcomes:

- Enhanced regional collaboration in fisheries and aquaculture management.
- Improved alignment with regional frameworks and resource prioritization.
- Better management of shared ecosystems for sustainability.

f) Policy Area 6: Awareness Enhancement and Human Capacity Development

Recommended Actions:

- Create awareness, develop and implement training programs .
- Establish platforms for knowledge-sharing and the dissemination of best practices.
- Provide educational programs and professional development for the proposed fisheries unit or department and for fisheries managers and other resources.

Expected Outcomes:

- Improved technical capacity among stakeholders, leading to better sector management.
- Greater community involvement in sustainable practices.
- Increased stakeholder engagement.

g) Policy Area 7: Cross-Cutting Issues in Fisheries and Aquaculture

Recommended Actions:

- Integrate gender-sensitive approaches into fisheries and aquaculture policies to ensure equal participation for women and marginalized groups.
- Promote environmental sustainability by adopting ecosystem-based management practices.
- Introduce climate-resilient measures such as adaptive management strategies and climate-proof infrastructure.

Expected Outcomes:

- Greater inclusivity and gender equality in the sector.
- Enhanced resilience to climate change impacts.
- Long-term sustainability through environmentally sound practices.

h) Monitoring and Evaluation (M&E) Framework for NAIP

Institutionalize M&E Systems:

- Establish a dedicated M&E unit under the proposed fisheries department to oversee fisheries and aquaculture investments under the NAIP.
- Define clear roles for coordination, reporting, and data management.

Align Indicators with CAADP Results Framework:

- Incorporate performance indicators aligned with CAADP results framework

Strengthen Data Collection Systems:

- Develop real-time data collection systems to monitor fish stocks, water quality, and production.
- Leverage digital platforms for efficient reporting and stakeholder access.

Promote Stakeholder Engagement:

- Engage communities, private sector actors, and NGOs in M&E activities.

- Facilitate consultations and feedback mechanisms to ensure inclusivity.

Leverage Technology in M&E:

- Train planners and field officers to use GIS, remote sensing, and mobile apps for monitoring activities.
- Establish a centralized platform for tracking and sharing results.

Integrate Climate Resilience and Gender Inclusivity:

- Track progress on climate adaptation and gender equity through M&E systems.
- Collect gender-disaggregated data to assess participation in the sector.

Periodic Reviews and Adjustments:

- Conduct regular reviews of fisheries and aquaculture projects, using M&E data for updates and develop an investment plan aligned with Malabo goals
- Share findings with stakeholders to guide evidence-based adjustments.

Strengthen Regional Collaboration:

- Coordinate with regional bodies such as AU-IBAR and SADC for alignment with CAADP initiatives.
- Participate in regional dialogues to share lessons and adjust policies as necessary.

Ensure Policy Coherence:

- Harmonize M&E frameworks with other related national strategies on climate change, biodiversity, and sustainable development.
- Form inter-sectoral committees to align NAIP with other policies to ensure synergy across national policies and enhance the sector's contribution to sustainable development.

4.11.3 Recommended Strategies to Promote Investments in Lesotho's Fisheries and Aquaculture Sector

Lesotho's success in attracting manufacturing investment offers a model: a reduced tax rate of **15%** for manufacturing and farming income (compared to the **35%** general corporate rate), no withholding tax on dividends paid to non-residents, and depreciation allowances on industrial buildings. (UN, 2002) Export manufacturers benefit from **duty-free imports** of raw materials, a system that could be extended to aquaculture inputs. Adapting these incentives to the fisheries and aquaculture sector can make Lesotho a competitive destination for fisheries and aquaculture investment. Based on this, the following are the proposed recommendations for strategies to promote investments in the fisheries and aquaculture sector in Lesotho:

a) Financial Incentives

- **Tax Exemptions & Reductions**

Recommended Actions

- Remove or reduce VAT on inputs such as fish feed, fingerlings, hatchery equipment, and other essential inputs.
- Offer tax breaks for companies investing in eco-friendly aquaculture technologies such as Recirculating Aquaculture Systems (RAS).
- Provide additional tax incentives to encourage participation of women and youth in aquaculture enterprises such as tax credits for hiring women and youth and removal of ground rent on land leased for aquaculture farms operated by women and youth.

Expected Outcomes

- Lower production costs for aquaculture businesses.
- Enhanced adoption of sustainable aquaculture practices,
- Increased participation of women and youth in aquaculture,

- **Subsidies & Grants**

Recommended Actions

- Provide subsidies for locally produced or imported high-quality fish feed and modern aquaculture equipment, ensuring accessibility for women and youth-led enterprises.
- Provide funding for research institutions and entrepreneurs involved in the development of climate-smart aquaculture practices.
- Provide partial subsidies for cold chain logistics, hatchery development, and processing facilities, with preferential support for women and youth-led enterprises.

Expected Outcomes

- Improved affordability and quality of input,
- Strengthened aquaculture value chain infrastructure,

- **Credit & Insurance**

Recommended Actions

- Establish special credit lines with lower interest rates and longer repayment periods, ensuring fair access for women, youth, and marginalized groups.
- Provide loan guarantees to encourage banks to lend to fisheries and aquaculture investors, with specific allocations for gender-inclusive businesses.
- Support affordable insurance coverage against risks such as disease outbreaks, climate shocks, and water quality deterioration.

Expected Outcomes

- Increased investment in aquaculture, promoting financial inclusion and sectoral growth.
- Enhanced access to capital, fostering business expansion and job creation.
- Reduced financial vulnerability, ensuring stability and sustainability in aquaculture operations.

b) Regulatory & Policy Support

Recommended actions

Streamline Licensing & Permits:

- Establish a one-stop shop for aquaculture investors to simplify licensing operations and the issuance of import and export permits.

Zoning & Land Allocation

- Designate aquaculture development zones with pre-approved Environmental and Social Impact Assessments (ESIAs) and provide necessary infrastructure.
- Provide long-term leases for aquaculture businesses in strategic locations, ensuring equitable access for women and youth-led enterprises.

Expected Outcomes

- Reduced bureaucratic delays.
- Lower regulatory costs and expedited establishment of aquaculture enterprises,
- Increased security for investors in aquaculture.

c) Market & Trade Promotion

Recommended Actions

- Remove trade barriers and promote certification schemes to enhance access to international markets.
- Encourage government institutions (schools, hospitals, military) and local businesses (restaurants, hotels, grocery stores) to purchase locally farmed fish.
- Promote local fish consumption through campaigns on nutrition and sustainability benefits.

Expected Outcomes

- Increased export opportunities,
- Strengthened domestic market demand.
- Increased consumer awareness and demand for aquaculture products,

4.12 OVERALL CONCLUSION

Lesotho's fisheries and aquaculture sector has strong growth potential but faces threats from climate change, including rising water temperatures, altered river flows, and habitat degradation. Outdated policies, inadequate infrastructure, and limited technical capacity further hinder adaptation.

However, resilience can be enhanced through climate-smart technologies, farming temperature-tolerant species, and ecosystem restoration. Integrating fisheries into national climate policies, strengthening institutions, and improving data management are key to adaptation. Strategic investments, regional collaboration, and innovative financing will be essential to attract investment, boost food security, and create employment while ensuring long-term sustainability and inclusivity in the sector.

APPENDIXES

APPENDIX 1: ONLINE SURVEY FORM RESPONSES

AFRICAN UNION
INTERAFRICAN BUREAU FOR ANIMAL RESOURCES

ONLINE SURVEY TO MONITOR THE ALIGNMENT OF NATIONAL AND REGIONAL FISHERIES AND AQUACULTURE POLICIES WITH THE POLICY FRAMEWORK AND REFORM STRATEGY FOR FISHERIES AND AQUACULTURE IN AFRICA

1. Ministry of Environment and Forestry = **x**
2. Ministry of Gender, Youth and Social Development = **X**
3. Ministry of Trade, Industry and Business Development = **X**
4. Lesotho Agricultural College = **X**
5. Motheo Holdings = **X**
6. National University of Lesotho = **X**

POLICY AREA 1: CONSERVATION AND SUSTAINABLE FISHERIES AND AQUACULTURE RESOURCE USE				
Criteria for Alignment		Check **X** to Indicate if:		COMMENTS
	YES		**NO**	
Outcome 1: **Policies, frameworks and tools in place to sustainably increase national benefits from fisheries and aquaculture**				
1	*Fisheries and aquaculture are mainstreamed into national development*	XXXXX		
2	*Globally accepted best practices integrated into national policy frameworks and tools*	XXXX	X	
3	*Policy and management decisions are made based on the existence of reliable data and information management systems*	XXXX	X	
4	*Adoption of participatory fisheries management mechanisms/approaches*	XXXXX		
Outcome 2: **Effective and sustainable national and regional Monitoring, Control and Surveillance systems in place to ensure that sustainable benefits are realized**				
1	*National fisheries agencies have all aspects of MCS in place and functioning*	XX	XXX	
2	*Mechanisms in place for efficient and effective regional cooperation on fisheries MCS*	XXXX		X Not sure
Outcome 3: **Healthy ecosystems to support sustainable fisheries and aquaculture**				
1	*Scientific research (natural, social, economic and technological) that support fisheries management and aquaculture development in place*	XXX	XX	
2	*Tools and programmes in place to protect fishery resources and their habitats*	XXXX	X	
POLICY AREA 2: SMALL SCALE FISHERIES DEVELOPMENT				
Criteria for Alignment		Check **X** to Indicate if:		COMMENTS
	YES		**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**				
1	*Mechanisms and strategies highlight the economic and social importance of small scale fisheries development*	XXXX	X	
2	*Mechanism and strategies to unlock and unleash potentials of the subsector to generate socio-economic benefits are in place*	XXXX	X	
3	*Ensure a system to facilitate organized value chain development in order to effectively derive the benefits from the small-scale fisheries*	XXXX	X	
4	*Small Scale Fisheries prioritized in National Agricultural Investment Plans (NAIP), Poverty alleviation documents and National strategy documents, etc.*	XXX	XX	
Outcome 2: **Bilateral and regional cooperation for effective management of shared fishery resources and ecosystems is strengthened**				
1	*Adoption and implementation of Regional and intra-regional minimum terms and conditions for access*	XXXX		X Not sure
2	*Mechanisms in place for efficient and effective regional cooperation on fisheries management, including MCS, migratory and shared stocks*	XXXX	X	
Outcome 3: **Fishers are organized to foster good fisheries governance, sustainable development and responsible use of natural resources**				
1	*International Guidelines for Securing Sustainable Small-scale Fisheries are appropriately applied*	XXXXX		
2	*Capacity of fisheries stakeholders and institutions for participatory management of the fisheries are developed and nurtured*	XXXX	X	
POLICY AREA 3: SUSTAINABLE AQUACULTURE MANAGEMENT				
Criteria for Alignment **YES**		Check **X** to Indicate if: **NO**		COMMENTS
Outcome 1: **Improved market-led aquaculture investments**				
1	*Inclusion of Markets campaigns for aquaculture products (awareness creation, PPPPs – Price, Place, Promotion and Product)*	XXXX	X	
2	*Aquaculture infrastructure- provision of measures for states to provide basic infrastructure for aquaculture development*	XXX	XX	
3	*Financing/investment strategy - provision for the promotion of financial instruments such as guarantee funds, micro-credit institutions*	XXX	XX	
4	Quality assurance and standards - provision for aquaculture product labelling and traceability through certification programmes	XXX	XX	
5	*Skills development plan - Provision in the policy for aquaculture development plan and strategies to appropriately address competencies and skills development*	XXX	XX	
6	*Research and Extension Services - Provision adequate funding for research to enhance technology development and innovation*		XXXX	
7	*Fish farmers associations or cooperatives- Existence of an institutional framework to allow Fish farmers associations and cooperatives to flourish*	XXXX	X	
8	*Enabling environment – Provision of policy and institutional framework as well as one stop shop to facilitate registrations and investments by the private sector*	XXX	XX	
9	*Growth in trade of locally produced aquaculture products- Provision for protection of local aquaculture products from imported products. Existence of programmes to increase competitiveness of locally produced aquaculture products*	XXX	XX	
Outcome 2: **Improved regional cooperation in shared ecosystems**				
1	*Common strategies on management and research on transboundary Resources - provision for existence of harmonized coherent policies, institutional and legal frameworks for aquaculture shared ecosystems*	XXXX	X	
2	*Consistency with best ecosystems management approaches (e.g. FAO EAF, EAA, CCRF)*	XXXXX		
3	*Conformity with accreditation mechanisms- Inclusion of Best Management Practices (BMPs) required for certification and standardization for sustainable aquaculture practices in the policies*	XX	XXX	

POLICY AREA 4: RESPONSIBLE AND EQUITABLE FISH TRADE AND MARKETING				
Criteria for Alignment YES		Check **X** to Indicate if: **NO**		COMMENTS
Outcome 1: Improved intra and inter regional trade				
1	*Compliance with agreed regional trade protocols and regulations*	XXXX	X	
2	*Coherence of fish trade policies with other policies*	XXXX	X	
3	*Compliance with sanitary standards and market requirements*	XXXX	X	
Outcome 2: Increased competitiveness for African fish and fishery products				
1	*Economically efficient fisheries sector - Ensures fisheries are sustainably managed and supported by appropriate infrastructure and prudent macroeconomic management*	XXXX	X	
2	*Standards and supportive technology - Infrastructure, such as National fisheries quality control laboratory for standardization of fishery products is in conformity to international guidelines for certification of fishery products*	XX	XXX	
3	*Competitiveness through increasing value chain efficiencies - Inclusion of appropriate pricing conditions for value addition across value chain segments*	XX	XXX	
4	*Coherence of trade policies (harmonization) - National trade policies should be coherent and harmonized at subregional or regional levels*	XXXX	X	
5	*Consumer Information - Ensure that that there is symmetric information between buyers and sellers*	XX	XX	
POLICY AREA 5: REGIONAL AND SUB-REGIONAL COOPERATION				
Criteria for Alignment YES		Check **X** to Indicate if: **NO**		COMMENTS
Outcome 1: International fisheries issues at regional levels are coherent and harmonized				
1	*Entrench awareness of important international instruments for sustainable fisheries management and frameworks that identify the need for their domestication in realizing sustainable fisheries management*	XXX	XX	
2	*PFRS policy options reflected in international policy instruments*	XXXX		X Not sure
3	*PFRS act as a reference in international policy influence including existing and upcoming policies*	XXXX		X Not sure
4	*Transparency, accountability and effective participation of stakeholders are hallmarks of RECs and RFBs in Africa*	XXX	X	X Not sure
Outcome 2: RECs and RFBs are positive forces for fisheries management within the framework of regional economic and political integration agenda				
1	Mechanisms for linkages between REC's and RFB's exist	XX	XXX	
2	The role of REC's and RFB's as vehicles to promote fisheries and aquaculture is defined	XX	XXX	
3	Strategies and Mechanisms for preventing and resolving regional conflicts are in place	XXX	XX	
POLICY AREA 6: AWARENESS ENHANCING AND HUMAN CAPACITY DEVELOPMENT				
Criteria for Alignment YES		Check **X** to Indicate if: **NO**		COMMENTS
Outcome 1: Enhanced sectoral competencies and proficiencies				
1	*Continuous professional education, mentorship and training - Provision for facilitating continuous awareness and enabling environment to seize and utilize opportunities for sectoral development*	XX	XXX	
2	*Accreditation of practitioners and institutions -*	XX	XXX	
3	*Facilitate centres of excellence of fisheries and aquaculture - Provision in the national and regional policies that ensures continual establishment, development and maintenance of minimum operating standard centres of excellence for fisheries and aquaculture*	XX	XX	X Not sure
Outcome 2: Improved evidence based decision making				
1	*Information based policy decision making*	XXX	XX	
2	*Information sharing between policy makers and policy consumers*	XXX	XX	

3	*Responsive to real community needs - Provision of improved enabling conditions in fish producing communities to enhance competence*	XXXX	X	

POLICY AREA 7: HIGH SEAS FISHERIES				
Criteria for Alignment YES		Check **X** to Indicate if:		COMMENTS
		NO		
Outcome 1: Greater African Voice in high seas fisheries				
1	*Effective participation of African states in international deliberations, meetings, etc and increased access to high seas fisheries*	XXXX	X	
2	*Strengthen alignment of donor and partner effort with PFRS*	XXX	X	
3	*Alignment to and co-ordination of development partners' efforts with PFRS strengthened*	XXX	X	X Not sure
Outcome 2: Increased participation and benefits for MS in high seas fisheries				
1	*Increased access to high seas fisheries - Provision should be made in the policy to ensure high seas resource exploitation by MS*	XX	XX	X Not sure
2	*Accrued benefits to concerned MS increased - Existence of programmes and strategies to increase investment for economic value addition (such as harbour)*	XX	XX	X Not sure
Outcome 3: Active participation of MS in RFMOs processes and agenda				
1	*Cooperation for high sea fisheries management - There should be provision to facilitate management decisions for active roles in facilitating intergovernmental cooperation*	XXXX	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:		Comments
		NO		
OUTCOME 1: Adaptive capacity and resilience at the local level built				
1	*Capacity building programme on climate smart fisheries - Policy provision to promote capacity building in the sector on climate change*	XXX	XX	
2	*Communication systems- Participatory Climate Change (CC) and Disaster Risk (DR) vulnerability assessment and aquaculture development*	XXX	XX	
3	*Facilitate the creation of alternative livelihoods - Opportunities should be available for at least temporary shifting to alternative occupation in the event of shocks*	XXX	XX	
4	*Early warning system in place as a focus for disaster - Mechanism should exist at national and regional levels*	XXX	XX	
OUTCOME 2: Policy coherence and coordination at the national and regional levels improved				
1	*Disaster risk management (DRM) and climate change Adaptation (CCA) policies include fisheries and aquaculture*	XXXX	X	
2	*Fisheries and aquaculture policies include DRM and CCA*	XXXX	X	
B. Gender and Youth				
OUTCOME 1: Increased access to resources				
1	*Policies and interventions aimed at attracting women and youth should address key barriers and constraints to entry and access to land and water*	X XXXX	X	
2	*Security of investment and access rights and ownership - Policy provisions for the system to ensure security of investments and create market certainty*	XXXXX	X	

C. Private Sector Investments and Financing Mechanisms for Fisheries and Aquaculture in Africa				
OUTCOME 1: Improved enterprise performance within the fisheries and aquaculture sector				
1	*World Bank ease of doing business index - Compliance with WB for creating an efficient and inclusive ethos for enterprise and business*	XXXX		X Not sure
2	*Global competitiveness report of World Economic Forum - Conformity with the Global Competitiveness Report of World Economic Forum (WEF)*	XXXX		X Not sure
3	*World Bank Fisheries Performance indicators - Alignment with the WB Fishery Performance Indicators (FPIs)*	XXXX		X Not sure

4	*Awareness of diversity of business structures - Provision for awareness creation that enable practitioners and enterprise owners*	XXXX	X	
OUTCOME 2: Improved private sector governance				
1	Consistency with industry best practices - Polices need consistent and efficient structure that enables effective and well-documented best practices	XXXX	X	

APPENDIX 2: TERMS OF REFERENCE NAIPS

ASSESSMENT OF THE ALIGNMENT OF NATIONAL FISHERIES-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

TERMS OF REFERENCE

1.0. BACKGROUND INFORMATION

1.1. The Assignment

The purpose of this service contract is to support African Union Member States (AU-MS) successfully develop and implement national fisheries and aquaculture sectoral strategies and National Agricultural Investment Plans (NAIPs) that are aligned to the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS) and climate change adaptation. The aim of this is to benchmark and establish twinning mechanisms for peer review to strengthen coherence in the sector to the PFRS and capacity for realistic fisheries and aquaculture policy making.

1.2. Contracting authority

African Union – Interafrican Bureau for Animal Resources, Nairobi, Kenya.

1.3. Background

Africa's fishery sector produces over 11 million tons of fish annually employs over 12 million people, contributes 1.24% of continental GDP and is a major source of food for over 200 million Africans. It is among the primary food and nutrition as well as livelihood sources for several rural communities. The sustainability and expansion of the sector, are therefore among Africa's prospects for reducing poverty and spurring rural development and socio-economic growth.

The sustainability of Africa's fisheries sector, unfortunately remains challenged by poor governance, low levels of investment, environmental degradation and climate-change. Environmental degradation and climate-change have been cited as causes for loss of breeding and fishing grounds, diminution of fish landing sites and reduced fish production in the small-scale fisheries and aquaculture sub-sectors. Livelihoods and thus, the socio-economic status of rural fishing communities has progressively become at stake. The contribution of the sector towards African Union Member State's (AU-MS) national GDP's, food and nutrition security and rural development is consequently below the anticipated most AU-MS national goals for the sector.

The PFRS seeks to address the bottlenecks hindering the establishment of sustainable climate-smart commercial fisheries and aquaculture development by anchoring on promoting healthy aquatic ecosystems and equitable trade as foundation stones for the sector. Similarly, the Africa Blue Economy Strategy (ABES) seeks to expand the economic opportunities derived from the fisheries sector based upon the same principles.

Africa Development Bank (AfDB) analyses indicate that poverty levels in Africa can be halved by promoting agricultural growth alone. Investment in Africa's agricultural sector would also address most of Africa's food and nutrition security concerns. The Comprehensive African Agriculture Development Program (CAADP) articulates these prospects into

a framework that guides investment to transform and accelerate agricultural growth in Africa. Hence, Africa's Head of State and Government (AHSG) endorsed the CAADP in 2003 in commitment to boosting investment for agricultural development. The implementation of the CAADP has been cascaded down to the regional and national levels through Regional Agricultural Investment Plans (RAIPs) and National Agricultural Investment Plans (NAIPs) to facilitate the realization of this broad objective across the continent. The RAIPs and NAIPs aim to mobilize resources for investment to effectively harness the economic opportunities offered by agricultural, considering the comparative advantage of each of the agricultural sub-sectors within the respective Regional Economic Communities (RECs) and Member States (MS).

A nation's capacity for responsible use and management of its natural resources greatly determines the extent to which it can effectively harness these resources sustainably through agriculture. The NAIPs and RAIPs were designed as tools to help AU-MS and RECs generate and direct resources from the public and private sectors to meet their sectoral CAADP targets. In this regard, they provide a framework through which wide range of resources can simultaneously be harnessed for public investment notably institutional and policy structures, infrastructure, technology, human resource development, private-sector organizations and natural resources. They present one of the most practical approaches for pooling scarce resources from the public and private sectors to attain the levels of investment needed to more effectively accomplish regional or national development goals. The value of NAIPs and RAIPs that holistically address sustainable agricultural development within the context of natural resource management and climate-change for robust and resilient agricultural value-chain development cannot be understated.

1.4. Current situation in the sector

Africa's fisheries-aquaculture sector transcends a wide range of ecological habitats and socio-economic environments. Its oceans, rivers and lakes support the continent's fisheries and growing aquaculture sub-sector. About 31% of Africa's land surface area is suitable for small-scale fish farming and 13% suitable for commercial fish farming.

The sustainable development of Africa's fisheries and aquaculture potential is unfortunately beset by growing threats to its aquatic resources arising from pollution, environmental degradation, inundation of wetlands, flooding, sedimentation, climate-change and inadequate fishery management policies and practices. These factors have negatively impacted water quality, breeding grounds and the status of fish populations. Increased reports of the destruction of aquaculture infrastructure after adverse climatic events are a growing concern. Traditional fish processing practices such as fish drying and smoking are weather and wood dependent. Thus, they are susceptible to climate-change events and contribute to deforestation and carbon-gas emissions. Meeting sanitary and market standards under such these conditions remains an uphill task for producers. Dedicated investment to address impacts related to environmental degradation and climate-change systematically across the continent's fishery and aquaculture value-chain to establish resilience has generally been overlooked; and is perpetuating the business and sustainability risks the sector is facing.

Ensuring NAIPs and RAIPs become fully aligned to the PFRS and the respective environmental management and climate-Change adaptation plans will go a long way in fostering the resilience, performance and sustainability of Africa's fishery and aquaculture sectors. The finding from this consultancy facilitate the strengthening the level of coherence and realistic policy making and budgeting for sustainable fisheries-aquaculture development as prospects for twinning those with and without PFRS aligned strategies and investment plans as a peer review mechanism will better be elaborated.

2.0. OBJECTIVES, PURPOSE & EXPECTED RESULTS

2.1. Overall objectives

(i) To 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.

The initial focus for this assessment are the most vulnerable and fragile AU-MS on the continent, namely: Somalia South Sudan, Democratic Republic Congo, Libya, Chad, Sudan, Central Africa Republic, Sahrawi, Zambia, Zimbabwe, Lesotho, Madagascar, Niger, Burkina Faso and Liberia.

2.2. Purpose

The purpose of this contract is to:

- Review the NAIPS, fisheries & aquaculture strategies, national environmental and national climate change action plans as well as other relevant literature & consultant with stakeholders through workshop discussions to assess the status of change impacts and initiatives to strengthen climate change resilience for example specific programs geared towards climate-smart fisheries-aquaculture development in Africa (including on raising public awareness).
- Undertake a SWOT analysis to assess the extent to which the PFRS and climate change has been mainstreamed into NAIPs and the impacts thereof based on PFRS Implementation Guidelines and CAADP compacts.
- Compile national success stories as case studies demonstrating the benefits and challenges associated with mainstreaming climate-change into the fisheries-aquaculture industry for lessons learning and knowing sharing.
- Recommendations for the way forward showing options for policy, resource mobilization and building partnerships to promote the adoption and implementation of climate-smart environmentally sustainable fisheries-aquaculture development aligned to the PFRS among AU-MS and other stakeholder initiatives within the industry.
- Draft a report of findings

Find below a checklist to guide you identify relevant literature, key stakeholders to interview and organize as well as facilitate discussions/discussion groups during the workshops.

Alignment of NAIPs and RAIPs to climate Change and environmental management

Guidelines for Assignment

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

b. National Fisheries and Aquaculture Development Policy and Plan = YES

c. National Environmental Management Policy and Plan = YES for policy and No for Plan

d. National Agricultural Investment Plan = NO

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	• Variations in rainfall patterns • Changes in cloud cover and wind speed • Extreme temperatures causing surface warming of lakes, rivers, and ponds • Frost due to very low temperatures	High Risks • Drought reducing fish production • Decline in crop yields affecting fish feed availability High mortality rates Moderate Risks Floods • Strong winds	• Implement climate-smart technologies • Use climate-resilient rearing systems • Install heat-repellent shades • Establish early warning systems in collaboration with stakeholders • Rehabilitate and protect water resources from encroachment (agriculture and settlements)
Aquatic ecosystems	High risks • Increased temperatures driving fish to deeper waters, affecting production and supply • Runoff of sediments, nutrients, pathogens, and contaminants due to heavy rainfall • Drought conditions	High and Moderate risks • Degradation of water quality • Loss of aquatic habitats • Ecosystem stress	• Adapt to climate-smart resilient technologies • Strengthen monitoring of water quality and ecosystem health • Enhance research capacity • Develop and implement water conservation strategies
Aquatic ecosystems	• Prolonged and Recurring Droughts • Soil erosion and land degradation • Biodiversity loss (high altitude wetlands)	• Water shortages, and reduced water flow in rivers • Reduced water resources • Impact on highlands ecosystems • Soil erosion and land degradation • Habitat loss (biodiversity)	• Development of Early warning system and technical capacity to undertake risk assessment • Conservation and rehabilitation of degraded wetlands in the mountain areas of Lesotho
Fisheries and aquaculture	Same as above	Same as above	Same as above

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 = Lesotho does not have a National Fisheries and Aquaculture Development Policy/Plan

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

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) = there are no specific provisions for fisheries and aquaculture , but there are provisions that are relevant to the sector as outlined in the table below

Drivers	**Biophysical Impacts**	**Implications**	**Proposed Risk Mitigation Measures**
Changes surface water temperature	• Increased pH levels with rising temperatures • Reduced dissolved oxygen due to algal blooms • High fish mortality rates in unsuitable temperatures	• Decline in fish health and productivity • Reduced aquaculture yields • Environmentally induced fish kills	• Monitor and regulate water temperature in aquaculture systems • Promote adaptive fish farming techniques suitable for varying temperatures. • Research and development on heat-tolerant species
El Niño-Southern Oscillation	• Increased pH levels with rising temperatures • Reduced dissolved oxygen due to algal blooms • High fish mortality rates in unsuitable temperatures	• Disruption of fish farming cycles • Increased vulnerability of native fish	• Develop early-warning systems for temperature variations • Implement resilient aquaculture practices.
Rising sea level	N/A		
Higher inland water temperatures	• Increased pH levels with rising temperatures • Reduced dissolved oxygen due to algal blooms • High fish mortality rates	• Reduced inland fish production • Stress on aquatic ecosystems	• Enhance riparian vegetation to mitigate heat • Develop thermal-tolerant fish species.
Changes in precipitation and water availability	• High runoff causing sedimentation • Altered habitats affecting aquatic life • Migration of fish due to water level changes	• Habitat degradation • Displacement of fish species • Reduced fish stocks	• Implement sediment control measures • Protect and restore critical aquatic habitats
Increase in frequency and/or intensity of storms	Moderate risk with little to none-biophysical effect	• Disruption to aquaculture infrastructure • Potential physical fish loss	• Strengthen aquaculture infrastructure to withstand extreme weather events.
Drought	Decreased Water quality	• Stress on fish health and productivity • Reduced availability of water for aquaculture	• Implement water conservation practices • Promote efficient use of water in aquaculture

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 = NO. There are no specific provisions in the Environment Policy. Fisheries are an indirect beneficiary of the environmental conservation measures proposed in the Policy.

Issue	State how it is address in NEMA	State how it is addressed in NAIP	Remarks
	Generally specifically,	Generally specifically,	

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 In the absence of sector-specific policies and plans, a general SWOT analysis was conducted for the fisheries and aquaculture sectors. The analysis below represents a consolidated analysis of the National Agricultural Investment Plan (NAIP), the Environment Policy, and the National Climate Change Action Plan.

Strengths	Weaknesses
• Prioritization of sustainable resource management in NAIP and CSAIP. • Abundant, high-quality freshwater resources from highland rivers and reservoirs. • Temperate climate ideal for fish production. • Internationally recognized high-quality trout, with export and tourism potential. • Existing legal framework for fisheries and aquaculture (foundation for reforms). • Membership in regional and international trade agreements, enabling broader market access.	• Outdated laws and regulations requiring modernization. • Limited infrastructure for large-scale fisheries and aquaculture. • Insufficient funding and technical capacity in the sector. • Challenges in implementing climate-resilient practices at scale.
Opportunities	**Threats**
• Development of sustainable aquaculture aligned with climate-smart agricultural practices. • Expansion of export markets for high-quality trout. • Potential for job creation in rural areas, reducing poverty. • Leverage trade agreements to enhance market access and competitiveness. • Increased investment in infrastructure and capacity building for the sector.	• Vulnerability to climate change impacts on water resources. • Competition from established global fish exporters. • Potential overexploitation of freshwater resources. • Slow policy reform and regulatory updates may hinder growth.

General Comments and Recommendations

Lesotho's fisheries and aquaculture sector has strong growth potential but faces threats from climate change, including rising water temperatures, altered river flows, and habitat degradation. Outdated policies, inadequate infrastructure, and limited technical capacity further hinder adaptation.

However, resilience can be enhanced through climate-smart technologies, farming temperature-tolerant species, and ecosystem restoration. Integrating fisheries into national climate policies, strengthening institutions, and improving data management are key to adaptation. Strategic investments, regional collaboration, and innovative financing will be essential to attract investment, boost food security, and create employment while ensuring long-term sustainability and inclusivity in the sector.

References

1. ***AU-IBAR. (2019).*** *ABES.* AFRICAN UNION IBAR.
2. ***AU-IBAR. (2019).*** *AU-IBAR Strategic Plan 2018–2023.* AU.
3. ***CSAIP, L. (2019).*** *Lesotho Climate Smart Agriculture Investment Plan (CSAIP).* The World Bank.
4. ***FAO-SFS. (2021).*** *Fisheries and Aquaculture Country Profiles .* FAO-SFS.
5. ***Grigorakis, R. (2011).*** Aquculture impacts on Public and Environmental Welfare - The Case of Mediterranean Mariculture. *Chemosphere*, 899-919.
6. ***Hecht, T. (1999).*** *Lesotho Fisheries Project, Katse Dam - Trout aquaculture Feasibility.*
7. ***LHDA. (2017).*** *Baseline Gillnet Survey in Mohale Dam - An Analysis of Abundance, Species and Size Composition with Specila Focus on Selectivity.* Maseru: LHDA.
8. ***L-IB-NAIP. (2022-2026).*** *Lesotho Instrument-Based National Angricultural Investment Plan.* Maseru: Ministry of Agriculture and Food Security, Lesotho.
9. ***MAFS. (2020).*** *Lesotho National Livestock Development Policy .* Ministry of Agriculture and Food Security .
10. ***McCafferty, J. (2024).*** *Breaking Tradition: The Emergence of an Alpine Fishery in Southern Africa Following Development of a Lage Dam Project.* Cape Town: Draft Thesis submitted for Review.
11. ***Moffett, R. H. (2004).*** *Contact ENV/6/2004: Emvironmental Impact Assessment For Katse Reservoir Aquaculture Development to be Operated as Highlands Fish Farms Joint Venture.*
12. ***NAPA, L. (2007).*** *Lesotho's National Adaptation Programme of Action.* Lesotho Meteorological Services.
13. ***NDC, L. (2017).*** *Lesotho's Natinally Determined Contribution under the United Nations Framework Convention on Climate Change.* Ministry of Energy and Meteorology, Lesotho.
14. ***NES. (2012).*** *Record of Decision on Proposed Expansion of Katse Fish Farms (KFF) project.* Maseru.



African Union
Inter-African Bureau for Animal Resources (AU-IBAR)
Kenindia Business Park
Museum Hill, Westlands Road
P.O. Box 30786
00100, Nairobi, KENYA
Telephone: +254 (20) 3674 000 / 201
Fax: +254 (20) 3674 341 / 342
Website: www.au.ibar.org
Email address: ibar.office@au-ibar.org