

# **ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)**

**FOR**

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**NAMIBIA WATER SECTOR SUPPORT PROGRAM (NWSSP)  
THE IXTAPA-OKEEHOLONGO RURAL WATER SUPPLY SCHEME–PHASE 2**

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**PREPARED FOR:**

**Namibia Water Sector Support Program (NWSSP)**

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<b>PROJECT NAME</b>	<b>Environmental and Social Impact Assessment (ESIA) - Extension of The Iitapa-Okeeholongo Rural Water Supply Scheme – Phase 2, Okahao, Tsandi and Otamanzi Constituency in the Omusati Region, Namibia</b>
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<b>COMPETENT AUTHORITY</b>	<b>Department of Environmental Affairs / Environmental Commission</b> Ministry of Environment, Forestry & Tourism Windhoek, Namibia
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## ACRONYMS USED

AfDB	African Development Bank
AIDS	Acquired Immunodeficiency Syndrome
BMCs	Basin Management Committees
BOT	Built Operate and Transfer
CBM	Community Based Management
CLTS	Community-Led Total Sanitation
CSP	Country Strategy Papers
DEA	Directorate of Environmental Affairs
DPR	Direct Potable Reclamation
DWAF	Department of Water Affairs and Forestry
DWSSC	Directorate of Water Supply and Sanitation Coordination
EA	Environmental Assessment
ECC	Environmental Clearance Certificates
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GRM	Grievance Redress Mechanism
GRP	Grievance Redress Panel
Ha	Hectare
HIV	Human Immunodeficiency Viruses
HRDC	Human Resources Development Centre
IPAs	Important Plant Areas
IRM	Independent Review Mechanism
ISS	Integrated Safeguards System
IWRM	Integrated Water Resources Management
KIP	Key Performance Indicator
LSU	Large Stock Unit
M&E	Monitoring & Evaluation
MAWF	Ministry of Agriculture, Water and Forestry
MEFT	Ministry of Environment, Forestry and Tourism
NamWater	Namibia Water Corporation Ltd
NGO	Non-governmental organization
NHCN	National Heritage Council of Namibia
NUST	Namibia University of Science and Technology
NWSSP	Namibia Water Sector Support Program
OS	Operational Safeguard
SESA	Strategic Environmental and Social Assessment
SHE	Safety, Health and Environment
STDs	Sexual Transmitted Diseases
TA	Technical Assistant
ToR	Terms of References
UNAM	University of Namibia
WASH	Water, Sanitation and Hygiene
WSS	Water Supply Scheme

# EXECUTIVE SUMMARY

The Namibia Water Sector Support Program (NWSSP) is being implemented by the Government of Namibia's Ministry of Agriculture, Water and Land Reform (MAWLR) in order to address the country's water supply and sanitation issues. The African Development Bank is funding the project (AfDB). The program's goal is to improve water supply and sanitation services in Namibia by increasing access, quality, security, and sustainability. The program is being implemented in two stages, the first of which lasted for five years and the second of which began shortly after Phase 1 had officially completed. Phase 1 focuses on short-term, immediate water solutions, whereas phase 2 focuses on long-term water solutions. (Government of the Republic of Namibia, 2019).

The program's implementing agencies (MAWLR and Namibia Water Corporation) are required to address the program's downstream implications in order to meet the Bank's objectives and to ensure long-term development. This specific study details the Environmental and Social Management Plan (ESMP) for the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2, which was created to monitor and mitigate the program's negative downstream effects. The overall goal of this ESMP is to ensure that the project will be implemented in a way that was both environmentally and socially sustainable.

In order to achieve the Bank's standards and ensure long-term development, the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 must address the program's downstream consequences. To manage and mitigate the program's negative downstream consequences, the Environmental and Social Management Framework (ESMF) was designed. The ESMP's overall purpose is to ensure that the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 will be implemented in an environmentally and socially sustainable manner.

This ESMP provides a framework for the government to evaluate sub-projects and institutional measures to mitigate the negative environmental and social impacts of the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2. The ESMP outlines remedial measures as well as preventative and control strategies for potential negative environmental and social impacts resulting from proposed program activities, as well as measures to address the AfDB's Operational Safeguard (OS) on Environmental and Social Assessment (The Bank's OS 1) and actions to improve the program's positive impacts.

This ESMP includes a set of general guidelines for long-term project management. It also contains generic mitigation measures to guide the implementation of relatively simple works that do not require further assessment, as well as identification criteria to identify sub-projects that require additional assessment due to complex or sensitive conditions, or that require the development of a comprehensive Environmental and Social Management Plan (ESMP).

The Environmental Assessment Practitioner (EAP) completed an Environmental and Social Impact Assessment (ESIA) that identified several impacts and their importance to the development of the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2, for which this ESMP provides a framework to manage these impacts and improve the project's implementation. This ESMP establishes a mechanism for assessing the project's environmental and social impacts, identifies the generic impacts, and proposes mitigation, monitoring, and institutional measures to be taken during the

project's implementation and operation to avoid, minimize, or offset negative environmental and social impacts.

The screening goals for the litapa project were to determine the nature and scope of expected negative environmental and social impacts, define and develop the most appropriate safeguard instrument based on the nature and scope of these impacts, and establish and implement appropriate mitigation measures.

The Grievance Redress Mechanism (GRM) will ensure that communities have an effective means of expressing their concerns and obtaining remedies. The goal is to foster a mutually beneficial relationship while also advancing project development goals. The GRM's goal is to improve responsiveness and accountability by ensuring that complaints are directed to and promptly addressed by the appropriate agencies.

The GRM will work at multiple levels, including community/village, constituency, regional, and national. The GRM will strive to use existing and locally recognized grievance redress systems at the community, constituency, and regional levels rather than developing parallel structures. Individuals, peoples, and communities affected by the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project will have access to appropriate grievance resolution procedures for hearing and resolving project-related complaints and disputes, thanks to the AfDB's Independent Review Mechanism (IRM).

The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 ESMP monitoring system will ensure that identified mitigation measures are appropriately and effectively implemented in order to produce the expected results; any additional impacts not identified in the analysis of the potential environmental and social impacts of the rehabilitation and/or construction of facilities are captured as soon as possible and modified, discontinued, or replaced if they prove to be ineffective. It includes the elements to be monitored, monitoring methods and tools, monitoring and reporting responsibilities, and monitoring frequency.

# 1. INTRODUCTION

## 1.1. Namibia Water Sector Support Program (NWSSP): An Overview

This Environmental and Social Management Plan (ESMP) was created for the Government of the Republic of Namibia, Ministry of Agriculture, Water and Forestry, as part of the Namibia Water Sector Support Program (NWSSP) - Extension of The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2, Omusati Region, Namibia (MAWF). The NWSSP aims to improve water supply and sanitation services in Namibia by increasing access, quality, security, and sustainability.

The NWSSP consists of three physical components (bulk water infrastructure development, sanitation infrastructure development, and rural water supply and sanitation), which are implemented through 25 sub-projects to which this ESMP applies. The scope of this ESMP is limited to the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project, which is being implemented by MAWF in collaboration with NamWater and the City of Windhoek (Government of the Republic of Namibia, 2019).

## 1.2. The ESMP's Purpose

The overall goal of this ESMP is to ensure that the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 is implemented in a way that is both environmentally and socially sustainable. The ESMP will provide a framework for institutional measures to address the project's negative environmental and social impacts. The ESMP outlines remedial measures as well as preventative and control strategies for potential negative environmental and social impacts resulting from proposed program activities, as well as measures to address the AfDB's Operational Safeguard (OS) on Environmental and Social Assessment (The Bank's OS 1) and actions to improve the program's positive impacts.

The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 activities are classified as Category 2 under the AfDB's Operational Safeguards Environmental and Social Assessment "The Bank's OS1," whose impacts are likely to have detrimental site-specific environmental and/or social impacts that can be minimized by applying appropriate management and mitigation measures or incorporating internationally recognized design criteria and standards.

This report, along with the Environmental and Social Impact Assessment (ESIA), should be read together. The ESMP identifies project activities, potential consequences, mitigation, monitoring, and capacity building. The ESMP summarizes institutional arrangements for mitigation measure implementation, section monitoring of mitigation measure implementation, and capacity building needs, as well as cost estimates and time horizons for such activities and monitoring indicators. The Resettlement Action Plan will address identified potential socioeconomic impacts that require resettlement and compensation (RAP). If necessary, a separate RAP will be prepared.

The following are the specific goals of this ESMP:

- Establishing clear procedures and methodologies for environmental and social assessment, review, approval, and implementation of program-funded sub-projects.
- Defining appropriate roles and responsibilities, as well as the required reporting procedures, for managing and monitoring environmental and social risks associated with the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project.
- Identifying the training, capacity-building, and technical assistance required to effectively implement the ESMP's provisions.

## 1.3. The ESMP was prepared using the following methodology

The EAP consulted the Constitution of Namibia, National Policies and their supporting laws and regulations: Water, Environment, Climate Change, Decentralization, Land and Land Use, Poverty, Gender, and the AfDB's Safeguard Policies were all used to create this ESMP. Extensive consultations with the implementing agencies, including MAWF, NamWater, CoW, the Funding Agency (The AfDB), and key national stakeholders (government institutions, ministries, NGOs, civil society, traditional authorities, and municipalities/town councils), aided the process. The ESIA Report's Annexes contain a list of people and institutions who were consulted.

### **1.3.1. Overview of the AfDB's Operational Safeguard Policies**

The main trigger is OS1 Environmental and Social Assessment, which is one of the five AfDB Operational Safeguard policies designed to ensure that projects funded by the bank are environmentally and socially sustainable.

#### **Environmental and Social Assessment OS 1**

The Bank's overarching requirements for borrowers or clients to identify, assess, and manage potential environmental and social risks and impacts of a project, including climate change issues, are outlined in OS1. The evaluation covers the entire project life cycle, from construction to operation to closure and decommissioning.

#### **Objectives of OS 1**

The goal of this overarching Operational Safeguard (OS) and the OSs that support it is to mainstream environmental and social considerations into Bank operations, including those related to climate change vulnerability, and thus contribute to regional sustainable development.

The following are the specific goals:

- Include environmental, climate change, and social issues in Country Strategy Papers (CSPs) and Regional Integration Strategy Papers (RISPs);
- Identify and assess the environmental and social impacts and risks of Bank lending and grant-financed operations in their areas of influence, including those related to gender, climate change, and vulnerability;
- Minimize, mitigate, and compensate for negative impacts on the environment and affected communities, if avoidance is not possible;
- Include stakeholders in the consultation process so that impacted communities and stakeholders have timely access to relevant information about the Bank's operations and are meaningfully consulted on issues that may affect them; and
- Ensure that environmental and social risks are effectively managed in projects both during and after implementation.

#### **Trigger**

The project is assigned a Category based on its potential environmental and social risks and impacts in its area of influence, which is triggered by the mandatory Environmental and Social Screening Process. Physical, biological, socioeconomic, health, safety, cultural property, transboundary impacts, and global impacts, including greenhouse gas (GHG) emissions and vulnerability to climate change effects, are all potential risks and impacts.

## 2. THE IITAPA-OKEEHOLONGO RURAL WATER SUPPLY SCHEME – PHASE 2 ACTIVITIES DESCRIPTION

The chapter describes the key components of the Extension of the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2, as well as the program's main objectives, anticipated economic, social, and cultural changes, and direct and indirect expected outcomes. This section describes the location and intended beneficiaries of the sub-projects in detail.

### 2.1. The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 Objective

The Phase 2 project of the litapa-Okeeholongo Rural Water Supply Scheme aims to improve and ensure water security for human consumption, agriculture (livestock), and industrial development in Namibia's Omusati Region. The program's overarching goal is to improve the availability, quality, security, and long-term viability of rural Omusati Region water and sanitation services.

The intervention of the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 is focused on the following component in order to achieve the above goal.

### 2.2. The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 Project Component

The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project is intervening in the following components with the aim to improve both the supply and management of water resources in Omusati Region:

#### **Rural Water Supply and Sanitation:**

- Water supply scheme construction, including purification plant upgrades, tank construction, distribution lines with manifolds, and water points. Strengthening the delivery of WASH (water, sanitation, and hygiene) services through advocacy, sensitization, and the promotion of decentralized sanitation and hygiene education
- Creating gender-sensitive training and promotional materials
- Construction of climate-resilient inclusive sanitation facilities for vulnerable people who cannot access or afford a sewerage connection, WASH Friendly school campaign (hand washing and sanitation facilities responsive to gender and disability), integration of the "Leave No One Behind" (LNOB) in rural areas, Community Led Total Sanitation (CLTS), and Sanitation Marketing

#### **Institutional Strengthening and Capacity Building and Program Management**

- Strengthen the sector institutions' capacity (MAWLR, DRWSS and NamWater);
- Inter-sectoral cooperation, particularly between line sectors (environment, health, water supply and sanitation, nutrition, education, local economy, and local government authorities);
- Support for tracking progress through monitoring and evaluation (M&E), information systems, and accountability frameworks.
- Sensitization and mobilization of the community, including the formation and training of water committees, the review and update of Community Based Management (CBM), the updating of the IWRM plan, the development of a country-wide water master plan, and mainstreaming Gender, Environment, Climate Change, and Cross Cutting Issues.



- Operationalizing the Water Resources Monitoring Network, which will help the Environmental Department improve its capacity for monitoring environmental and social issues during and after project implementation.
- Decentralization and strengthening management at the local level'
- Sensitization and mobilization of the community, including the formation and training of water committees, the review and update of Community Based Management (CBM), the updating of the IWRM plan, the development of a country-wide water master plan, and mainstreaming Gender, Environment, Climate Change, and Cross Cutting Issues.
- Operationalizing the Water Resources Monitoring Network, which will help the Environmental Department improve its capacity for monitoring environmental and social issues during and after project implementation.
- National and municipal staff are being trained in the sector investment framework, water resources, sanitation, and environmental health, as well as the operationalization of gender guidelines in the water sector.
- Women's and youth's empowerment through skill development.
- Technical assistance for program design, supervision, and implementation in accordance with good project management practices, program auditing, and project mid-term review; program M&E and reporting (including baseline and end-line); and program implementation manual.

#### **Climate Resilient Bulk Water Infrastructure Development**

- Water treatment plants, conveyance systems, canals, and pipelines are among the critical and urgent bulk water infrastructure that needs to be repaired and expanded.

#### **Infrastructure Development for Climate-Resilient Sanitation - Wastewater Treatment and Reclamation**

- Sewage treatment and reclamation systems, as well as critical and major sewerage networks, are being rehabilitated, upgraded, and expanded.

#### **Climate Resilient Bulk Water Infrastructure Development**

- Water treatment plants, conveyance systems, canals, and pipelines are among the critical and urgent bulk water infrastructure that needs to be repaired and expanded.

### **2.3. Site of the Project, Land Use, Construction, and Infrastructure**

The proposed Extension of the Itapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project includes rehabilitation work, new water facility construction, and infrastructure upgrades. That is, the environmental and social impacts of these sub-projects vary depending on the stages of project development. The table below describes specific activities to be carried out for the proposed development, with reference to project areas, land use, affected environment, and infrastructure.

**Table:** Summary of Iitapa-Okeeholongo Rural Water Supply Scheme – Phase 2 activities with potential social and environmental consequences

project Name	Project Location	Beneficiaries	Potential social and environmental consequences; affected areas and extent of effects	project Activities Triggering Environmental Assessment	Readiness/Status
<b>Construction of improved sanitation facilities</b>	Omusati Regions, 500 households (per Region)	Across the Omusati Region, more than 500 households benefit from sanitation facilities.	<p>The toilets will be built on existing homesteads or in strategic locations throughout communities. This could have an impact on the groundwater resources that these communities rely on.</p> <p>This development is unlikely to have any significant negative consequences, with the exception of possible groundwater pollution.</p> <p>In terms of potable water supply and long-term toilet infrastructure, women and children are expected to benefit from this development.</p>	Improvements to sanitation facilities	Environmental & Social Impact Assessment
<b>Iitapa-Okeeholongo Rural Water Supply Project Phase 2</b>	Omusati Region includes the villages of Akutsima, Amarika, Okolumono, Olumpelengwa, Utsathima, and Amega.	Water from the Olushandja Dam is expected to benefit 10,000 people.	<p>Existing pipelines will be impacted, and new pipelines will have an impact on the communal farmlands nearby.</p> <p>These villages are strategically located near the Etosha National Park, implying the presence of sensitive ecosystems. The bulk pipeline construction activities in Etosha Park may have an impact on wildlife.</p>	<p>Phase 2D of the construction of water supply infrastructure in the Okeeholongo – Amege – Amarika Sub-Area.</p> <p>Booster pump stations, bulk pipelines, elevated reservoirs / tanks, and distribution lines with manifolds and water points are all part of the pipeline distribution network.</p>	Phases 1 and 2 A, B, and C, as well as EIAs, were completed.

## 2.4 Institutional Capacity

Institutional capacity analysis of the implementing agencies - MAWF, NamWater to implement the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project and adherence to the social and environmental requirements is addressed in the ESIA Report.

### 2.4. Benefits of the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project

The Omusati Region of Namibia will reap various socioeconomic and environmental benefits from the implementation of the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project. Benefits should be maximized and enhanced, while negative consequences should be avoided, minimized, or managed, if not compensated.

#### 2.4.1. Socio-Economic Benefits

Benefit	Description
<b>Economic Productive Time Usage</b>	The Phase 2 water supply projects of the litapa-Okeeholongo Rural Water Supply Scheme are linked not only to community health but also to the utilization of productive time. In most cases, people must go significant distances to collect water, particularly women, children, and marginalized groups. This takes up a large portion of their daily productive time. The time spent collecting water is minimized since there is quick access to safe, reliable water.
<b>Local Labour Component</b>	Local communities would provide labor for clearing pipeline routes, installation of treatment water purification plants, excavations, backfilling, and compaction of pipeline trenches, and other operations. Locals are responsible for providing all unskilled labor in their respective districts. The money they do get is a welcome boost to the community, especially for women who don't have many other options for earning money.
<b>Construction Salaries</b>	Contractors and subcontractors hired to carry out construction work for the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project at various project development phases and sites are required to hire workers from the Project Area, and hence from the surrounding communities. On water supply projects, the labor component accounts for about 15% of the total costs, which, given the high cost of such projects nowadays, translates to a large sum paid to locals employed by the contractor.
<b>Skills Development</b>	The inclusion of communities where these projects are executed in the development of diverse water and related infrastructure provides community people with first-hand, hands-on exposure and experience of various construction processes and techniques.

## **3. SCREENING OF ITAPA-OKEEHOLONGO RURAL WATER SUPPLY SCHEME – PHASE 2**

Following the screening of the five OS and the country's environmental management regulations, this specific Environmental and Social Management Plan (ESMP) was produced as part of AfDB's due diligence procedure in the program cycle. The Ministry of Environment, Forestry, and Tourism (MEFT) established the criteria for determining the level of Environmental Impact Assessment (EIA) and the processes involved, as well as the sequence in which EIA studies for various components/phases of water development infrastructure, including their legal requirements and implications. Understanding the needed degree of EIA will aid MAWF and other implementing agencies in estimating the needs of external services to be engaged during the planning and design stages.

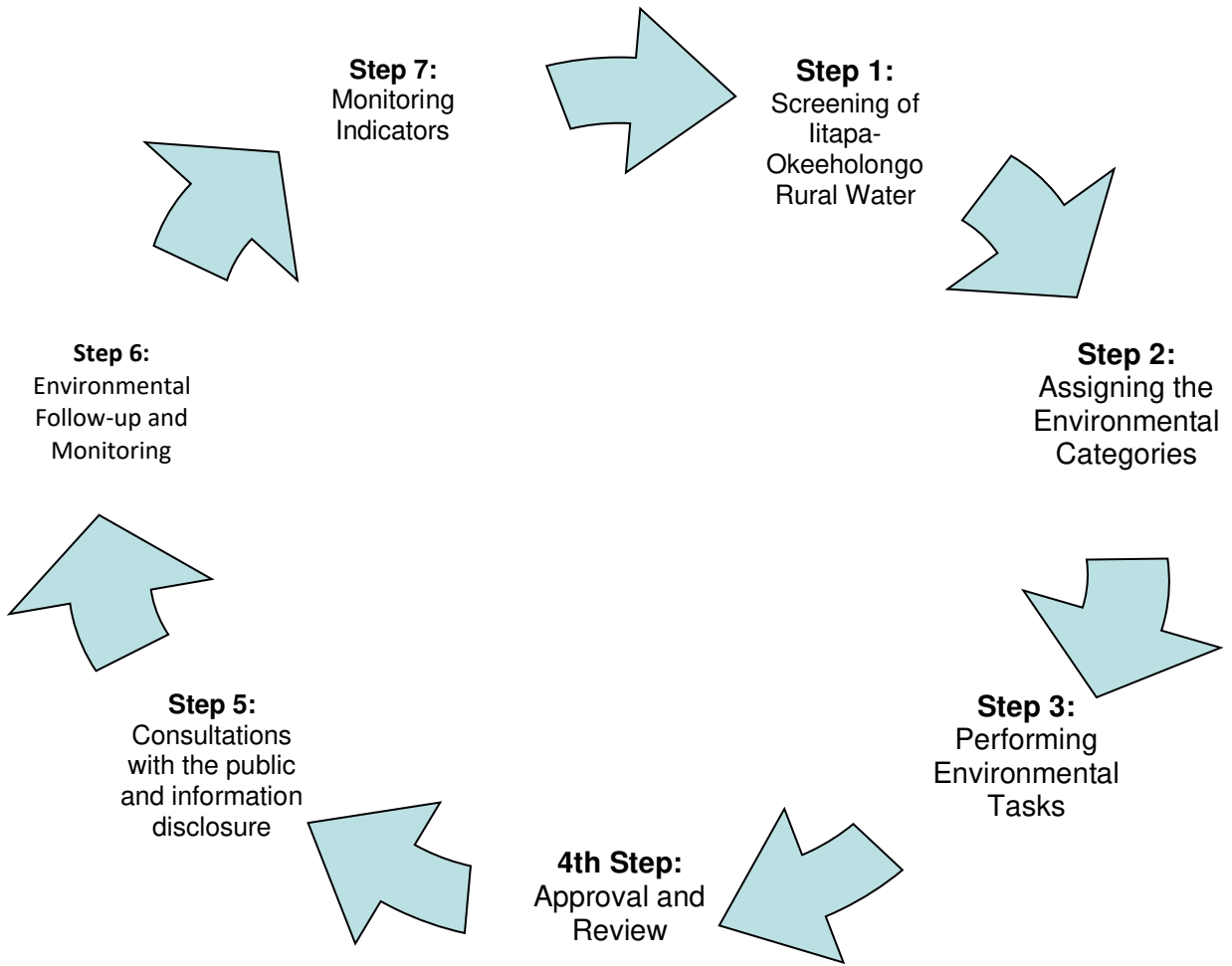
### **3.1. Process of Environmental and Social Screening**

The stages listed below represent the environmental and social screening procedure (the screening process) that will lead to the review and environmental approval (by MEFT) of the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project activities that will be implemented. The goal of this screening process is to determine which activities are likely to have negative environmental and social impacts; to determine appropriate mitigation measures for activities with negative impacts; to incorporate mitigation measures into the project as needed; to review and approve sub-project proposals; and to monitor environmental parameters during activity implementation.

As recommended in the Environmental Management Act No. 7 of 2007 Section 27, EIA Regulations of 2012, SEA Guidelines of 2008 for Namibia, and the AfDB's Environmental and Social Assessments safeguards, the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 underwent screening, environmental impact review, scoping, and detailed ESIA.

#### **3.1.1. Screening Steps for the litapa-Okeeholongo Rural Water Supply Scheme 2**

The screening process for the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project followed the steps mentioned below:



## **4. ASSESSMENT OF POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS OF THE IITAPA-OKEEHOLONGO RURAL WATER SUPPLY SCHEME – PHASE 2 PROJECT**

The activities of the Iitapa-Okeeholongo Rural Water Supply Scheme – Phase 2 are linked to a variety of potential environmental and social repercussions (both positive and negative) on the receiving socio-economic and biophysical environment. The goal of this chapter is to examine the seriousness of the potential impacts highlighted in the ESIA.

### **4.1. Assessment of the Importance of Potential Impacts**

A separate ESIA report has been prepared with a detailed impact significance assessment and analysis. This report's proposed mitigation and management strategies are based on the ESIA Report's impact importance assessment. These two reports (ESIA and ESMP) are inextricably linked and complement one another. They can't be utilized in pieces; they have to be used as a whole. The IFC 2012 significance impact rating method and the AfDB environmental and social operational safeguard policies were employed in the significance impact rating procedure.

### **4.2. Potential Identified Impacts**

The table below shows the good and negative social, environmental, and biological impacts identified during the ESIA study.

### **4.3. Methodology for Assessing Environmental and Social Risks**

During project preparation stages such as site selection and project screening, the approach to Environmental and Social Risk Assessment involved the use of an eligibility and exclusion list. Mitigation strategies include avoiding the impact entirely, decreasing it, correcting it, and gradually eliminating it over time. Physical, socio-cultural, and socio-economic mitigation strategies are available.

Physical measures include project siting, re-vegetation, and preventive measures such as bush clearing, erosion, sedimentation, and pollution control, as well as excellent construction/farming techniques, waste management, and adherence to Environmental Guidelines for Contractors. Education and awareness, as well as stakeholder engagement platforms (the construction of particular communication platforms with the local community, local government authorities, and community/traditional and religious leaders), will be socio-economic measures. Adequate stakeholder engagement was very crucial in addressing critical socio-economic issues that arose as a result of the program's execution in project regions.

Table : Potential social, biological, and environmental impacts associated with the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project implementation assessed during the ESIA study.

Environmental Impacts	Social Impacts		Biological Impacts
	Negative	Positive	
<ul style="list-style-type: none"> <li>▪ <b>Aesthetic appeal</b></li> <li>▪ <b>Deforestation</b></li> <li>▪ <b>Disturbances on the land (pollution of soils and water)</b></li> <li>▪ <b>Safety and health</b></li> <li>▪ <b>Smell</b></li> <li>▪ <b>The effect of dust (air quality)</b></li> <li>▪ <b>Traffic Safety in Vehicles</b></li> <li>▪ <b>Vibrations and noise</b></li> <li>▪ <b>Waste production</b></li> </ul>	<ul style="list-style-type: none"> <li>• Occupational Safety and Health Administration</li> <li>• Loss of assets</li> <li>• Loss of sources of income</li> <li>• Conflict over scarce freshwater resources</li> <li>• Insecurities over water availability</li> <li>• Excessive use/absorption of water resources</li> <li>• Forced relocation of individuals to make space for project activities</li> <li>• A lack of competence among implementing agencies to operate and manage project infrastructures</li> <li>• There is a lack of project coordination among stakeholders;</li> <li>• lack of community participation in decision-making and mainstreaming of indigenous knowledge in the planning process through consultations.</li> <li>• Natural Resources Under Stress</li> <li>• Assets are lost.</li> <li>• trespassing on private or public land</li> <li>• Issues of land use and land rights</li> <li>• HIV, AIDS, and STIs spread as a result of prostitution.</li> </ul>	<ul style="list-style-type: none"> <li>• basic sanitation (Operational and maintenance phase)</li> <li>• Community health improvement</li> <li>• Component of local labor</li> <li>• job opportunities (Construction phase)</li> <li>• Opportunities for employment</li> <li>• safe water</li> <li>• Skills Transfer</li> <li>• Women's and children's empowerment</li> </ul>	<ul style="list-style-type: none"> <li>• biodiversity disruption</li> <li>• Plant species and habitats disappearance</li> </ul>

## **5. MEASURES TO DEVELOP IITAPA-OKEEHOLONGO RURAL WATER SUPPLY SCHEME – PHASE 2 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)**

The strategies presented in this chapter were used by the EAP to construct appropriate ESMP to manage the the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project.

### **5.1. Strategy**

The Environmental and Social Management Plan for the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project is based on the following principles:

- Capacity building in ESMP and environmental challenges will be primarily addressed to implementing agencies at various levels ranging from national to regional, contractors, and local communities.
- Environmental and social management should be included during project design and execution.
- Implementing agencies will be in charge of monitoring environmental and social issues, with assistance from relevant government ministries and departments.
- MAWF, along with the other two implementing agencies, is the main implementing agency, while AfDB is the funding agency.
- The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 water supply and sanitation project entails relatively small-scale public works projects (water treatment works, water purification works, water reservoirs, distribution mains, standpipes, and borehole drilling) that will be designed, implemented, and managed by MAWF, NamWater, and CoW, with technical supervision from the African Development Bank. The technology employed for water supply is expected to be quite appropriate; nonetheless, public works will be labor intensive and artisanal.
- The technical papers will guide the design of the water supply and sanitation works, which will include recommended ways to minimize negative effects and stimulate beneficial environmental effects.

The environmental and social impacts in communities and regions are expected to be less severe, localized, and easily manageable, so the projects are classified as Category 2 by the AfDB Environmental and Social Assessment OS1, i.e. projects that are likely to have negative site-specific environmental and/or social impacts that can be mitigated by implementing appropriate management and mitigation measures or incorporating appropriate technology.

### **5.2.Environmental and Social Management Plan**

The Environmental and Social Management Plan (ESMP) is a tool that assigns activities, procedures, and responsibilities to be taken in order to prevent or mitigate project-related negative environmental consequences. The ESMP for the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project should be based on the Namibian Guidelines for Environmental Impact Assessment and the African Development Bank's Environmental and Social Assessment OS1.

The Government of Namibia, which provides an enabling environment, and the Ministries of Environment and Water, which offer policies, are the primary stakeholders. MEFT will be in charge of enforcing the laws and regulations. The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project should consult local communities as essential stakeholders and



beneficiaries, and their perspectives should be incorporated into the final design and implementation.

The screening method was designed to:

- Build mitigating measures into the project's design; and
- Determine if certain actions are likely to have detrimental environmental or societal consequences;
- During the project's implementation, keep an eye on the environmental parameters.
- Indicate appropriate mitigating methods for actions with negative consequences;

Because the majority of the public works activities in the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project will be artisanal. Potentially substantial environmental implications are recognized and differentiated from those that are insignificant.

The trivial consequences were eliminated, and the serious possible environmental implications were subjected to a comprehensive ESIA. The size and scope of probable substantial negative environmental consequences were quantified in the ESIA. For each potential negative consequence, mitigation techniques were evaluated and recommended.

The following are included in the ESMP:

- A description of the mitigating measures that will be taken, as well as how and when they will be executed;
- A description of who will be in charge of putting the ESMP into action;
- A discussion of the potential negative consequences that the ESMP plans to address;
- Any environmental and social analysis to be followed during PBO implementation, such as environmental and social criteria for budget allocation;
- Any environmental and social management to be incorporated into PBO implementation arrangements;
- Any environmental and social monitoring and reporting requirements for downstream activities;
- Any environmental or social management system that can be applied to downstream activities or investments;
- To enable successful environmental and social management during PBO implementation, institutional frameworks and capacity development are required.

## 6. MONITORING PLAN AND SUB-PROJECT SUPERVISION

The fundamental goal of monitoring is to ensure that responsible organizations execute the identified negative repercussions and mitigation actions. Monitoring will serve as a check on the environment and development, determining if the mitigation measures were successful in restoring, improving, or worsening the pre-program environmental and social conditions, as well as determining what additional mitigation measures may be required. The monitoring and evaluation of mitigating measures is delegated to two different levels: local and national.

### 6.1. Monitoring

The implementing agencies are responsible for putting this ESMP into action and participating in various monitoring programs to ensure that the ESMP standards are followed in order to address specific negative impacts of their projects. Monitoring will be carried out by other government departments and relevant agencies to ensure that environmental and social issues are adequately addressed. The importance of supervision is that it will enable the many contracted institutions to implement the ESMP.

The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 operations should be monitored in two segments, according to this ESMP: internal and external monitoring.

Monitoring aspect	Description
<b>Internal monitoring</b> <ul style="list-style-type: none"> <li>conducted as part of Phase 2 execution of the litapa-Okeeholongo Rural Water Supply Scheme) would be used to different components of the ESMP, including:</li> </ul>	<ul style="list-style-type: none"> <li>i. The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project implementation in terms of environmental and social monitoring <ul style="list-style-type: none"> <li>alterations to baseline conditions,</li> <li>adherence to required protection and compensation measures, as well as recommendations provided by environmental and social studies conducted for the project, such as ESIA, ESMP, and others</li> <li>environmental or social consequences, especially to ensure that they do not exceed expected boundaries;</li> </ul> </li> <li>ii. Ensuring that appropriate safeguard measures have been properly implemented, as well as the efficacy of mitigation measures, and, where necessary, suggesting further mitigation measures to control consequences; and</li> <li>ii. Training and capacity-building initiatives.</li> </ul>
<b>External monitoring</b> <ul style="list-style-type: none"> <li>Every two years, as part of a periodic evaluation of the overall litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project, an impartial process shall be carried out.</li> </ul>	<p>Monitoring is also essential as part of this endeavour in order for Namibia to meet its international obligations. The environmental and social performance of the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project activities resulting from its execution must be tracked, and this will include:</p> <ul style="list-style-type: none"> <li><b>Impact Monitoring:</b> focuses on each expected impact and the efficacy of recommended mitigating strategies.</li> <li><b>Compliance Monitoring</b> - to ensure that environmental, social, and compensating actions are followed;</li> <li><b>Baseline monitoring</b> - required prior to project implementation to collect data on the project area's environmental resources and social setting.</li> </ul>

### 6.2. Checklists for monitoring and supervision

## Indicators for Monitoring

Monitoring indicators are an essential component of the monitoring strategy. The following are some of the indicators:

- a) Measurable to make quantification easier; and
- b) Quantifiable such that it can be simply translated into units of measurement and verified.
- c) Specific in order to eliminate ambiguity in the items to be measured;

Time (duration), frequency (how often), area or volume (amount of cleared land), and length are all examples of indicators that should be measured (length of stream affected). In some circumstances, qualitative indicators may be used. When comparing the state of the environment before and after a sub-project, for example, use the following formula:

Aspect	Condition	
	Before	After
Natural Resources		
Communal land		
Wildlife		
Stream Water		

## 6.2 Monitoring Checklists

Monitoring checklists will be used to track progress and difficulties in the implementation of this ESMP in project quarterly reports and annual Project Implementation Reports (PIRs). Checklists are critical, especially when it comes to work oversight. The following are some essential monitoring indicators:

- Best practices for carrying out project operations.
- Construction-related waste management that is safe;
- Contractors' adherence to the Environmental Guidelines; and
- Land restoration and reforestation

## 6.3 Areas to be monitored

Prior to monitoring, it is critical to sketch out the locations that will be watched. This aids in providing information on where to monitor, when to monitor, how to monitor, what instruments to monitor with, the units of measurement, and who is accountable for enforcing compliance and inspections. Monitoring will be done in the following areas:

- Flimsy ecosystems and marginal lands
- Natural and cultural heritage are being lost.
- Soils
- The availability of water
- The state of the air
- Vegetation
- Vibrations and Noise
- Wildlife

**Table 1: ESMP Areas that need Monitoring and the responsibilities**

parameter to be tracked	In what location will the parameter be measured?	When will the parameter be monitored? Will it be measured on a regular or continuous basis?	How will parameters be monitored/what type of monitoring equipment will be used?	Measurement Unit	Phase of the Project	Responsibility
<b>Aluminium sludge, a by-product of water treatment, is hazardous to the environment.</b>	Areas in the vicinity	Quarterly	Weigh the rubbish that has been released.	Kg	Operation	Omusati Regional Council Contractor, MEFT
<b>Drilling waste and construction waste</b>	Communities in the vicinity of the construction site	On a daily, weekly, and monthly basis	The quantity of debris	m3	Construction	MEFT, ESMP, EAP, Contractor
<b>Due to the presence of construction workers, the number of STDs and HIV/AIDS cases will likely increase.</b>	Communities in the area	Bi-annual	A list of the cases that will be reported to a local clinic.	The number of STDs and HIV/AIDS cases recorded.	Construction	Ministry of Labour; Ministry of Health; Contractor
<b>Erosion of soil</b>	The construction site and its surroundings	Before and after the start of work	The amount of topsoil removed	m3	Construction	MAWLR MEFT
<b>Excessive river water abstraction and excessive groundwater extraction</b>	River system and Aquifer	Monthly	Measurements of recharging and reduction of water flows in a river or borehole	m3/day	Operation	MAWLR NamWater MEFT Contractor
<b>Loss of vegetation</b>	Cleared vegetation area	Before and after the start of construction	Examine areas where vegetation has been cleared as a result of building.	The number of trees that have been cut down or the square meters of grass that have been cleared.	Construction	MAWF (Directorate of Forestry), MEFT
<b>Pollution of ground water.</b>	Construction site, well fields, and surrounding communities	Monthly	Water quality analysis	Facecal counts	Construction And Operation	Contractors, MEFT, MAWLR, ESMP, Environmental and Social Consultants
<b>Vehicles and equipment generate noise and dust.</b>	Settlements near the construction site and the construction site	Monthly inspections are required when heavy machinery is used.	The number of times the working areas are sprayed with water.	bd, kg/m3	Construction	MEFT Contractors
<b>Water cross-contamination in distribution pipelines</b>	Water is delivered to local communities.	Quarterly	pH, turbidity	Counts of faecal coliforms	Operation	MAWLR NamWater MEFT Contractor
<b>Worker injuries, health, and safety during the building and operations phases</b>	Construction site	Daily	Cases that have been reported and treated are kept on file.	Number of near-misses or accidents	Construction and Operation	Ministry of Labour; Ministry of Health; Contractor

#### 6.4. Environmental and Social Monitoring Plan

Villagers in the Omusati Region will immediately benefit from the project. To monitor and comply with the environmental and social demands as indicated in the ESMP and other management plans, the contractor will use an Environmental Check list produced by MAWF. The appointed Environmental Assessment Practitioner (EAP) will be directly responsible for reviewing and commenting on ESMP compliance, while the Department of Environmental Affairs (DEA) within the Ministry of Environment, Forestry and Tourism (MEFT) will oversee the compliance of all parties involved.

The Department of Environmental Affairs (DEA) will be in charge of ensuring environmental compliance for all sub-project operations at the national level. The parameters provided in this monitoring plan will guide the implementation of environmental and social mitigating measures. The following are the goals of these guidelines:

- Determine whether the mitigation measures for the sub-projects have been executed successfully; and
- Ensure that construction, operation, and maintenance operations are carried out in a manner that safeguards the environment and social conditions, as well as the workers' and general public's health and well-being.
- Provide timely reporting to MAWLR and other implementing agencies and governing authorities about the success or failure of the sub-projects' implementation process as described in the ESMP. This monitoring will verify complete compliance with the sub-projects' implementation.

The following are the primary components of the monitoring plans:

- Criteria and standards that apply;
- Institutional monitoring and supervision responsibilities
- Material procurement oversight (ensures that valid permissions are in place);
- The environmental issue to be monitored and the verification methods;
- Timeframe; and
- To be monitored are certain areas, places, and parameters;
- 

The table below shows the generic monitoring plan for The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 activities. The plan is showing the components listed above.

**Table: Environmental and Social Monitoring Plan for Itapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project**

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsibility	Reporting structure	Threshold	Action if threshold is exceeded
<b>Soils</b>									
<b>Loss of topsoil</b>	Increased loss of soil	To keep topsoil from eroding	There isn't a plethora of unofficial vehicle tracks.  There are no fresh erosion gullies.	Visual observation	Daily / weekly	ECOs	ECOs> Project/Site Managers	New vehicle tracks are proliferating.  New gullies forming in work zones	Reconstruction of the impacted areas
<b>Water and soil pollution</b>									
<b>Water quality has been harmed as a result of fuel and lubricant spills or effluent.</b>	Local residents' complaints	To protect surface and groundwater from contamination	No complaints from local communities	Inspection of complaints logbooks	Daily	ECO	ECOs > Site/Project Managers	A logged complaint	Community consultations
<b>Wastewater generated from camps</b>	Defecation Littering urination	To Safeguard pollution	On-site facilities should be adequate.  Local residents' complaints	Visual observation  Complaint's Book inspection	Daily	ECO	ECOs> Project/Site Managers	A logged complaint	Clean up of affected areas
<b>Air quality</b>									
<b>Dust generation resulting in respiratory health issues</b>	Local complaints	To reduce local complaints	No complaints from the local residents	Inspection of complaints logbook.	Daily	ECO	ECOs> Project/Site Managers	A logged complaint	Identify fugitive dust sources Develop a plan Use dust suppressants Reduce speed Use a dust collection system Use vegetation
<b>Vehicle hydrocarbon emissions</b>	Public complains on vehicle fumes	To reduce local complaints	No complaints from the local residents	Inspection of complaints logbook.	Daily	ECO	ECOs> Project/Site Managers	A logged complaint	Keep your vehicle well-tuned and tires inflated properly to reduce exhaust emissions. Combine errands into one trip — cars pollute less when they are warmed up. Avoid idling — idling exhaust contains more pollutants than running exhaust.

<b>Poaching</b>									
<b>the illegal trafficking and killing of wildlife</b>	Documented poaching incidents	To reduce poaching activities	reports of illegal hunting of wildlife by project workers.	Consultation with NamPol, MEFT Dept of Wildlife	Daily	ECO MEFT: Wildlife and Game Parks Department	ECOs> Project/Site Managers> local police Service / anti-poaching unit	Incident logged with NamPol and MEFT	Extraordinary Ways to Stop Poaching Engage the public. ... Recruit more wildlife scouts. ... Make tougher laws. ... Give the animals a sanctuary. ... Zoning (Demarcate land for the wild animals) ... Put more trackers and sensors in the wild. ... Outlaw the purchase and sale of animal parts and products.
<b>habitat loss and habitat reduction</b>									
<b>natural habitat becomes incapable of supporting its native species</b>	habitat destruction, habitat fragmentation and habitat degradation	To prevent or mitigate against Habitat loss that poses the greatest threat to species.	No disturbance to unmarked areas within the project area	Visual observation	Weekly	MEFT MAWF	SHE Officers/ECOs> Project/Site Managers	Vegetation clearance outside of marked areas.	Plant native plants and put out a water source so that you can provide the food, water, cover, and places to raise young that wildlife need to survive.
<b>Occupational Health and safety</b>									
<b>No health and safety plan for project activities.</b>	Compiled health and safety plan for all project activities.	To prevent health and safety impacts - means the occurrence of death, permanent total disability, permanent partial disability, or injury or occupational illness requiring hospitalization; loss of a weapon system; or property damage	No significant health and safety incidents	Visual observation Inspection of complaints logbooks	Daily	ECO Site Managers	ECOs> Project/Site Manager	Health and safety incident	Remediation of the incident
<b>Outbreaks of wildfires due to project activities</b>	Occurrence of wildfires	To prevent environment	No wildfires recorded	Visual observation	Daily	ECO Wildlife Game Parks Department	SHE Officers/ECOs> Project/Site Managers > local NamPol	Outbreak of wildfires caused by project workers	Replace vegetation that has living or dead branches from the ground- level up (these act as ladder fuels for the approaching fire)

<b>Archaeology and cultural heritage</b>									
<b>Disturbance to archaeological and cultural heritage resources is a possibility.</b>	The presence of archaeological or cultural heritage resources, or the discovery of such resources	To avoid the destruction of artefacts	All objects unearthed in the project area will be preserved.	Inspection of records of findings	Daily	ECO	ECOs> Project Archaeologist > National Heritage Council (NHC)	Archaeological or cultural heritage resources are discovered.	Stop all work on the site and wait for the NHC to inspect it.
<b>Employment Creation</b>									
<b>Job creation</b>	Employment opportunities created	To ensure that the initiative positively benefits residents, particularly youth and women.	Locals employed during the building and operational phases	Examining employment records  Examining the site's social records	Monthly	ECO	Site Manager	Total number of people employed  Employed people's origins are from the Omusati Region	None
<b>Noise</b>									
<b>Potential increase in noise</b>	Noise levels are higher than the surrounding environment.	To ensure that the noise generated does not cause any inconvenience to the residents.	Complaints from locals	Inspection Of complaints logbook	Daily	ECO	ECOs> Project/Site Managers	A logged complaint	Revision of site activities
<b>Traffic</b>									
<b>Increased traffic density or damage to proclaimed Roadways Authority (RA) roads.</b>	Complaints regarding project trucks and machinery causing increased traffic and causing damage to RA roads.	To guarantee that communities have continuing, safe, and easy access to RA roadways.	no complaints from residents concerning increased traffic as a result of project activity.	Inspection of logbooks	Weekly	ECO	ECOs> Project/Site Managers > Roads Authority	A logged complaint	Find alternate routes for the project team to use.  Roads affected by the project are being rehabilitated.
<b>HIV and AIDS</b>									
<b>Possibility of an increase in HIV and AIDS prevalence.</b>	New HIV or STIs infections	To prevent New infections in the project area	No new HIV or STIs infections recorded	Liaison with local health-care providers	Monthly	MoHSS Clinics Local NGOs	Site Managers > Ministry of Health and Social Services	Recorded new HIV or STIs linked to the project workers	New HIV or STI cases connected to project staff
<b>Littering</b>									
<b>During all phases of the project, solid waste pollution pollutes the environment.</b>	Litter strewn about	To keep the broad project area free of rubbish.	no noticeable litter around the project area.	Visual observation	Daily	ECOs\ MET	Site Manager	Visible littering around project	Clean-up of the affected areas and  ensuring project workers utilise waste containers provided.



## 7. REPORTING AND RESPONSIBILITIES FOR PROJECT ESMP IMPLEMENTATION

The duties and responsibilities of the key parties engaged in the implementation of the ESMP must be clearly stated in order for the ESMP to be implemented effectively. It's also necessary for activity auditing and compliance enforcement. The institutional arrangements for ESMP implementation by important stakeholders, including contractors, are captured in the following section. The several institutions' institutional arrangements and tasks are listed below.

### 7.1. ESMP Implementation: Roles and Responsibilities

The following are the duties and responsibilities of project staff and affiliated agencies in the implementation of this ESMP.

### 7.2. Implementing Partners

Only two strategic implementing partners / agencies are involved in this project: MAWF and NamWater (with the exception of the City of Windhoek)

The following are some of the roles of implementing agencies (MAWF and NamWater National Office):

- Ascertain that all AfDB OS requirements, national regulatory/policy frameworks, and relevant international standards have been met; and
- Be responsible and accountable to AfDB for the overall management of the program, including adherence to the AfDB Operating System.
- Ensure that the required assessment (EIA or targeted assessment, as in the screening process) and assessment reports, as well as the required management plan(s) (an ESMP and/or stand-alone management plan, as described above) are developed, disclosed for public consultation, and approved, and that management measures are adopted and integrated during project implementation;
- Keep records and evidence of the proper and prudent use of program resources in compliance with the signed Project Document and applicable regulations and procedures (e.g., OS and Integrated Safeguards System (ISS));
- Report to the Bank on project progress against agreed-upon work plans in a timely and accurate manner, in compliance with the reporting schedule and appropriate formats;

### 7.3. NamWater and the Regional MAWF Office

- Ascertain that all service providers/contractors are aware of their responsibilities for ESMP compliance on a day-to-day basis; and
- Assign specific responsibility for the implementation of this ESMP to an MAWF regional office staff member(s), including monitoring and community consultations on draft management plans.
- Continue to engage stakeholders and implement grievance redress systems.
- Keep appropriate records relating to the management of environmental and social risks, such as updated OSPs, impact assessments, a grievance log, and evidence of management measures taken;
- Oversee and supervise the implementation of the ESMP's measures.
- Provide a progress report to the National Office on the ESMP's implementation;

### 7.4. Technical Assistant

A Technical Assistant (TA) will be appointed to assist with technical project management difficulties. The TA's key responsibilities would be:

- Create and maintain a GRM method to handle any complaints; and
- Inform their implementing agency about the progress of the ESMP implementation.
- Keep track of the ESMP's implementation and compliance with national and international rules, as well as AfDB social and environmental criteria.
- Making decisions about the implementation of appropriate measures, such as fully integrating management measures into project outputs and annual work plans;

### **7.5. African Development Bank (AfDB)**

- Ascertain that the Compliance Review and the Independent Review Mechanism are operable throughout the project's lifecycle.
- Ensure that all AfDB OS requirements have been met and documented;
- Ensure that any safeguards issues are addressed;
- Ensure that project activities funded by AfDB accounts are carried out in accordance with the OS, and take appropriate measures to correct any weaknesses.
- Provide technical support on ESMP implementation and administrative assistance in recruiting and contracting expert safeguards services (if needed), as well as monitor adherence to ESMP and AfDB regulations and procedures by this project.

#### **7.5.1. Environmental and Social Safeguards Specialists at the African Development Bank**

The Bank's environmental and social safeguards specialist will perform annual or more frequent mission visits during the civil works period to check compliance with project safeguard standards. They will analyse several management reports in between missions to track progress and identify any concerns that may occur. The Safeguards specialists will monitor the execution in compliance with the Bank's safeguard policies and, if necessary, provide advice on remedial actions. The implementation of this ESMP will be rigorously monitored, with reports, checklists, and field visits being used as tools.

### **7.6. Environmental and Social Assessment Practitioner (ESAP/ EAP)**

During the project implementation phase, the Environmental and Social Consultant, KPM Environmental Consultants, who prepared this ESMP, is expected to be available:

- Creating terms of reference for contractors' site-specific management plans
- ESMP implementation coordination, management, and monitoring
- MAWF and AfDB (construction) and PM (environmental performance) reports (operations)
- During the building of the Project, reviewing the environmental management content of method statements for contractors.
- Ensuring that best environmental practices are followed throughout the project's lifespan.
- Conducting inspections of the construction site and operations.
- Conducting inspections of maintenance work while it is in progress.
- Training and inductions in environmental awareness and management.
- In charge of the ESMP's management, upkeep, and amendments, as well as any following environmental plans (such as the Waste Management Plan); and

- All relevant environmental documentation, including modifications to this ESMP, is distributed to all construction managers and contractors on a timely basis.

### **7.7. Ministry of Environment, Forestry and Tourism (MEFT): Department of Environmental Affairs (DEA)**

MEFT's involvement in ESMP implementation as the regulating authority is to:

- Approve the environmental assessment plan (ESMP), issue environmental permits;
- Ensure that national environmental rules and regulations are followed;
- Ensure that specific portions of the ESMP are followed;
- Reviewing the various supporting management documents that make up this ESMP on a regular basis.

### **7.8. Environmental Protection Responsibilities of the Contractor**

Construction contractors are accountable for the following:

- Carrying out all environmental protection actions throughout building and rehabilitation works.
- Ensure that all environmental and social requirements, permits, and licenses are met (e.g. vegetation clearance permit, water abstraction permit, archaeological permit.)
- Potential negative environmental consequences will be identified during the ESMP preparation phase, and implementing agencies will be required to guarantee that suitable mitigation measures are implemented by contractors.
- The Contractor appoints a person responsible for environmental protection with sufficient experience to be in charge of implementing all environmental protection standards and the Environment Monitoring Plan.
- They will report to the individual implementing agencies' TAs as well as the implementing agency themselves.

### **7.9. Monitoring and supervision during implementation**

Implementing agencies are in charge of overseeing the implementation of the ESMP in the Project, which will be done through the consulting services of an appointed Environmental and Social Consultant. Following acceptance of the Contractor's ESMP document (Method statements), the Contractor will meet PSC on-site with the person on the Contractor's team who will be responsible for CEP implementation oversight. If the plan is adequate and feasible, the environmental and social consultant will notify PE that the Contractor can now begin work.

In terms of environmental regulations, the Project Supervision Consultant's specific functions and responsibilities shall include, but are not limited to, the following:

- Create and submit frequent environmental monitoring and progress reports;
- Create good building practice guidelines to help contractors in implementing ESMP.
- Ensure that appropriate environmental safeguards are in place at all ancillary sites.
- Maintain constant contact with the MEFT regarding the implementation of environmental provisions.
- Meet with the MEFT on a regular basis.
- Oversee and evaluate the screening and categorization processes for each sub-project.
- Oversee the Contractors' execution of the ESMP.
- Review and approve the Contractor's site-specific environmental enhancement/mitigation designs;

- Review the Environmental Implementation Plans of the Contractors to ensure compliance with the Environmental and Social Management Plan (ESMP), with assistance from the program's environmental and social consultant.

## **7.10. Accountability and Grievance Redress Mechanisms**

### **7.10.1. Grievance Redress Mechanisms**

The Grievance Redress Mechanism (GRM) will provide a method for communities to effectively communicate their concerns and obtain remedies. The effective GRM will be required to improve social accountability. The GRM was created to ensure that complaints are forwarded to the appropriate agencies and resolved quickly in order to improve responsiveness and accountability. At the central and constituency levels, a Grievance Redress Panel (GRP) is suggested. Its functions should include the following:

- Assistance with rehabilitation and resettlement (R&R) and related activities;
- Dealing with or hearing R&R and individual grievance matters;
- Delivering a decision/verdict within 30 days of hearing the aggrieved PAPs;
- Resolving all issues of project affected persons (PAPs);
- The GRP shall keep a grievance record file in which all written and oral grievances will be lodged and recorded; and
- The GRP will require its own set of bylaws.
- The ultimate decision of the GRP will be made by the Chairperson/Head of the GRP in consultation with the other members of the GRP and will be binding on all other members.

### **7.10.2. Sub-Project-level Grievance Redress Mechanisms**

At the outset of execution, the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project will be required to construct a project-level Grievance Redress Mechanism (GRM). During the assessments for each project, the exact specifics of these GRMs will be agreed upon. Stakeholders who are interested or impacted can file a complaint with the authorities at any time. Communities/individuals should be able to recognize and communicate problems at the local level, and matters should be brought to the Constituency-level GRP, which is led by the Chief Constituency Officer. Other members of the GRP should include representatives from government line agencies at the constituency and regional levels, as well as others as needed. The GRM will attempt to utilise existing structures rather than create new ones at the community, constituency, and regional levels.

### **7.10.3. Complaints/Grievance Logging Procedure**

When a complainant fills out the compliant form, it is received/reported to the local GRP and documented in the compliant logbook/sheet. The GRP would decide on the issue and, if the proposed action is adequate, the case would be withdrawn. If no, the GRP will take long-term action, establish a follow-up channel, and notify the complainant (if appropriate) of the corrective actions before implementing them.

### **7.10.4. Accountability Mechanisms**

The AfDB recognizes that even with careful planning and stakeholder involvement, unexpected challenges can develop. As a result, the ISSs are supported by the following accountability mechanism:

- Independent Review Mechanism (IRM) that guarantees project-affected individuals, peoples, and communities have access to proper grievance resolution procedures for hearing and resolving project-related complaints and disputes.

The goal of IRM is to enable persons who have been harmed by an AfDB-financed project with an impartial avenue to urge that the AfDB follow its own policies and procedures.

When persons or groups that have been harmed file a complaint, the IRM steps in. In this way, the IRM can be thought of as a last resort for project participants who have been unable to resolve their issues with the AfDB's management. The Independent Review Mechanism assists project stakeholders, AfDB partners (governments, NGOs, enterprises), and others in resolving grievances or disputes relating to AfDB-supported projects' social and/or environmental impacts.

## 8. MITIGATION AND ENHANCEMENT MEASURES

The management action measures presented in this chapter will be utilized to manage the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project. The goal of the ESMP is to ensure that the project's environmental and social impacts are managed to acceptable levels. These tolerable values are attained by avoiding harmful impacts whenever possible. Impacts that cannot be avoided must be minimized. In circumstances when impacts cannot be avoided or minimized, they must be managed by providing mitigation measures and ensuring their application in order to lessen the significance of the consequences.

The mitigating strategies (management plans) advised to manage the predicted identified consequences and concerns raised and noted in the ESIA report are listed in the tables below. These mitigating measures are as follows:

### 8.1. Activities linked with the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2' Management Plans

#### 8.1.1. Planning and Design Management Plan

**Objective:** Water infrastructure should be planned in such a way that it has no negative influence on the project area or the communities where it will be built and operated. These design management strategies include infrastructure suitability for the areas it is intended to serve, taking into account site circumstances and the needs of the people who will benefit from the project. The infrastructures should blend in with the natural surroundings, maximizing the benefits of the sites and contributing to the 'sense of place.'

<b>Environmental performance indicator:</b>	The communities serviced by the infrastructures are content with it not only in terms of water supply and sanitation, but also in terms of other social, cultural, and economic elements, and no complaints have been made to the implementing agencies or community/local leaders.
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**Table: Project Planning and Design Phase of the Water Infrastructure and Sanitation**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsibility	Resources	Deadline
<b>Communication</b>	poor communication	Appointment of a Community Liaison Officer	Appointment of Community Liaison Officer  Community Complaints logbook  Secure Land Use Permits and Agreement	Community Liaison Officer	Complaints logbook	Continuous
<b>Design and technology of water infrastructure (critical infrastructure)</b>	Failures in planning and design	The SABS/SANS approval mark will be required on all project materials.	All project equipment and machinery must be certified.	Planning and Design Engineer	Procurement of SABS/SANS-approved technologies from around the world and regionally (SADC).	Pre-construction  continuous
<b>Involuntary resettlement</b>	Displacement of local people to pave way for the project	the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 Resettlement Compensation policy for impacted landowners or occupiers should be devised and implemented.	Call for participation with affected communities  Agreements put in place	Ministry of Land Reform  Traditional leadership  Omusati Regional Council	Minutes of Meetings  Compensation records of resettled people	Continuous
<b>Public participation</b>	Poor public participation in the project decision making	Interested and Affected communities to be directly involved and consulted	Public Participation process  List of all I&APs	Community Liaison Officer	Minutes	Continuous
Construction schedule	Construction inconveniences to communities	Construction schedules should be produced and presented with I&APs as soon as possible.	Continuous engagement	Environmental Control Officer (ECO)	Complaints logbook  Construction work notices	Pre-construction
Utilization of Water Resources	Water extraction and utilization	Water abstraction and use permissions are requested from the Department of Water Affairs and Forestry.	Licenses for water abstraction and usage were issued, and the terms of the permits were followed.	Environmental Control Officer (ECO)	Water abstraction technical reports  Copies of Permits kept onsite	Pre-operation and throughout the operations phase
Conflicts over land usage	Damage to existing and future infrastructure services	If there is known existing infrastructure in the project locations - buried electricity	Engagement with interested and impacted parties is	Community Liaison Officer (CLO)	Complaints logbook	<b>Continuous</b>

		cables and water pipelines - the Community Liaison Officer will consult NawWater, Omusati Regional Council, and CENORED.	ongoing.		Identifying known places with buried services	
	Sites of cultural or historical significance	Where project activities pass through or near cultural or historical sites, the community should be consulted.  Development of a Cultural Heritage Management Plan that addresses the cultural heritage of the community.  During the construction phase, a "Chance Finds" process to be implemented.	no complaints or problems between the residents and the contractors in the past.	Environmental Control Officer (ECO)	All recognized cultural sites should be recorded and marked.	Pre-construction
<b>Use of the Land</b>	Leaseholds or land use agreements	Landowners, traditional authorities, and Interested and Affected Land Owners should all be consulted.  Prior to any development, written agreements must be acquired.	There have been no complaints from landowners or authorities about unfair and unlawful land uses.  Before using the land, all land use agreements and licenses must be in place and obtained.	Community Liaison Officer (CLO)	Proper documentation in place	Pre-construction
<b>Materials for construction</b>	Purchasing construction materials from unlicensed contractors	Local providers of construction sand and building materials	Suppliers certification	Environmental Control Officer (ECO)	Materials logbook	Pre-construction
<b>Workers during the construction and operational phases</b>	Recruitment of workers	Locals in the Omusati Region or Project area should be given preference for both casual construction labour and operational and maintenance work.  Traditional authority or the Omusati Regional Council should be granted the opportunity to hire unskilled workers.	Locals are employed.  no complaints about outsiders being hired at the expense of locals.	Community Liaison Officer (CLO)  Human Resources Officer	Complaints logbook	Pre-Construction  Continuous
<b>Visualization (sense of place)</b>	Visual	All options for improving the aesthetics of infrastructures should be studied and	No complaints of visual nuisance from locals local communities	Planning and Design Engineer	Ombudsman  MEFT: DEA	Pre-Construction



		implemented into the designs.				
<b>Construction contractors</b>	Appointment of contractors	Local companies should be given preference for all construction projects.  Only after local expertise has been exhausted can outside contractors be called in.	No complaints of unfairness or patronage  Record of all contractors – successful and unsuccessful	Implementing agency: Procurement Unit	In accordance with the agency's requirements and procedures	Pre-Construction
<b>Vehicle Movement</b>	Traffic Safety	Vehicle drivers are warned or alerted by prominent construction notices near the work site.	Site drawings, Traffic Signs	Planning and design Engineer	Records of project designs and layouts	Pre-Construction  Continuous

## 8.2 Construction Phase Management Plans

<b>Objective:</b>	To build the infrastructure while causing the least amount of disruption to the surrounding biophysical and social environment.
<b>Environmental performance indicator:</b>	The project's 'environmental imprint' will be limited to development zones, leaving the surrounding surroundings unaffected.

**Table: Management Plans for the Water Supply Infrastructure and Sanitation - Construction Phase**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Deadline
<b>Training and implementation of the ESMP</b>	The absence of an ESMP Awareness and its ramifications	Employees assigned to construction work on specific infrastructure must ensure that all personnel are aware of the appropriate health, safety, and environmental issues for their work.	there is no record of violating the ESMP	Environmental Control Officer (ECO)	Monitoring records	Continuous
<b>Use of the Land</b>	Agreements on land usage	I&APs should be consulted on a regular basis by agencies.	No complaints from I&APs	Community Liaison Officer (CLO)	Records of land use permits or licenses	Continuous
<b>Water Consumption / Availability</b>	Water supplies being depleted due to over-abstraction.	Alternative water sources should be taken into account.	Water abstraction / usage records  Water management sensitization efforts	Environmental Control Officer (ECO)	Monitoring records  Sensitization gatherings / minutes	Continuous
<b>Pollution of the water and soil</b>	Water quality compromised as a result of fuel and lubricant spills.	Vehicles and machinery must be inspected and serviced on a regular basis.	No complaints from I&Aps  No visible oil spills	Environmental Control Officer (ECO)	Complaints Logbook  Cover the ground with a non-permeable substance.	Continuous
<b>Waste</b>	Hazardous waste	All hazardous waste and substance storage and handling specifications must be followed.  On-site storage of hazardous waste, including emptied chemical containers, is required.  There should be no garbage that is incorrectly disposed of.	Waste disposal records  On-site hazardous waste storage should be secure.	Environmental Control Officer (ECO)	Enough hazardous waste disposal containers  A list of all hazardous wastes stored and used on project sites	Continuous
	Material Safety Data Sheets (MSDS) usage	MSDs must be used in all circumstances to assist in determining the potential risk and the optimum approach to handling and disposal procedures.	MSDSs for all hazardous compounds are available.	Environmental Control Officer (ECO)	Records of MSDS	Continuous
	Storage of waste	Garbage is sorted and placed in appropriate waste containers, based on the type of waste.	Waste disposal records  On-site hazardous waste storage should be	Environmental Control Officer (ECO)	Temporary trash storage facility records	Continuous

		There will be no improper garbage dumping on project sites or in the adjacent surroundings.	secure. MSDSs for all hazardous compounds are available.			
	Spill management	All spills of fuels, oils, or other hazardous substances must be cleaned up immediately and remediation procedures used.  The incident must be reported to the appropriate Safety, Health, and Environmental (SHE) official.	no spills on the site soils.	MEFT  Environmental Control Officer (ECO)  Safety, Health, and Environmental (SHE)	Machinery and vehicle drip trays	Continuous
<b>Fire and facilities management</b>	fire prevention and control	fire prevention and control, the prevention, detection, and extinguishment of fires, including such secondary activities as research into the causes of fire, education of the public about fire hazards, and the maintenance and improvement of fire-fighting equipment.	Install smoke alarms  Test smoke alarms every month	Environmental Control Officer (ECO)  Safety, Health, and Environmental (SHE)  Private contractors	Equipment in place  Manuals in place  Adhere to Fire principles of prevention: 1) Avoiding risks. 2) Evaluating the risks which cannot be avoided. 3) Combating the risks at source. 4) Adapting to technical progress. 5) Replacing the dangerous by the non-dangerous or less dangerous.	Continuous
<b>Pollution of the water and soil</b>	Wastewater created by on-site project personnel.	Chemical toilets must be emptied in accordance with the manufacturer's instructions.  Treatment of toilet waste to make it non-polluting.  Provision of restrooms for project employees	Adequate On-site sanitation amenities, such as toilets, etc.	Environmental Control Officer (ECO)  Safety, Health, and Environmental (SHE)	Waste treatment chemicals, chemical toilets or excavators (pit creation).	Continuous
<b>Soils</b>	Degradation of the	soil erosion prevention	no evidence of soil	MEFT	Monitoring	Continuous

	environment		erosion.	Environmental Control Officer (ECO)		
<b>Air quality</b>	Dust generated as a result of project construction activities	Personal Protective Equipment (PPE) is provided to each employee on the job.	no public complaints concerning excessive dust creation.	Environmental Control Officer (ECO)  Safety, Health, and Environmental (SHE)  Traditional leadership	Complaints logbook  Suppression of dust Using a water bowser	Continuous
<b>Illegal hunting</b>	Illegal hunting of wildlife	On-site project staff will not engage in any hunting.	reports of the workers illegally hunting wildlife.	Environmental Control Officer (ECO)	Complaints logbook	Continuous
<b>Biodiversity (Flora)</b>	Localized habitat and vegetation loss	To avoid damage to regions not intended for the projects' footprints, all areas of interest should be clearly identified.	The number of trees that were cut down.  Existence of bare surfaces following the start of the project  no disruption to unmarked areas.  Soil erosion as a result of plant clearance	MAWF: Department of Forestry Management  Environmental Control Officer (ECO)	Tape for barricading	Pre-Construction  Continuous
<b>Biodiversity (Fauna)</b>	Localized fauna loss	Species discovered on and around project sites should not be killed by project workers.	no snaring or slaughter of domestic animals in the area.	Environmental Control Officer (ECO)	Complaints logbook	Continuous
<b>Health and safety</b>	Risks to general health and safety linked with various project activities	A comprehensive Health and Safety / Project Safety Plan to be developed.  This is a written plan that outlines safety procedures, rules, and regulations to help identify potential hazards and mitigation steps. The intent of the document is to protect workers from injuries and accidents during the course of the project	Compilation of a comprehensive health and safety strategy for all construction activities.  There were no reported or recorded injuries.  Procedures and programs are put into action.  On-site workers must wear complete PPE.	Site or Project  Manager	PPEs  Complaints Logbook  Hazards Records  Awareness training minutes and agendas	Continuous

	Fire started by accident	On-site portable fire extinguishers should be provided.  There will be no open fires started by project staff.	no wildfires reported (due to presence of workers)	Environmental Control Officer (ECO)	Fire extinguishers <ul style="list-style-type: none"> <li>• 1 per vehicle</li> <li>• 1 per office</li> </ul>	Continuous
<b>Communication</b>	Disjointed communication between contractors, communities / I&As and Implementing agencies	Design clear communication plans  A grievance mechanism should be designed as part of clear communication protocols.	no complaints from local people about a lack of grievances or bad communication between the parties.	Community Liaison Officer (CLO)  Local Leadership	Complaints logbook  CLO contacts to be shared with Locals, Omusati Regional Council, landowners, I&As  CLO to keep contacts of all local leaderships, landowners, Omusati Regional; Council, Implementing agencies, etc.	Continuous
<b>Social impact, HIV &amp; AIDS, STIs</b>	private property or assets being invaded  Property damage is a possibility.  Spread of HIV & AIDS	While on the job, no worker should be allowed to walk into people's private yards or fences.  Encourage use of condoms, abstinence	no record of locals, including landowners, filing complaints against project contractors for property damage.  No records of STIs	Community Liaison Officer (CLO)  Environmental Control Officer (ECO)  Ministry of Health	Complaints logbook  Health Awareness Trainings, Minutes  Condom dispensers	Continuous

The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project aims to alleviate the Omusati Region's water supply and scarcity as a result of climate change. The region is one of Namibia's hardest hit by droughts caused by climate change, and it has seen the destructive consequences of climate change on communities' socioeconomic fabric. The 2018/ 2019 rainfall season was extremely poor, as evidenced by a delayed start to the rainy season, sporadic and erratic rainfall patterns, and frequent extended dry spells, all of which were exacerbated by extremely high temperatures, which exacerbated evaporation of the little moisture received. This has had an impact on agricultural production and water supplies (Namibia Meteorological Services Rainfall Report, March 2019).

Provisional crop harvest projections done by the MAWF in December 2018 showed that crop-producing regions were anticipating a huge decline in the expected harvest. Cereal production was expected to be 70 to 80 percent lower in communal areas and 15 percent lower in commercial areas than previous season's harvest, and over 42 percent lower than the 20-year average. This decrease is exacerbated by the exceptionally high temperatures recorded across the country during the rainy season, causing in widespread crop withering at the vital stages of germination, blooming, and grain formation. The advent of autumn armyworms across huge swaths of the Zambezi, as well as areas of Omusati, Kavango East, and Kavango West, has exacerbated the situation.

### **8.3.1 Climate Change Adaptation Activities**

The hazards of pollution from the litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project are quite minimal. The project will incorporate safeguards to guarantee that the activities it supports do not worsen, but rather mitigate, the dangers of climate change. Uncontrolled water abstraction, increasing human, agricultural, and water activity around water sources and in catchment areas, and other dangers exist in water shortage locations. Improved water facilities can lead to natural resource degradation due to increased human and water concentration. These dangers shall be taken into account throughout the planning, design, and construction of drinking and sanitary facilities. All policies, strategies, plans, and legislation pertaining to the environment will drive project activities, and no activity will be supported.

## 9. ESMP IMPLEMENTATION TRAINING AND CAPACITY BUILDING EFFORTS

Phase 2 of the litapa-Okeeholongo Rural Water Supply Scheme will necessitate the establishment of adequate institutional structures and management procedures. Existing structures and mechanisms will be used whenever possible, and will be strengthened where necessary. However, some new ones may be required. To ensure that the program is implemented effectively, it may be necessary to revise, harmonize, or even create new legislation, policies, rules, and regulations.

Institutional structures and methods for implementing the ESMP must be accommodated as part of these arrangements. The ESMP outlines the most important institutional needs, structures, and responsibilities.

### 9.1. Analysis of Institutional Needs

<b>Stakeholder Consultation</b>	The general capacity building and training needs for the key organizations involved in ESMP are listed in this ESMP based on the institutional analysis and the results of stakeholder discussions. Some recommendations include the necessity to reactivate dormant divisions within institutions in order to address environmental and/or social problems in ESMP implementation, as well as the appointment of new members of staff with necessary qualifications or experience.
<b>Strengthening Existing Institutions</b>	Each TA from the implementing agencies will be in charge of integrating the ESMP/stand-alone management plan(s) into the project's execution. The integration of those plans will need to take into account specific institutional demands within the ESMP implementation framework, such as institutional capabilities at various administrative levels - village, constituency, and capacity to oversee and monitor ESMP implementation. Capacity building and technical assistance activities will be incorporated as needed to ensure that the ESMP is implemented properly.

### 9.2. Training

During Phase 2 of the litapa-Okeeholongo Rural Water Supply Scheme implementation, implementing there is every need to design an annual training plan for personnel working on sites that will be agreed upon with the Bank as part of enhancing their capacity and linked institutions. It will include information on the title of the training, the institution that will give it, the timeline, the cost, the number, position, and names of those who will be trained. The training plan shall be updated in accordance with the Bank at least annually or as needed to reflect the actual project implementation demands throughout the course of the Project phases.

To provide the best possible environmental protection, contractors should improve the proficiency of all personnel through training and mobilization of all project participants.

All construction workers should be conversant with the following:

- Good construction practice implementation guidelines,
- Potential penalties in the event of deviation from established processes.



- Requirements for the Environmental and Social Monitoring Plan
- Their roles and responsibilities for meeting the requirements of the Environment Monitoring Plan,

### 9.3. Environmental Training Methods

The provision of training through a combination of formal classroom training and practical on-the-job sessions is a significant notion in training programs. Technical help should be made available to give training, advice, and advisory support in all elements of work implementation so that the main participants (both the environmental and technical teams) are completely aware of and capable of carrying out their respective responsibilities. Training for various categories of employees must be provided throughout a variety of time frames and methods, including on-site and classroom training, workshops, seminars, and practical on-the-job training.

### 9.4. Methods of Instruction

The most efficient way to handle such training needs is to do it in a setting that closely reflects the real-world circumstances in which the learners will eventually function.

Method	Description
<b>Training on the Job</b>	The most successful kind of training is on-the-job training. This entails a large number of practical demonstrations and skill training sessions at full-scale training facilities. This method is highly effective for training managers, engineers, and supervisors, with on-the-job training supplemented by classroom components suited to the various kinds of employees. The on-site training strategy is strongly suggested in this ESMP Report.
<b>Workshops</b>	Intensive refresher courses lasting one to three days are beneficial for addressing specific ESMP implementation issues. These workshops will be provided to supplement on-the-job training for some of the implementing agencies' technical and administrative staff. Short workshops can be organized through technical help, an in-house training facility, or by hiring consultants.
<b>Seminars</b>	Policymakers, planners, and administrators participating in the execution of Phase 2 of the Itapa-Okeeholongo Rural Water Supply Scheme might use seminars to discuss the necessity of an Environmental Management System.

## 10. CONCLUSION

The litapa-Okeeholongo Rural Water Supply Scheme – Phase 2 project has the potential to help a number of communities in the Omusati Region, including increased potable water supply, livelihood, improved health, and an economic boost. If the management alternatives provided in this ESMP are effectively implemented, adverse impacts noted in the ESIA report can be reduced, avoided, and mitigated.

Vegetation loss, which leads to numerous habit deficits and associated vegetation benefits, is one of the expected negative consequences. Other repercussions include land disturbances, waste generation during building, animal problems, communal land acquisition, and resource consumption. However, the benefits outweigh the disadvantages, particularly if the mitigation and management strategies described in this research are applied.

The project has great expectations from the Omusati Region communities, who regard it as their chance to have a reliable water supply. Institutional capacity building is required for implementing agencies to successfully implement the program and adopt management choices outlined in this report. Line ministries such as the Ministry of the Environment, Forestry, and Tourism, the Ministry of Health and Social Services, the Ministry Agriculture, Water and Land Reform can all help.

It is suggested that the Project and the Ministry of Agriculture, Water and Land Reorm should ensure that contractors are adhering to the requirements of this ESMP and any subsequent management plans.

It is recommended that, based on the results of the ESIA and this ESMP report:

- A Grievance Redress Mechanism should be established at all levels, from local to national, to ensure that affected and grieved parties are effectively addressed. At the local, constituency, and regional levels
- Activities must be monitored on a regular basis, and implementing agencies must have the capacity to do so. Strong reporting methods are necessary and should be established prior to implementation; and
- Contractors' and important institutions' institutional ability must be strengthened, and this is a must.
- Project implementers should train personnel who will be responsible for implementing the ESMP and other management plans, as well as select an initial consultant, while gradually training their staff to improve the program's lifespan and sustainability.

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### Online Resources

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