

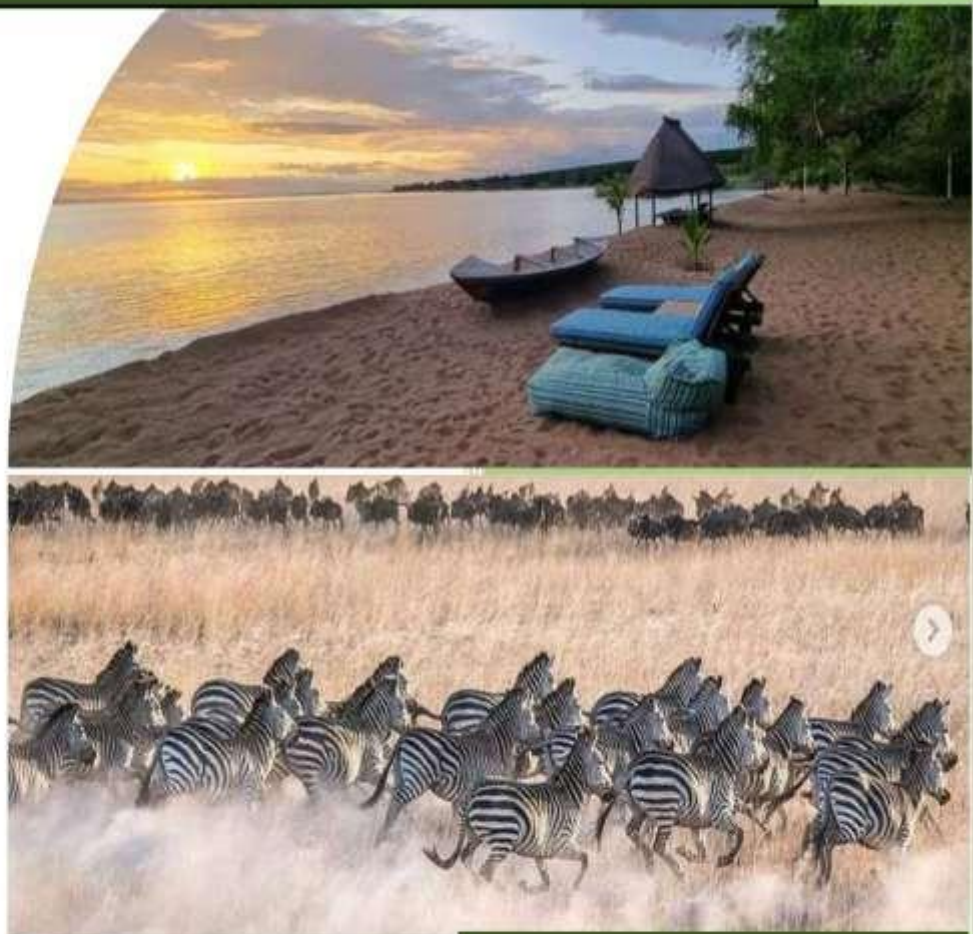


The Republic of Zambia

Ministry of Tourism-GREAT-

STRATEGIC ENVIRONMENTAL & SOCIAL ASSESSMENT (SESA) FOR A
DESTINATION PLAN FOR KASABA BAY IN NSUMBU NATIONAL PARK
AND SURROUNDING AREAS

ZM-MOT-408813-CS-QCBS



Authorship

SMA is an international tourism consulting firm that specialises in innovative product development for cultural, eco-adventure, and culinary (food and wine) tourism. Website: www.smatourism.com, Email: info@smatourism.com

Prepared by SMA Tourism, Australia and Metro Consult Limited, Zambia.

Website: www.smatourism.com, Email: info@smatourism.com

Disclaimer

Specific investment decisions addressing recommendations in this report require further planning, engineering, environmental, and heritage advice, and costing by an estimator. Costings should not be used for construction. Therefore, we caution that any specific investment decisions relating to proposed tourism development should be made with continuously updated information from multiple sources.

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NON-TECHNICAL SUMMARY

Introduction

The Government of the Republic of Zambia, through the Ministry of Tourism, is implementing the Green, Resilient and Transformational Tourism Development Project (GREAT-TDP) with support from the World Bank. One of the priority areas identified for sustainable tourism development under this programme is Kasaba Bay and surrounding areas, located in Nsumbu District, Northern Province, along the southern shores of Lake Tanganyika. In line with national environmental legislation and international best practice, a Strategic Environmental and Social Assessment (SESA) has been undertaken to guide the preparation and implementation of the Kasaba Bay Destination Plan. The SESA ensures that environmental protection, social inclusion, and climate resilience are fully integrated into tourism planning at an early, strategic stage. This summary presents the key findings of the SESA for public information and disclosure, in accordance with the Environmental Management Act No. 12 of 2011 and the Strategic Environmental Assessment Regulations (Statutory Instrument No. 48 of 2021), subject to issuance of a No Objection by the Zambia Environmental Management Agency (ZEMA).

Purpose of the Strategic Environmental and Social Assessment

The purpose of the SESA is to assess, at a policy and planning level, the potential environmental and social implications of implementing the proposed Destination Plan for Kasaba Bay. Unlike project-specific Environmental Impact Assessments, the SESA focuses on cumulative, indirect, and long-term impacts that may arise from multiple tourism-related investments within a shared and sensitive landscape.

Specifically, the SESA was undertaken to:

- Identify key environmental and social risks and opportunities associated with tourism development;
- Establish baseline environmental, social, and economic conditions in the study area;
- Assess alternative development scenarios and identify the most sustainable option;
- Recommend strategic mitigation, enhancement, and monitoring measures; and
- Ensure alignment with national policies and the World Bank Environmental and Social Framework.

The SESA provides a strategic foundation to guide future infrastructure investments, tourism facilities, and community-based initiatives under the GREAT-TDP.

Description of the Study Area

The SESA study area includes Kasaba Bay, Nsumbu National Park, Tondwa Game Management Area, and surrounding communities such as Nsumbu, Nsama, Kapisha, and Mutundu. The area forms part of Zambia's Northern Tourism Circuit, a national priority growth zone under the National Tourism Policy and the Eighth National Development Plan (8NDP).

The region is characterised by:

- High ecological value, including protected terrestrial and aquatic ecosystems;
- Important wildlife habitats and biodiversity linked to Lake Tanganyika;

- Communities that depend largely on fishing, agriculture, and natural resources;
- Limited transport infrastructure and basic services;
- Increasing environmental pressures such as deforestation, overfishing, waste pollution, and climate variability.

Due to its ecological sensitivity and development potential, the area requires careful planning to ensure that tourism growth supports conservation and community well-being rather than environmental degradation.

Legal and Institutional Framework

The SESA was conducted in compliance with:

- The Environmental Management Act No. 12 of 2011;
- The Strategic Environmental Assessment Regulations (SI No. 48 of 2021); and
- The World Bank Environmental and Social Framework, including standards on environmental assessment, biodiversity conservation, cultural heritage, and stakeholder engagement.

Implementation and oversight of the Destination Plan and its safeguards will involve the Ministry of Tourism, ZEMA, the Department of National Parks and Wildlife, local authorities, and relevant community institutions, including Community Resource Boards.

Overview of the Kasaba Bay Destination Plan

The Kasaba Bay Destination Plan has been prepared under the Green, Resilient and Transformational Tourism Development Project (GREAT-TDP) to guide sustainable tourism development in Kasaba Bay and surrounding areas. The Plan seeks to position Kasaba Bay as a high-value, nature-based tourism destination while safeguarding environmental integrity and improving the livelihoods of local communities.

The Destination Plan is structured around seven strategic directions, which collectively provide a long-term roadmap for tourism development:

- Improving access to and within the destination, including roads, airstrips, water transport facilities, and non-motorised trails;
- Developing tourism products such as eco-lodges, visitor centres, cultural attractions, and recreational activities;
- Expanding nature-based enterprises to create local employment and diversify income sources;
- Upgrading enabling services, including water supply, sanitation, waste management, renewable energy, health services, and telecommunications;
- Building local capacity for tourism, enterprise development, and environmental stewardship;
- Gradually expanding destination marketing in line with environmental carrying capacity; and
- Supporting climate-resilient and environmentally sustainable infrastructure and practices.

The SESA assessed these strategic directions collectively, rather than as individual projects, to ensure that tourism growth is coordinated, inclusive, and environmentally responsible.

Key Environmental Baseline Findings

The SESA established baseline environmental conditions to understand the sensitivity of the Kasaba Bay area prior to implementation of the Destination Plan. Key findings include:

- Biodiversity and ecosystems: The study area includes protected habitats within Nsumbu National Park and ecologically important zones linked to Lake Tanganyika. These ecosystems support wildlife, fisheries, and tourism attractions but are vulnerable to disturbance.
- Land use and vegetation: Ongoing deforestation and land degradation are occurring due to fuelwood collection, agricultural expansion, and unplanned settlement growth.
- Water resources: Lake Tanganyika is a major transboundary water body of regional importance. Risks to water quality arise from inadequate sanitation, waste disposal, and increased human activity along the shoreline.
- Climate vulnerability: The area is increasingly affected by climate variability, including intense rainfall events, flooding, shoreline erosion, and prolonged dry periods.

These findings highlight the need for carefully planned tourism development that avoids sensitive areas, reduces pollution, and integrates climate-resilient design principles.

Key Social and Economic Baseline Findings

The SESA also examined social and economic conditions within the study area. Key findings include:

- Livelihoods: Most households rely on fishing, subsistence agriculture, and informal trade, with limited alternative income opportunities.
- Poverty and vulnerability: Poverty levels are high, and access to basic services such as clean water, sanitation, electricity, health care, and transport remains limited.
- Community structures: Strong traditional leadership and community institutions exist and play an important role in land use, cultural heritage, and resource management.
- Tourism potential: Despite limited infrastructure, the area has strong potential for tourism-led development that can generate employment, particularly for women and youth, if benefits are shared equitably.

The SESA concluded that tourism development, if not well managed, could increase pressure on natural resources, but if implemented sustainably, it offers significant opportunities for inclusive economic growth and service improvement.

Key Environmental and Social Risks Identified

The Strategic Environmental and Social Assessment identified potential environmental and social risks that could arise if the Destination Plan is implemented without appropriate safeguards. These risks were assessed at a strategic level, considering cumulative and long-term effects rather than individual projects.

Key risks identified include:

- Environmental risks, such as localised habitat disturbance, soil erosion, and vegetation loss during construction of roads, tourism facilities, and service infrastructure;

- Pressure on biodiversity and wildlife, including disturbance of habitats and increased fishing and boating activity if tourism growth is unmanaged;
- Water and pollution risks, particularly from inadequate solid waste and wastewater management affecting Lake Tanganyika and nearby communities;
- Social risks, including unequal benefit sharing, exclusion of vulnerable groups, and potential labour and gender-related risks if community participation and safeguards are weak;
- Climate-related risks, such as flooding, shoreline erosion, and infrastructure damage linked to extreme weather events.

The SESA determined that these risks are not unavoidable, but must be actively managed through careful planning, environmental screening, and strong institutional oversight.

Assessment of Development Alternatives

As part of the SESA process, three broad development scenarios were assessed to understand their environmental and social implications:

- Business-as-usual scenario
- This scenario assumes no coordinated planning and continued informal development. It was found to increase environmental degradation, resource conflicts, and pressure on protected areas.
- Uncoordinated tourism development scenario
- Under this scenario, tourism investments proceed without integrated planning or safeguards. The SESA found that this approach could result in cumulative environmental damage, social exclusion, and unsustainable use of natural resources.
- Integrated sustainable development scenario
- This scenario involves coordinated planning, environmental screening, community participation, and climate-resilient design. It was identified as the preferred option.

The SESA concluded that the Integrated Sustainable Development Scenario best balances conservation, economic growth, and social inclusion, while aligning with national policies and international environmental and social standards.

Key Safeguards and Mitigation Measures

To manage identified risks, the SESA developed a Strategic Environmental and Social Management and Monitoring Framework, which outlines key safeguards to be applied during implementation of the Destination Plan.

Key measures include:

- Avoidance of environmentally sensitive and protected areas when siting tourism and infrastructure developments;
- Application of climate-resilient and low-impact design standards for roads, lodges, and public facilities;
- Strengthening waste management and sanitation systems to protect water quality in Lake Tanganyika;

- Promotion of community participation and equitable benefit sharing through Community Resource Boards and local institutions;
- Measures to address labour standards, gender inclusion, and prevention of gender-based violence;
- Continuous monitoring of environmental and social performance and adaptive management where risks emerge.

These safeguards will guide all future project-level assessments and investments under the Destination Plan.

Expected Environmental and Social Benefits

The Strategic Environmental and Social Assessment concluded that, if implemented in line with the recommended safeguards, the Kasaba Bay Destination Plan has the potential to deliver significant environmental, social, and economic benefits.

Key expected benefits include:

- Increased employment and income diversification through tourism and nature-based enterprises;
- Improved access to basic services, including clean water, sanitation, renewable energy, health services, and transport infrastructure;
- Strengthened biodiversity conservation, habitat restoration, and sustainable management of natural resources;
- Empowerment of women and youth through inclusive participation in tourism enterprises and decision-making structures;
- Improved climate resilience, through climate-smart infrastructure, ecosystem restoration, and sustainable land use practices.

The SESA estimates that a significant proportion of direct beneficiaries will be local communities, with particular emphasis on women, youth, and vulnerable households.

Environmental and Social Management and Oversight

To ensure effective implementation of the Destination Plan, the SESA established a Strategic Environmental and Social Management and Monitoring Framework. This framework defines:

- Mitigation measures for identified environmental and social risks;
- Institutional responsibilities for implementation and oversight;
- Monitoring indicators and reporting requirements;
- Stakeholder engagement mechanisms and grievance redress procedures.
- Implementation will be coordinated by the Project Implementation Unit under the Ministry of Tourism, working in collaboration with the Zambia Environmental Management Agency (ZEMA), the Department of National Parks and Wildlife (DNPW), local authorities, and Community Resource Boards.

All site-specific tourism and infrastructure investments arising from the Destination Plan will be subject to further environmental and social assessment, in accordance with ZEMA requirements.

Conclusion and Next Steps

The Strategic Environmental and Social Assessment concludes that the Kasaba Bay Destination Plan, when implemented under the Integrated Sustainable Development Scenario, provides a sound and responsible pathway for tourism development in the area.

The SESA confirms that:

- Environmental and social risks can be effectively managed;
- Tourism development can coexist with conservation objectives;
- Local communities can benefit meaningfully from tourism growth;
- The Destination Plan aligns with Zambia’s national development priorities and international best practice.

Subject to the issuance of a No Objection by the Zambia Environmental Management Agency, the findings of the SESA will guide future planning, investment, and project-level assessments under the GREAT-TDP.

Public Access to Information

The full Strategic Environmental and Social Assessment Report for the Kasaba Bay Destination Plan will be made available for public access through the Ministry of Tourism and other designated public channels, in line with national disclosure requirements.

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LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviation/Acronyms	Full Name
AFOLU	Agriculture, Forestry and Other Land Use
AU	African Union
CBEs	Community-Based Enterprises
CBO	Community-Based Organization
CRB	Community Resource Board
DDCC	District Development Coordinating Committee
DNPW	Department of National Parks and Wildlife
DP	Destination Plan
DRC	Democratic Republic of the Congo
EHPMP	Environmental Health and Pollution Management Project
EHS Guidelines	Environmental, Health and Safety Guidelines (World Bank Group)
EMA	Environmental Management Act (2011)
EMP	Environmental Management Plan (superseded by ESMMP in this report)
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework (World Bank)
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMMP	Environmental and Social Management and Monitoring Plan
ESS	Environmental and Social Standard
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIS	Geographic Information System
GoZ	Government of Zambia
GRM	Grievance Redress Mechanism
GREAT-TDP	Green, Resilient and Transformational Tourism Development Project
GMA	Game Management Area
HWC	Human-Wildlife Conflict
IDA	International Development Association (World Bank)
ILO	International Labour Organization
IWRM/WE	Integrated Water Resources Management / Water Efficiency
KBA	Key Biodiversity Area
KPI	Key Performance Indicator
LMP	Labour Management Procedures
LULC	Land Use / Land Cover
M&E	Monitoring and Evaluation

Abbreviation/Acronyms	Full Name
MFL	Ministry of Fisheries and Livestock
MLGRD	Ministry of Local Government and Rural Development
MLNR	Ministry of Lands and Natural Resources
MoE	Ministry of Energy
MoGE	Ministry of Green Economy and Environment
MoH	Ministry of Health
MoT	Ministry of Tourism
MPA	Managed / Marine Protected Area
MTL	Ministry of Transport and Logistics
MWDS	Ministry of Water Development and Sanitation
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contribution
NHCC	National Heritage Conservation Commission
NGO	Non-Governmental Organization
NP	National Park
OHS	Occupational Health and Safety
OIP	Other Interested Party
PAP	Project-Affected Person / People
PDCC	Provincial Development Coordinating Committee
PESCC	Provincial Environmental and Social Coordination Committee
PPE	Personal Protective Equipment
PPP	Public-Private Partnership
PPU	Provincial Planning Unit
RAP	Resettlement Action Plan
REMP	Rural Electrification Master Plan
SADC	Southern African Development Community
SDG	Sustainable Development Goal
SESA	Strategic Environmental and Social Assessment
SEA/SH	Sexual Exploitation and Abuse / Sexual Harassment
SEP	Stakeholder Engagement Plan
SECS	Stakeholder Engagement and Communication Strategy
Study area	Tourism Development Area (Kasba Bay and surrounds)
TP	Tourism Destination Plan
TLA	Tanganyika Lake Authority
ToC	Table of Contents
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
WARMA	Water Resources Management Authority

Abbreviation/Acronyms	Full Name
WBG	World Bank Group
WSS	Water Supply and Sanitation
ZDA	Zambia Development Agency
ZEMA	Zambia Environmental Management Agency
ZFAP	Zambia Forestry Action Plan
ZMERIP	Zambia Mining and Environmental Remediation and Improvement Project

1. INTRODUCTION

1.1 Background

The Government of the Republic of Zambia, through the Ministry of Tourism, is implementing the GREAT Transforming Landscapes and Tourism Development Project (GREAT-TDP) with support from the World Bank. The Project aims to strengthen the foundations for sustainable tourism and natural resource management in selected landscapes with high ecological and cultural value. One of the priority focus areas under the Project is Kasaba Bay and surrounds. This study area is located in the Northern Province of Zambia and features the western shores of Lake Tanganyika, the Nsumbu National Park (NNP) and adjoining the Tondwa Game Management Area (GMA).

Kasaba Bay represents a critical node in Zambia's tourism growth corridor due to its unique ecological diversity, rich biodiversity, and proximity to transboundary ecosystems shared with the Democratic Republic of Congo and Tanzania. The area is characterised by outstanding natural beauty, pristine shorelines, and diverse wildlife habitats which, if properly managed, have the potential to contribute significantly to local and national economies through sustainable tourism development. However, the region also faces developmental pressures including limited infrastructure, climate variability, deforestation, unsustainable fishing, and inadequate community livelihoods diversification, which collectively threaten the integrity of the ecosystem.

The study area forms part of Zambia's Northern Tourism Circuit, a national priority growth zone identified under the National Tourism Policy (2015) and the Eighth National Development Plan (8NDP). The study area has been earmarked for structured development under the GREAT-TDP to enhance its potential as a high-value tourism destination, while maintaining the ecological balance of Nsumbu National Park and surrounding protected areas.

A Destination Plan for Kasaba Bay and surrounding areas (SMA Tourism and Metro Consult Limited, 2025) has been prepared under the framework of the Green, Resilient and Transformational Tourism Development Project (GREAT-TDP), funded by the World Bank (IDA) and implemented by the Government of the Republic of Zambia (GRZ) through the Ministry of Tourism (MoT).

The Destination Plan seeks to balance conservation, infrastructure, and community development. The DP also aims to reverse limited livelihood options through development of nature-based business and niche tourism, supported by renewable energy and community benefit-sharing mechanisms.

1.2 Rationale for the SESA

In order to guide this process, the Government has undertaken a *Strategic Environmental and Social Assessment (SESA)* to ensure that environmental and social considerations are fully integrated into the planning and implementation of the Destination Plan. The SESA provides a policy-level analytical framework for assessing cumulative and indirect impacts, identifying strategic risks, and proposing measures to promote long-term environmental sustainability and social inclusion within the tourism sector.

This assessment responds to national policy directives under the Environmental Management Act No. 12 of 2011 and the Strategic Environmental Assessment Regulations, Statutory Instrument No. 48 of 2021, which require environmental and social integration at the policy, plan, and programme level. It also aligns with the World Bank’s Environmental and Social Framework (ESF), particularly the provisions of Environmental and Social Standard 1 (ESS1) on Assessment and Management of Environmental and Social Risks and Impacts, ESS6 and ESS10 on Stakeholder Engagement and Information Disclosure.

The rationale for undertaking the SESA stems from the recognition that large-scale tourism development in environmentally sensitive landscapes, such as Kasaba Bay, requires a comprehensive understanding of ecological, social, and institutional dynamics at the strategic level. Traditional project-level environmental assessments (such as Environmental and Social Impact Assessments – ESIAs) are insufficient for capturing cumulative and cross-sectoral impacts that arise from multiple interventions within a shared ecosystem. Importantly, the SESA will identify investments that may be environmentally or socially incompatible with the long-term sustainability of the Destination Plan, including those that intersect with mining concessions, sensitive habitats, or community land-use conflicts. Given the park’s location within a sensitive biodiversity corridor, the SESA will assess cumulative and induced impacts on ecosystem connectivity and critical habitats, in accordance with ESS6. These will be flagged for redesign, relocation, or exclusion as needed to comply with ESS1 and ESS6. A SESA therefore ensures that sustainability principles are embedded early in the planning process, guiding policy coherence, institutional alignment, and adaptive management.

The SESA also includes an analysis of alternative development scenarios for tourism growth, assessing the environmental and social trade-offs associated with each and identifying a preferred scenario that minimizes risk while maximizing sustainability outcomes. The SESA provides a structured approach for evaluating how the proposed tourism development initiatives can coexist with conservation priorities, community livelihoods, and regional planning frameworks. It further examines how planned investments interact with broader government objectives under the Eighth National Development Plan (8NDP, 2022–2026), Vision 2030, and the National Tourism Policy, all of which emphasise inclusive growth, climate resilience, and sustainable natural resource utilisation.

Specifically, the SESA aims to:

1. Strengthen environmental governance mechanisms and policy coordination between the Ministry of Tourism, the Ministry of Green Economy and Environment, and local authorities.
2. Promote strategic decision-making that minimises ecological degradation and social displacement.
3. Identify opportunities for enhancing tourism benefits to local communities while preserving the ecological integrity of Nsumbu National Park and adjacent ecosystems.
4. Establish a baseline for monitoring the long-term sustainability of tourism-led investments within the GREAT-TDP framework.

In this regard, the SESA serves both as a diagnostic and a planning instrument. It bridges the gap between policy formulation and project implementation by providing a structured basis for integrating environmental, social, and economic considerations into the Destination Plan for Kasaba Bay and surrounding areas. The findings of the SESA will directly inform the Infrastructure Investment Plans (IIPs) and support the scoping and design of downstream Environmental and Social Management Plans (ESMPs) for specific infrastructure sub-projects under the GREAT TDP. The ultimate aim is to ensure that development decisions contribute to the sustainability of natural capital and improved livelihoods in the Northern Province and beyond.

1.3 Objectives of the SESA

1.3.1 General objectives of the SESA

The general objective of the SESA is to evaluate and integrate environmental and social sustainability considerations into the Kasaba Bay Tourism Destination Plan to ensure that future tourism development is environmentally sound, socially inclusive, and economically viable.

1.3.2 Specific objectives of the SESA

The specific objectives of the SESA are to:

- Assess the current environmental and social baseline conditions of the study area, including physical, biological, and socio-economic aspects.
- Identify and analyse potential cumulative, indirect, and transboundary environmental and social impacts associated with proposed tourism development interventions, including risks arising from climate change, habitat fragmentation, and development pressures.

- Review existing policy, legal, and institutional frameworks to determine their adequacy and coherence with national and international best practices.
- Evaluate alternative development scenarios and recommend sustainable pathways that balance economic growth with ecological protection and social well-being.
- Identify interventions or investment scenarios that pose unacceptable environmental or social risks and recommend their exclusion from the Destination Plan.
- Assess how proposed tourism development pathways may disproportionately affect vulnerable groups, including women, youth, and marginalized households, and propose equity-enhancing measures.
- Develop a Strategic Environmental and Social Management Framework (SESMF) that outlines mitigation measures, monitoring plans, and capacity-building strategies for responsible institutions.
- Strengthen stakeholder participation mechanisms and ensure that local communities, private sector actors, and traditional leaders are meaningfully engaged in decision-making processes.
- Recommend institutional arrangements and capacity enhancement measures to support the long-term implementation and monitoring of the Kasaba Bay Tourism Destination Plan.

1.4 Legal mandate and compliance basis

The GREAT Transforming Landscapes and Tourism Development Project (GREAT-TDP) constitutes a programme-level planning instrument whose anticipated footprint spans Nsumbu National Park (NNP), Tondwa Game Management Area (GMA) and adjoining settlements along the Lake Tanganyika corridor. The Destination Plan (DP) for the Kasaba Bay (Nsumbu TDA) and surrounding areas (SM&A Tourism and Metro Consult Limited 2025)

This SESA has been prepared in accordance with the Environmental Management Act No. 12 of 2011 and the Strategic Environmental Assessment Regulations, Statutory Instrument No. 48 of 2021. The SESA forms the strategic analytical base for subsequent planning and design processes under the GREAT-TDP. Its findings will guide the preparation of the Destination Plan, shape IIPs, and determine the scope and prioritization of downstream site-specific instruments such as ESIA and/or ESMPs.

The SESA also aligns with the World Bank Environmental and Social Framework (ESF), especially ESS1 (Assessment and Management of Environmental and Social Risks and Impacts), ESS6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources), ESS8 (Cultural Heritage) and ESS10 (Stakeholder Engagement and Information Disclosure). At strategic level, the SESA provides the due-diligence backbone for downstream instruments (e.g., ESMFs, ESIA/ESMMPs, CHMPs, GBV/SEA-SH Action Plans) that will be prepared for site-specific investments under the Destination Plan.

Consistency is further maintained with Vision 2030, the Eighth National Development Plan (8NDP, 2022–2026), the National Tourism Policy, and sectoral policies relating to forestry, fisheries, wildlife, water resources, decentralisation, gender and health. Regionally, the assessment recognises the transboundary nature of Lake Tanganyika and associated ecological linkages, requiring that strategic decisions under the TDP observe relevant international conventions and protocols to which Zambia is party.

1.5 Scope of the SESA

The SESA defines the strategic envelope within which the Destination Plan for Kasaba Bay and surrounding areas will be assessed, ensuring sufficiency of baseline knowledge, clarity of institutional roles, transparency in trade-offs, and robustness of the proposed management measures.

1.5.1 Geographic and thematic scope

- **Geographic scope:** The study area covers NNP, Tondwa GMA, lakeshore settlements and access corridors (road, waterway and airstrip connections). Secondary areas include upstream catchments feeding Lake Tanganyika and ecologically connected habitats influencing wildlife movements and fisheries.
- **Thematic scope:** Physical (geology, soils, hydrology/groundwater–surface water interactions, shoreline dynamics, climate variability and extremes), biological (vegetation types, protected areas, key biodiversity areas, migratory corridors, sensitive/critical habitats), and socio-economic (demography, livelihoods, tourism, fisheries, agriculture, infrastructure and services, cultural and natural heritage, gender and vulnerability).
- **Impact scope:** Direct, indirect and cumulative effects of multiple tourism-linked investments (lodges, access, utilities, waste/wastewater, boating/fishing pressure), induced development (informal settlements, artisanal trade), and transboundary risk pathways (fisheries pressure, invasive species, pollution plumes) relevant to Lake Tanganyika.

1.5.2 Temporal and institutional scope

- **Temporal:** A planning horizon aligned to the Destination Plan (short-term 0–5 years; medium-term 5–10 years; long-term up to 20 years), enabling appraisal of phased development and long-lived ecological and social effects.
- **Institutional:** Central roles of the Ministry of Tourism, Department of National Parks and Wildlife (DNPW), Ministry of Green Economy and Environment, local authorities and traditional institutions are

considered, including coordination with utilities, transport, fisheries and health agencies. Capacity needs for implementation, enforcement, monitoring and reporting are within scope.

1.6 Approaches and methodology of the SESA

1.6.1 Establishing context

The Strategic Environmental and Social Assessment (SESA) for the (DP for Kasaba Bay and surrounding areas) was undertaken to ensure that environmental, social, and climate change considerations are systematically integrated into the strategic planning and decision-making process. The assessment provides a framework for identifying, evaluating, and managing the potential cumulative, indirect, and long-term impacts associated with implementing the seven strategic directions proposed for the destination.

The SESA is grounded in a policy and institutional context that reflects both national development priorities and the unique environmental sensitivities of the Nsumbu–Kasaba Bay region. This contextual foundation was built across four strategic areas. :

- **Legal, institutional and policy alignment:**
The SESA process was guided by the Environmental Management Act (2011), the Environmental Impact Assessment Regulations (1997), and the Zambia Tourism Master Plan (2018–2038). Other applicable sectoral policies and regulations covering forestry, wildlife, water resources, heritage, and climate change were reviewed to ensure consistency. Internationally, the SESA adheres to the principles of the World Bank’s ESF (which guided the emphasis on cumulative impacts, biodiversity risk screening, and inclusive consultation in sensitive conservation areas) .
- **Strategic risk framing:**
The scope of the SESA was aligned with the seven pillars of the Kasaba Bay Destination Plan. However, a risk-based lens was applied to each pillar to identify potential trade-offs between tourism infrastructure and ecological integrity, especially in Nsumbu National Park. Particular attention was paid to how development of access roads, airstrips, and visitor infrastructure may drive secondary pressures, such as informal settlement, poaching, or human-wildlife conflict, if not carefully managed. Each strategic direction was examined to determine environmental and social linkages, risks, and opportunities.
- **Data and knowledge gaps:**
The SESA builds on a baseline that integrates secondary data sources (e.g., NNP Management Plan, Central Statistical Office) with field reconnaissance and focused community consultations. The analysis identified key data gaps, notably on ecological corridors, wetland health, and groundwater stress, which

were flagged for inclusion in downstream ESIA terms of reference. Ecosystem service mapping was initiated but requires refinement through spatial analysis under the SESMF.

- Stakeholder dynamics:

Stakeholder engagement was shaped by the principle of free, prior, and informed consultation. The process incorporated the interests of a wide range of stakeholders' traditional authorities, local communities, the Department of National Parks and Wildlife (DNPW), Zambia Tourism Agency (ZTA), park user groups, district councils, and private sector actors to ensure that the outcomes reflected local priorities and national objectives for sustainable tourism and conservation.

This contextual foundation ensured that the SESA remained policy-relevant, inclusive, and evidence-based, forming the basis not only for strategic sustainability integration within the Destination Plan but also strategic investment prioritization, exclusion of high-risk interventions, and long-term monitoring systems for sustainable tourism development in Nsumbu.

1.6.2 SESA Process Overview

The SESA followed a systematic, participatory, and iterative process designed to identify potential strategic-level impacts and propose practical mechanisms for managing them throughout implementation. The process combined analytical assessment, stakeholder engagement, and feedback loops to ensure that environmental and social sustainability principles informed all seven strategic directions.

Key stages of the SESA process included the following:

- i. Scoping and Baseline Definition

- ❖ Identified key environmental and social issues through literature review, expert input, and field reconnaissance
- ❖ Defined spatial and temporal boundaries of the assessment
- ❖ Developed thematic baseline profiles for the biophysical, social, and economic environment

- ii. Policy, Legal, and Institutional Review

- ❖ Reviewed existing policies, legislation, and plans relevant to tourism, land, and natural resource management
- ❖ Identified policy overlaps and gaps affecting sustainable development
- ❖ Assessed institutional capacity and coordination mechanisms for implementation

iii. Impact Identification and Risk Screening

- ❖ Applied a risk-based matrix to map potential environmental and social effects of each strategic direction
- ❖ Classified impacts by significance (positive/negative; direct/indirect; cumulative)
- ❖ Evaluated each risk against magnitude, duration, sensitivity, and reversibility criteria

iv. Development of Strategic Management Options

- ❖ Formulated measures to enhance positive outcomes (e.g., employment creation, biodiversity offsets, gender inclusion)
- ❖ Proposed mitigation and adaptation options for adverse impacts (e.g., land degradation, pollution, conflict)
- ❖ Integrated cross-cutting themes such as climate resilience, cultural heritage, and community participation

v. Preparation of the Strategic Environmental and Social Management Framework

- ❖ Consolidated findings into a strategic-level Environmental and Social Management Plan (ESMMP) addressing pre-construction, construction, and operational phases
- ❖ Defined monitoring indicators, institutional responsibilities, and reporting arrangements

vi. Stakeholder Consultation and Validation

- ❖ Conducted public and institutional consultations in Lunte and Nsumbu Districts
- ❖ Integrated stakeholder feedback into mitigation, monitoring, and institutional frameworks

vii. Reporting and Disclosure

- ❖ Prepared and disclosed the Draft SESA Report and Destination Plan for public and institutional review
- ❖ Revised the final report based on feedback from the PIU, ZEMA, and key stakeholders

viii. Monitoring, Evaluation, and Adaptive Management

- ❖ Established a monitoring and reporting framework for continuous oversight of environmental and social performance
- ❖ Integrated adaptive management mechanisms to incorporate lessons learned during implementation

Figure 1: Overview of the SESA Process



1.6.3 Stakeholder engagement methodology

Stakeholder engagement formed a cornerstone of the SESA, ensuring that the assessment remained participatory, transparent, and aligned with local and institutional realities. The approach aimed to build consensus and ownership of the Destination Plan among diverse actors from national regulators to community representatives.

Stakeholders were identified and categorised based on influence, interest, and potential impact.

Table 1: Summary of Stakeholders

Category	Representative Stakeholders	Role / Interest in the Process
National Institutions	Ministry of Tourism; Ministry of Green Economy and Environment; ZEMA; DNPW; WARMA; Forestry Department; Zambia Tourism Agency	Policy guidance, technical input, and regulatory oversight.
Provincial & District Authorities	Northern Province Administration; Nsumbu and Lunte District Councils	Coordination of local planning and service delivery.
Traditional Authorities	Chiefs Chitoshi and Nsama and their Indunas	Custodians of customary land and cultural heritage.
Local Communities	Residents of Kasaba Bay, Nsumbu, and surrounding villages	Provide local insights, express priorities, and identify risks/opportunities.
Private Sector	Tourism investors, developers, transport operators, utilities	Partners in infrastructure, enterprise, and service provision.
Civil Society & Academia	NGOs, CBOs, research institutions, universities	Technical support, advocacy, and independent oversight.

Engagement methods

To ensure inclusiveness and meaningful participation, the following methods were applied:

- **Key Informant Interviews (KIIs):** With central and local government officials, PIU staff, and traditional leaders to capture policy and technical perspectives.
- **Focus Group Discussions (FGDs):** With women, men, and youth groups to assess livelihoods, access to resources, and vulnerability issues.
- **Community Meetings (Barazas):** Conducted in coordination with traditional leaders to disseminate information and collect broad community feedback.
- **Stakeholder Workshops and Validation Meetings:** At district and provincial levels to review draft findings and validate management measures.
- **Public Disclosure:** Draft reports were shared through public meetings and electronic circulation to solicit additional feedback.

Integration of feedback

Stakeholder inputs were systematically incorporated into:

- the scoping and issue identification matrix;
- the formulation of mitigation and enhancement measures in the ESMMP; and
- the institutional and monitoring frameworks to ensure accountability.

Concerns commonly raised included biodiversity protection, employment creation, cultural preservation, equitable benefit-sharing, and infrastructure improvement, all of which shaped the seven strategic directions and final ESMMP actions.

2. PROJECT DESCRIPTION

The Destination Plan (DP) for Kasaba Bay and surrounding areas forms part of the Growth, Resilience and Enterprise and Tourism Development Project (GREAT-TDP) a multi-sector initiative of the Government of the Republic of Zambia (GRZ) implemented through the Ministry of Tourism (MoT) and the Ministry of Green Economy and Environment (MGEE). The overarching objective of the Destination Plan is to establish Kasaba Bay as a premier, sustainable, and inclusive nature-based tourism destination that balances environmental conservation with social and economic growth within the Nsumbu–Kasaba Bay landscape.

2.1 Specific Project Development Objectives

The Project seeks to:

- ❖ Strengthen the environmental, social, and institutional foundations for sustainable tourism planning and management within the broader Northern Tourism Circuit, anchored on Kasaba Bay
- ❖ Enhance connectivity and access to and within the destination through climate-resilient transport and supporting infrastructure
- ❖ Stimulate private investment and job creation through the development of nature-based enterprises and community tourism ventures
- ❖ Promote biodiversity conservation and ecosystem resilience in line with the Nsumbu–Mweru–Wantipa–Kasaba Bay ecosystem management framework
- ❖ Empower local communities, including women, youth, and vulnerable households to participate equitably in tourism value chains
- ❖ Improve institutional coordination and governance mechanisms for integrated tourism development and environmental stewardship
- ❖ Ensure environmental and social sustainability through the application of Strategic Environmental and Social Assessment (SESA) principles, in compliance with ZEMA, and World Bank Environmental and Social Framework (ESF) requirements.

2.2 Project Development Components

The Destination Plan seeks to balance conservation, infrastructure, and community development. The DP also aims to reverse limited livelihood options through development of nature-based business and niche tourism, supported by renewable energy and community benefit-sharing mechanisms. The seven strategic directions proposed in the Destination Plan (DP) are:

1. Improve access to and within the destination
2. Develop tourism products that attract visitors to the study area
3. Develop nature-based enterprises to expand the economy throughout the study area
4. Upgrade enabling services for the community and visitors
5. Build capacity of local community to support sustainable nature-based enterprises & tourism
6. Gradually expand and refresh destination marketing
7. Support sustainable climate resilient infrastructure and practices

Each of these strategic directions is explained in the following sections.

2.2.1 Strategic direction 1: Improve access to and within the destination

Improved accessibility is the foundation for unlocking the tourism potential of the Kasaba Bay destination. The current transport network within the Nsumbu–Kasaba Bay corridor is poorly connected, with limited all-weather access, deteriorated road infrastructure, and inadequate aviation and lake transport facilities. This component aims to establish a safe, climate-resilient, and environmentally compatible access system to enable visitor mobility, facilitate local trade, and enhance emergency response capacity, while maintaining the ecological integrity of the landscape.

Objectives

- ❖ Enhance year-round physical access to Kasaba Bay and within the destination area through resilient transport infrastructure.
- ❖ Integrate air, water, and road transport modes to support sustainable tourism and logistics.
- ❖ Minimise ecological disturbance and safeguard sensitive habitats during construction and operation.
- ❖ Support inclusive mobility for communities, workers, and visitors.

Table 2: Strategic direction 1 subcomponents and activities

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
1A. Road Infrastructure Improvements	Upgrading and spot-improving access roads from Lunte–Nsama to Kasaba Bay - Stabilisation and drainage works on steep sections prone to erosion. Provision of road furniture (signage, safety barriers).	~103 km of all-weather roads providing reliable year-round access to Kasaba Bay. Improved travel safety and reduced travel times.	RDA / PIU / District Councils
1B. Air Transport Facilities	Rehabilitation of the Kasaba Bay Airstrip. Upgrading runway surface and lighting.	Operational, safe, and compliant airstrip supporting light aircraft and charter flights.	MoT / Zambia Airports Corporation / PIU

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
	Construction of a small passenger terminal and maintenance shed.		
1C. Water Transport Facilities	Construction and rehabilitation of jetties, boat landing stages, and mooring facilities. Design and implementation of lake safety measures and navigation aids. Designation of mooring zones and vessel waste disposal systems.	Safe, environmentally compliant lake transport network. Enhanced connectivity between Kasaba Bay, Nsumbu, and Mpulungu.	PIU / Marine Department / Local Operators
1D. Non-Motorised Mobility and Trails	Design and demarcation of walking, hiking, and cycling trails linking attractions. Development of elevated boardwalks in wetlands. Installation of interpretive signage and rest points.	Network of scenic trails encouraging eco-friendly exploration and health tourism.	PIU / Forestry / DNPW / Communities

2.2.2 Strategic direction 2: Develop tourism products that attract visitors

The second strategic direction of the Destination Plan seeks to develop and diversify tourism products that attract a steady flow of visitors throughout the year while maintaining ecological balance and cultural authenticity. The focus is on low-impact, nature-based and culturally grounded experiences leveraging the pristine landscapes, rich biodiversity, and vibrant heritage of the study area. This component transforms the destination from a largely undeveloped wilderness into a cohesive tourism hub that offers differentiated experiences for multiple visitor segments, ranging from eco-tourists and adventure travellers to cultural enthusiasts and high-value leisure visitors.

Objectives

1. Establish eco-friendly tourism infrastructure and attractions consistent with international sustainability standards
2. Diversify tourism offerings beyond wildlife to include culture, recreation, and conservation-based learning
3. Promote inclusive and community-driven product development, ensuring local ownership and benefit sharing
4. Preserve natural and cultural assets by embedding sustainable design and operational practices
5. Increase the length of stay, visitor satisfaction, and spending in the Kasaba Bay area

Table 3: Strategic direction 2 subcomponents and key activities

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
2A. Development of Eco-Lodges and Accommodation Facilities	Identification of environmentally suitable zones for lodges and campsites. Promotion of small-scale eco-lodges, glamping sites, and community homestays. Preparation of sustainable design guidelines (materials, energy, waste, water). Concessioning of selected tourism sites through transparent PPP frameworks.	Network of 6–8 eco-lodges and boutique accommodation facilities. Eco-design and environmental certification for all facilities. Employment for local builders, artisans, and hospitality workers.	PIU / MoT / ZDA / Private Developers / Councils
2B. Visitor Facilities and Interpretation Infrastructure	Construction of visitor reception centre at Kasaba Bay. Development of interpretive trails, cultural centres, museums, and viewing decks. Installation of signage, information boards, and nature interpretation kiosks.	Functional visitor hub providing orientation and education. Increased awareness of biodiversity and heritage values.	PIU / DNPW / Museums Board / Local Artisans
2C. Cultural and Heritage Tourism Development	Documentation of local cultural assets (traditions, crafts, ceremonies). Development of cultural tourism circuits (performances, crafts markets, traditional cuisine). Promotion of festivals celebrating local identity and history.	Strengthened cultural identity and tourism diversification Increased income for local artisans, performers, and producers.	PIU / Chiefs / Councils / Community Groups
2D. Recreational and Adventure Tourism Infrastructure	- Establishment of non-motorised adventure products (canoeing, hiking, birding, sport fishing zones). Installation of safety infrastructure and activity management plans. Capacity building for local guides and tour operators.	Operational recreational facilities meeting safety and environmental standards. New adventure product packages for Kasaba Bay.	PIU / DNPW / Private Operators / NGOs

2.2.3 Strategic direction 3: Develop nature-based enterprises to expand the local economy

The Kasaba Bay area's economy is currently dominated by small-scale fishing, subsistence agriculture, and informal trade, with limited integration into the formal tourism market. This component seeks to stimulate inclusive, green, and community-driven enterprise development that leverages natural and cultural resources without degrading them. It aims to transform the destination into a hub for sustainable nature-based enterprises where local communities derive direct benefits from ecosystem services, tourism linkages, and conservation-compatible economic activities.

Objectives

1. Expand community participation in the tourism value chain through small and medium-sized enterprises (SMEs)
2. Promote sustainable production systems and resource stewardship in fisheries, forestry, and agroforestry
3. Strengthen local entrepreneurship, market access, and financial literacy
4. Create jobs and income for women, youth, and vulnerable households
5. Reduce pressure on biodiversity through economic diversification and sustainable resource use

Table 4: Strategic direction 3 Subcomponents and key activities

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
3A. Community Tourism and Eco-Enterprise Development	Support formation of community tourism enterprises (crafts, guiding, boat tours, cultural performances). Provide grants and technical assistance for eco-enterprises and cooperatives. Develop market linkages with lodges and tour operators for product supply.	Functioning community-based tourism enterprises. Increased income for local producers and artisans. Strengthened business management skills.	PIU / Councils / NGOs / Private Sector
3B. Sustainable Natural Resource-Based Enterprises	Promotion of community forestry, honey and bee products, herbal processing, and NTFP harvesting. Support sustainable fisheries and aquaculture for local markets and tourism supply chains. Introduce certification for sustainable products.	Diversified income sources linked to conservation outcomes. Certified sustainable fishery and forestry products.	Forestry Dept / Fisheries Dept / PIU / NGOs
3C. Green Skills and Microfinance Support	Provide enterprise and financial management training. Facilitate access to microfinance, savings groups, and credit facilities. Encourage women- and youth-led enterprises.	Local entrepreneurs with improved access to finance. Increased financial inclusion of women and youth.	PIU / Local Banks / NGOs / Women's Cooperatives
3D. Value Addition and Market Development	Develop processing centres for fish, agricultural, and forest products. Promote product packaging, branding, and market linkages (domestic and export). Facilitate cooperative marketing platforms and online visibility.	Improved value chains for local products. Enhanced competitiveness of community enterprises.	PIU / MSME Authority / Private Sector Partners

2.2.4 Strategic direction 4: Upgrade enabling services for the community and visitors

The Tourism Development Area covers Nsumbu and Kasaba Bay in Lunte Constituency, forming part of the broader landscape targeted under the GREAT-TDP. This area faces serious gaps in water supply, sanitation,

solid waste management, energy, healthcare, and telecommunications. These deficiencies constrain tourism investment, lower visitor satisfaction, and pose public health and environmental risks. This component aims to upgrade and expand enabling infrastructure and basic services to meet the needs of both local communities and tourism operators. All systems will adopt climate-resilient and low-carbon designs, contributing to improved living conditions, environmental protection, and overall destination competitiveness.

Objectives

- Provide reliable and safe water supply, sanitation, and solid waste management systems for communities and tourism facilities.
- Expand renewable energy solutions to reduce reliance on fossil fuels.
- Strengthen public health and emergency response systems for both residents and visitors.
- Improve telecommunications and ICT connectivity to support tourism operations and safety.
- Integrate environmental safeguards and promote sustainable resource management in all service upgrades.

Table 5: Strategic direction 4 Subcomponents and key activities

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
4A. Water Supply and Sanitation Systems	Drilling of boreholes and installation of solar-powered water pumps. Construction of elevated storage tanks and community taps. Installation of decentralized wastewater treatment (e.g., biogasifiers, wetlands). Promotion of water-use efficiency and hygiene awareness campaigns.	Improved access to clean water and sanitation for communities and lodges. Reduced waterborne diseases. Lower contamination of surface and groundwater.	WARMA / District Councils / PIU / MoWDSEP
4B. Solid Waste Management (SWM)	Establishment of waste transfer stations, sorting facilities, and collection systems. Training for community waste management committees. Procurement of waste collection vehicles and bins. Pilot recycling and composting schemes for lodges and markets.	Reduced open dumping and littering. Functional waste collection system. Recyclables and organic waste recovery for local use.	District Councils / PIU / Private Operators
4C. Renewable Energy and Electrification	Installation of solar PV mini-grids for lodges, schools, and clinics. Promotion of solar street lighting and energy-efficient appliances. Capacity building for local technicians on system maintenance. Establishment of local energy service companies (ESCOs).	Increased renewable energy access for residents and tourism enterprises. Reduced greenhouse gas emissions. Lower operating costs and improved security.	REA / Zesco Limited / PIU / Private Developers

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
4D. Health and Emergency Response Services	Upgrading local clinics and provision of basic emergency medical equipment. Establishment of first-aid posts at key tourism sites. Training of community-based first responders. Development of emergency evacuation protocols.	Enhanced healthcare access and emergency preparedness. Reduced morbidity and mortality risks for visitors and residents.	MoH / District Health Office / PIU
4E. ICT and Communication Infrastructure	Expansion of mobile network coverage and internet access. Installation of radio communication systems for tourism operations and emergencies. Development of a digital visitor information and booking platform.	Improved connectivity for tourism operators and communities. Enhanced marketing and emergency coordination capacity.	MoT / ZICTA / PIU / Private Providers

2.2.5 Strategic direction 5: Build capacity of local communities to support sustainable nature-based enterprises and tourism

Sustainable destination development requires empowered, skilled, and organised local communities that can effectively engage in and benefit from tourism and conservation. In the Kasaba Bay area, most local residents have limited exposure to tourism operations, business management, or environmental stewardship. This component therefore focuses on capacity building, institutional strengthening, and knowledge transfer to enable inclusive participation in tourism, enterprise development, and natural resource management. It operationalises the principle that people are the foundation of sustainable tourism, fostering ownership, pride, and shared responsibility for environmental protection and destination success.

Objectives

1. Strengthen local knowledge and skills for tourism, hospitality, and enterprise management.
2. Build institutional capacity for community-based organisations (CBOs), cooperatives, and local authorities
3. Enhance environmental stewardship and participatory resource management
4. Promote gender equality, youth inclusion, and social cohesion in the tourism economy
5. Foster a culture of continuous learning and collaboration between communities, government, and the private sector

Table 6: Strategic direction 5: Subcomponents and key activities

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
5A. Tourism and Hospitality Skills Development	Conduct training in hospitality, guiding, customer service, and culinary arts. Facilitate certification and internships with lodges and operators. Support training institutions to align curricula with destination needs.	Trained local guides, chefs, and hospitality staff. Increased employability and professionalism in tourism services.	PIU / TEVETA / MoT / Private Sector
5B. Enterprise and Financial Literacy Training	Deliver business management and bookkeeping courses for community enterprises. Support women and youth in accessing microfinance and cooperative management. Conduct mentorship programs through established entrepreneurs.	Functional community-based enterprises with improved financial performance. Increased local entrepreneurship and self-employment.	PIU / Local Councils / NGOs / MSME Authority
5C. Environmental Education and Stewardship	Implement community awareness campaigns on conservation, waste management, and sustainable harvesting. Support school-based environmental clubs and eco-learning activities. Train local environmental monitors and community scouts.	Strengthened community commitment to conservation and climate adaptation. Reduced unsustainable natural resource use.	DNPW / Forestry Dept / MoGE / PIU / NGOs
5D. Institutional Strengthening and Governance Support	Build capacity of local institutions (CRBs, cooperatives, councils) for governance, planning, and accountability. Facilitate stakeholder forums for participatory decision-making. Develop community charters for benefit-sharing and resource governance.	Transparent, accountable, and inclusive local institutions. Improved collaboration between communities and government.	PIU / Councils / Traditional Leaders / NGOs
5E. Gender, Youth, and Social Inclusion Programmes	Promote women's leadership in tourism cooperatives and CRBs. Introduce gender-sensitive vocational programs. Engage youth in green jobs (guiding, energy services, reforestation).	Increased representation of women and youth in decision-making and employment. Strengthened social cohesion and equity.	PIU / MCDSS / Youth & Gender Ministries / NGOs

2.2.6 Strategic direction 6: Gradually expand and refresh destination marketing

While Kasaba Bay and its surroundings possess extraordinary natural and cultural assets pristine beaches, unique biodiversity, and cultural richness the area remains largely unknown to domestic and international visitors. This component aims to build a distinct, credible, and appealing destination brand through coordinated marketing, strategic partnerships, and digital innovation. The approach prioritises *gradual, sustainable marketing expansion* ensuring that visitor growth aligns with environmental carrying capacity, infrastructure

readiness, and community benefit. In short, the goal is not just to attract tourists, but to attract the right kind of tourists those who value nature, culture, and responsible travel.

Objectives

1. Develop a destination identity and branding strategy for Kasaba Bay as a premier eco-cultural destination
2. Increase visibility of Kasaba Bay in both domestic and regional markets while laying the groundwork for international promotion
3. Promote responsible, low-impact tourism consistent with conservation and community development goals
4. Strengthen public–private partnerships in marketing and visitor servicing
5. Establish digital and data-driven marketing tools to support long-term destination management

Table 7: Strategic direction 6 Subcomponents and key activities

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
6A. Destination Branding and Positioning	Conduct market research to define Kasaba Bay's brand identity and target markets. Develop brand guidelines, logo, tagline, and promotional materials. Integrate Kasaba Bay into the Northern Circuit and GREAT-TDP marketing umbrella.	Distinct Kasaba Bay brand developed and adopted. Increased recognition among domestic and regional markets.	PIU / ZTA / MoT / Private Sector
6B. Marketing and Promotion Campaigns	Roll out phased multimedia campaigns (radio, print, digital, TV). Participate in regional tourism fairs and roadshows. Organise familiarisation trips for media, influencers, and tour operators.	Sustained marketing visibility and positive media coverage. Increased domestic and regional tourist arrivals.	PIU / ZTA / Councils / Private Operators
6C. Digital Platforms and Visitor Information Systems	- Develop a dedicated Kasaba Bay website and social media presence. Integrate GIS-based visitor information and booking systems. Develop a mobile app for itineraries, attractions, and safety alerts.	Enhanced access to real-time visitor information. Improved communication between tourists, operators, and authorities.	PIU / ZICTA / ZTA / ICT Providers
6D. Product Packaging and Partnerships	Facilitate collaboration between tour operators, lodges, and community enterprises. Develop thematic circuits (e.g., "Wild Waters and Heritage Trail"). Bundle services into attractive packages (accommodation, experiences, transport).	Market-ready tourism packages and regional circuits. Stronger linkages between public and private actors.	PIU / Private Sector / Regional Operators
6E. Destination Management and Monitoring	- Establish a Destination Management Organisation (DMO) for Kasaba Bay. Implement a visitor monitoring system (carrying capacity, satisfaction, E&S indicators). Develop annual tourism reports and data dashboards.	Operational DMO ensuring sustainable visitor management. Enhanced data-driven decision-making.	PIU / ZTA / District Councils / NGOs

2.2.7 Strategic direction 7: Support sustainable climate-resilient infrastructure and practices

Kasaba Bay's natural beauty its forests, wetlands, beaches, and wildlife is both its main attraction and its greatest vulnerability. The area is increasingly exposed to climate-related risks, including rising temperatures, erratic rainfall, soil erosion, flooding, and ecosystem degradation. These threats can undermine tourism investments, community livelihoods, and the region's biodiversity. This component aims to mainstream climate resilience and sustainability principles into all aspects of destination planning, design, construction, and operation. It integrates nature-based solutions (NbS), low-emission technologies, and adaptive management systems to ensure that development not only protects but enhances the ecological integrity of Kasaba Bay.

Objectives

1. Build climate-resilient infrastructure that can withstand extreme weather events
2. Integrate low-carbon and renewable technologies in tourism and community services
3. Enhance the adaptive capacity of ecosystems and communities to climate change
4. Promote sustainable land use, reforestation, and watershed protection
5. Establish long-term environmental monitoring and climate-risk management systems

Table 8: Strategic direction 7 Subcomponents and key activities

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
7A. Climate-Resilient Infrastructure Design and Construction	- Develop and enforce green building guidelines for lodges, roads, and public facilities. Integrate flood-resistant designs and drainage systems in infrastructure projects. Use locally sourced, low-impact, and durable materials.	All new infrastructure climate-proofed. Reduced maintenance and disaster recovery costs.	PIU / ZEMA / MoT / Private Sector
7B. Renewable Energy and Low-Carbon Transition	- Expand use of solar PV, biogas, and energy-efficient appliances in lodges and community services. Introduce incentives for private sector adoption of clean energy. Train local technicians in renewable energy installation and maintenance.	Increased share of renewable energy in destination operations. Reduced carbon footprint of tourism activities.	REA / PIU / Zesco Limited / Private Developers
7C. Ecosystem Restoration and Watershed Management	- Rehabilitate degraded forests and wetlands in the Kasaba-Nsumbu landscape. Implement community reforestation and soil conservation programs. Establish buffer zones around rivers, wetlands, and fragile ecosystems.	Improved watershed health and biodiversity. Reduced erosion and siltation in water bodies.	Forestry Dept / WARMA / PIU / NGOs

Subcomponent	Key Activities	Expected Outputs	Lead / Implementing Agency
7D. Sustainable Land Use and Climate-Smart Agriculture	Promote agroforestry, conservation farming, and organic agriculture near tourism zones. Develop guidelines for land-use planning aligned with ecosystem sensitivity maps. Train farmers on climate-resilient practices.	Improved food security and reduced deforestation pressure. Sustainable land-use zoning in the destination.	MoA / PIU / Councils / NGOs
7E. Climate Monitoring and Early Warning Systems	Establish a climate observation and data-sharing system in partnership with ZMD. Install early warning equipment for floods, droughts, and fire risks. Develop community-based disaster preparedness and adaptation plans.	Improved local capacity for climate risk prediction and response. Reduced disaster losses and emergency response time.	ZMD / PIU / DMMU / Councils

Transitional summary: Linkage between destination plan components and the GREAT-TDP Framework

The seven strategic directions of the Destination Plan collectively define a comprehensive and integrated roadmap for transforming the study area into a sustainable, inclusive, and climate-resilient tourism destination. Each component ranging from improved access and nature-based enterprise development to climate adaptation and marketing serves as a building block within a broader framework of responsible tourism growth that is firmly anchored in Zambia's national and regional development priorities.

Together, these strategic directions ensure that:

- ❖ infrastructure development (Components 1 & 4) supports both local communities and tourism operations through climate-smart, environmentally sensitive investments;
- ❖ tourism product diversification and enterprise creation (Components 2 & 3) stimulate inclusive economic growth while protecting the area's ecological and cultural heritage;
- ❖ human capital and institutional strengthening (Component 5) guarantee local ownership, equitable participation, and sustained capacity beyond project implementation; and
- ❖ destination marketing and climate resilience (Components 6 & 7) provide the visibility, competitiveness, and adaptive strength needed for long-term viability and environmental stewardship.

These components are interdependent, reinforcing one another through shared environmental safeguards, social inclusion measures, and performance monitoring systems. Their design aligns seamlessly with the Government of the Republic of Zambia's Green, Resilient and Transformative Tourism Development Project (GREAT-TDP) a national initiative co-financed by the World Bank to catalyse sustainable tourism growth and local livelihood diversification across key destinations. In this context, the Destination Plan functions as a thematic and spatial blueprint for implementing GREAT-TDP interventions in the Northern Tourism

Circuit. The subsequent section (2.3) therefore translates these seven strategic directions into operational project components, subcomponents, and specific activities, consistent with the GREAT-TDP's structure, financing framework, and safeguard policies.

2.3 DP components, subcomponents and activities

The DP is structured around seven integrated components that collectively aim to promote sustainable tourism-led growth, environmental stewardship, and community inclusion within the Northern Circuit. Each component combines policy, infrastructure, and capacity-building interventions to strengthen the region's tourism potential under the Green, Resilient and Transformational Tourism Development Project (GREAT-TDP) framework.

Table 9: Project components & GREAT-TDP Linkages

Component	Description and key activities
Component 1: Strengthening Institutional Capacity for Tourism Planning and Management	Focuses on building capacity of national and local institutions, including the Ministry of Tourism, ZEMA, and Nsama District Council. Activities include training, development of environmental and social management tools, and operationalising the Provincial Environmental and Social Coordination Committee (PESCC).
Component 2: Destination Planning and Investment Framework Development	Supports preparation and implementation of Tourism Destination Plans (TDPs) for priority sites such as Kasaba Bay, Nsumbu, and Tondwa. Activities include spatial planning, investment mapping, carrying-capacity studies, and stakeholder coordination platforms.
Component 3: Sustainable Infrastructure Development	Finances construction and rehabilitation of eco-friendly tourism infrastructure roads, jetties, visitor centres, and utilities designed to climate-resilient and low-carbon standards.
Component 4: Community Livelihood and Enterprise Support	Promotes inclusive local economic development through grants and training for community-based tourism, crafts, aquaculture, and nature-based enterprises targeting women and youth.
Component 5: Biodiversity Conservation and Natural Resource Management	Enhances protection of key ecosystems in Nsumbu National Park, Tondwa GMA, and Lake Tanganyika shoreline through improved surveillance, habitat restoration, and community resource management programs.
Component 6: Environmental and Social Safeguard Implementation and Monitoring	Ensures integration of environmental and social standards in all project activities, guided by the SESA, ESMPs, and the ESMMP. Activities include monitoring, audits, and periodic safeguard performance reviews.
Component 7: Project Coordination, Communication, and Knowledge Management	Provides project management, reporting, and stakeholder communication support through the Project Implementation Unit (PIU). It also facilitates knowledge exchange, awareness campaigns, and results monitoring.

2.4 Project beneficiaries

2.4.1 Direct beneficiaries

Direct beneficiaries are individuals, groups, or institutions who will participate in or receive tangible benefits from the project's investments and capacity-building initiatives.

Table 10: Project direct beneficiaries

Category	Type of Benefit	Indicative Beneficiaries (Kasaba Bay Cluster)
Local Households and Communities	Improved access to clean water, sanitation, renewable energy, and transport. Employment in construction, hospitality, guiding, and maintenance. Increased income from tourism and nature-based enterprises. Skills enhancement through training programmes. Strengthened resilience through adaptation measures.	~6 000 people across Chitoshi, Lunte, and Nsumbu Chiefdoms
Women and Youth Groups	Participation in micro-enterprise grants and vocational training. Access to micro-finance and cooperative membership. Leadership roles in CRBs and tourism associations. Targeted inclusion in marketing, crafts, and agri-supply chains.	≥ 40 % of all direct beneficiaries
Private Sector Operators	New concession and investment opportunities. Improved enabling infrastructure (roads, utilities, ICT). Streamlined licensing and marketing partnerships via DMO. Access to skilled local labour force.	Local SMEs, lodge operators, tour companies, artisans
Government and Public Institutions	Institutional capacity building (MoT, ZTA, ZEMA, WARMA, DNPW, Councils). Equipment, training, and systems for E&S monitoring. Strengthened inter-agency coordination and data management.	~200 public-sector staff trained under GREAT-TDP
Traditional Leaders and CRBs	Participation in land-use planning and benefit-sharing mechanisms. Support for cultural heritage promotion and environmental governance.	Chiefs Chitoshi, Nsumbu & Lunte and their CRBs

2.4.2 Indirect beneficiaries

- Indirect beneficiaries will benefit from improved ecosystem services, market linkages, and regional economic growth generated by the project
- Regional Economy and MSMEs: suppliers of goods, transport, construction, food, and crafts benefiting from the tourism value chain
- Education and Health Institutions: schools and clinics benefiting from solar power, improved water systems, and community revenue allocations

- Visitors and Tourists: enhanced experiences through upgraded facilities, better access, and improved safety.
- Neighbouring Communities (Mporokoso, Kaputa, Nsama): benefiting from knowledge transfer and replication of climate-resilient practices
- Civil Society and NGOs: increased opportunities for partnerships in conservation, livelihoods, and monitoring
- The estimated indirect beneficiary population is approximately 25 000–30 000 people across the wider Northern Tourism Circuit

2.4.3 Cumulative and long-term beneficiaries

- Over the long term, cumulative beneficiaries include the national economy, future generations, and the environment itself
- National Treasury and GRZ: increased tax revenues, foreign exchange earnings, and tourism GDP contribution
- Environmental Systems: improved forest cover, soil stability, and water quality through ecosystem restoration and reduced pressure on resources
- Next Generations: sustained employment, cultural preservation, and climate-resilient livelihoods

2.4.4 Gender and vulnerability focus

The project mainstreams gender and vulnerability considerations across all components by:

- Setting minimum 40 percent female participation in training and enterprise support
- Providing tailored livelihood programmes for youth and women entrepreneurs
- Ensuring universal design in infrastructure to accommodate persons with disabilities
- Establishing a Gender and Social Inclusion Monitoring Framework linked to the SESA indicators

These measures are essential for compliance with World Bank ESS1 (Social Assessment) and ESS10 (Stakeholder Engagement), ensuring equitable benefit distribution and empowerment of marginalised groups.

2.4.5 Environmental beneficiaries

As this is a nature-based tourism project, the following ecosystems are direct beneficiaries:

- Forests and Wetlands: restored through reforestation, watershed management, and buffer-zone protection
- Wildlife: benefiting from habitat conservation, reduced poaching, and improved monitoring
- Water Resources: improved quality from better waste management and erosion control
- Air Quality and Carbon Balance: improved through renewable energy adoption and reduced emissions

These ecological gains translate into long-term economic resilience for both local and national stakeholders.

2.4.6 Summary of beneficiary distribution

Through the integrated implementation of the seven strategic directions and the four GREAT-TDP components, the Destination Plan will directly and indirectly uplift over 30 000 people, empower hundreds of local enterprises, and conserve thousands of hectares of critical ecosystems. This multi-layered beneficiary framework ensures that economic prosperity, social inclusion, and environmental integrity move forward together, delivering a destination that is not only attractive to visitors but transformative for its people and resilient for its future.

Table 11: Summary of beneficiary distribution

Beneficiary Group	Estimated Share of Benefits	Main Benefits	Linked Components
Local Communities & Households	40 %	Jobs, services, enterprises, adaptation	C1–C3
Women and Youth	20 %	Training, micro-finance, leadership	C2 & C5
Private Sector Operators	15 %	Investments, markets, branding	C2 & C6
Public Institutions & Authorities	15 %	Capacity building, systems, data	C4 & C7
Environment & Future Generations	10 %	Ecosystem health, resilience	C7

2.5 Project implementation arrangements and institutional responsibilities

Given that the project cuts across tourism, environment, infrastructure, water, energy, and community development, its success depends on a well-structured governance framework anchored in transparency, accountability, and participatory management. Implementation will therefore operate through a tiered structure comprising the National Level (policy and coordination), Provincial and District Levels (execution and monitoring), and Community Level (participation and ownership).

2.5.1 National level institutions

Ministry of Tourism (MoT) – Lead Implementing Agency

- Provides overall policy oversight, coordination of sector ministries, and supervision of SESA implementation
- Hosts the National Project Implementation Unit (PIU) responsible for technical guidance, procurement, and reporting to the World Bank

Zambia Environmental Management Agency (ZEMA) – Environmental and Social Regulatory Authority

- Reviews and approves the SESA and subsequent ESIAs in line with the Environmental Management Act (2011)
- Monitors compliance with environmental and social safeguards

Provincial Administration (Northern Province) – Provincial Coordination and Oversight

- Chairs the Provincial Environmental and Social Coordination Committee (PESCC)
- Facilitates inter-agency collaboration and links the DP with provincial development plans

Nsama District Council – Local Implementation Entity

- Integrates DP activities into the District Development Plan (DDP)
- Oversees community consultations, local permitting, and grievance management

Community Resource Boards (CRBs) and Traditional Authorities – Community Interface Structures

- Mobilise community participation in tourism and conservation activities
- Participate in revenue-sharing mechanisms and community-based monitoring

Private Sector and Civil Society Partners

- Invest in eco-lodges, guiding, and service facilities
- Support training, environmental education, and sustainable livelihoods

2.5.2 Coordination and reporting

- Day-to-day implementation will be managed by the PIU under MoT, supported by thematic specialists (procurement, finance, environment, social development)
- Quarterly coordination meetings will be convened by the PESCC, integrating feedback from the District Councils and CRBs
- All safeguard performance reports (ESMMP, monitoring, grievance summaries) will feed into the National Project Steering Committee (NPSC) chaired by MoT

This arrangement ensures vertical alignment from community to national level and horizontal coordination among tourism, environment, infrastructure, and social sectors.

2.6 Project environmental and social risk ratings

The SESA conducted under this project identified both the opportunities and the potential risks associated with implementing the DP. Consistent with the World Bank's ESF, the risk rating system categorises each risk as Low, Moderate, Substantial, or High based on the nature, magnitude, and likelihood of impacts. These risk ratings reflect a preliminary screening and will be further refined through site-specific instruments such as ESIA, CHMPs, and GBV Action Plans. The SESMF developed through the SESA will also define thresholds and procedures for reassessing risk levels during implementation. Particular attention will be given to cumulative risks in protected areas and vulnerable community zones.

2.6.1 Overall risk classification

Table 12: Overall risk classification

Risk Dimension	Key Considerations	Proposed Risk Rating
Environmental Risks	Potential localised degradation from infrastructure construction, waste generation, and increased pressure on protected areas.	Substantial
Social Risks	Risks of land-use conflicts, inequitable benefit distribution, and increased gender-based violence (GBV/SEA/SH) due to tourism influx.	Substantial
Labor and Working Conditions	Risks related to occupational health and safety, informal employment, and lack of grievance mechanisms for workers.	Moderate
Biodiversity and Natural Resource Management	Risks of habitat fragmentation and disturbance to wildlife corridors within Nsumbu National Park and GMAs.	High
Community Health and Safety	Risks from communicable diseases, road safety, and wildlife interactions.	Moderate
Institutional Capacity	Limited technical capacity of district authorities to monitor environmental and social performance.	Substantial
Cumulative and Transboundary Impacts	Pressures on Lake Tanganyika's ecosystem, shared with neighbouring countries.	High

2.6.2 Justifications of ratings

- The Substantial Environmental and Social Rating reflects the sensitivity of the study area and the need for robust mitigation and monitoring measures.
- The High Biodiversity Risk stems from potential disturbance to critical habitats and species; mitigation will rely on adherence to protected-area management plans and SESA recommendations.
- The Institutional Capacity Risk underscores the importance of implementing the Capacity-Building Plan (Section 7.4) and maintaining strong oversight by the PESCC and ZEMA.

2.6.3 Risk management approach

- Integrate all mitigation and enhancement measures through the Environmental and Social Management and Monitoring Plan (ESMMP) (see Chapter 7).
- Strengthen coordination between ZEMA, DNPW, and MoT on enforcement and compliance monitoring.
- Implement continuous stakeholder engagement and operate a transparent Grievance Redress Mechanism (GRM) as detailed in Section 7.6.
- Undertake annual risk reviews and adjust mitigation measures as necessary through adaptive management.

2.7 Project justification and alignment with national development priorities

The SESA provides the analytical backbone for the Destination Plan by assessing environmental and social risks associated with proposed tourism investments. It ensures that DP interventions are sustainable, resilient and inclusive by guiding land-use planning, climate-risk management, biodiversity protection, gender and youth integration, and community benefit-sharing. The SESA therefore informs the prioritisation and design of investments included in the DP.

2.7.1 Project justification

The study area is one of Zambia's most underdeveloped yet ecologically and culturally significant tourism landscapes. It hosts pristine biodiversity within Nsumbu National Park, Tondwa GMA, and the Lake Tanganyika shoreline, yet remains constrained by infrastructure deficits, limited private investment, and high poverty levels among surrounding communities.

The project is justified on the following grounds:

Economic diversification and inclusive growth

- The DP supports Zambia's national drive toward economic diversification beyond mining, expanding the tourism sector's contribution to GDP, employment, and rural development.
- It will catalyse private investment in eco-tourism, nature-based enterprises, and value chains that directly benefit local communities.

Environmental protection and sustainable land use

- By integrating conservation with development, the project promotes sustainable use of natural resources and biodiversity protection through improved management of national parks and GMAs.

- The SESA process ensures that environmental and social safeguards are embedded into all phases of planning and implementation, in compliance with the Environmental Management Act (2011) and SEA Regulations (SI No. 48 of 2021).

Poverty reduction and livelihood improvement

- The project will enhance livelihoods through employment opportunities, community-based tourism, and micro-enterprise development.
- Local communities will benefit from improved access to markets, skills training, and benefit-sharing mechanisms linked to tourism revenues.

Resilience and climate change adaptation

- The area is vulnerable to climate-induced hazards such as flooding, shoreline erosion, and deforestation.
- The DP integrates climate-resilient infrastructure design, ecosystem restoration, and sustainable resource management to strengthen adaptive capacity.

Institutional strengthening and governance

- Through the creation of the Provincial Environmental and Social Coordination Committee (PESCC) and capacity-building for local institutions, the project will strengthen governance and improve coordination between national, provincial, and community structures.

2.7.2 Alignment with national development priorities

The project is fully aligned with Zambia’s overarching Vision 2030, which aspires for the country to become “*a prosperous middle-income nation by 2030*”. It contributes directly to the Eighth National Development Plan (8NDP, 2022–2026) priority areas of economic transformation and job creation, environmental sustainability, and human and social development. Specifically, the project advances the following national and sectoral priorities. Additionally, the project aligns with regional and international commitments, including:

- The SADC Protocol on Tourism and the African Union Agenda 2063, which emphasise regional tourism cooperation and sustainable resource management; and
- The UN Sustainable Development Goals (SDGs), particularly SDG 8 (Decent Work and Economic Growth), SDG 13 (Climate Action), and SDG 15 (Life on Land).

2.8 Description of the project area

The study area is located in the far northern part of Zambia along the southwestern shores of Lake Tanganyika, encompassing Nsumbu National Park and adjoining Game Management Areas (Tondwa and Kaputa GMAs) within Nsama, Kaputa, and Mpulungu Districts of the Northern Province. The area is one of the three focal landscapes under the Green, Resilient and Transformational Tourism Development Project (GREAT-TDP) identified as an emerging nature-based tourism destination with high potential for eco-enterprise development and community-based livelihoods.

Physical and environmental setting

The project area is characterised by a diverse topography of sandy beaches, escarpment hills, wooded plateaus, and riparian valleys draining into Lake Tanganyika. Elevations range from approximately 760 m a.s.l. at the lake shore to over 1,200 m a.s.l. inland, supporting miombo woodlands interspersed with riverine and wetland habitats. The region experiences a tropical savanna climate, with a hot-wet season (Nov–Apr), a cool-dry season (May–Jul), and a hot-dry season (Aug–Oct), averaging ~1,200 mm annual rainfall and a mean temperature of ~19.7 °C.

Socio-economic and cultural context

The local economy is predominantly nature-based, anchored on fishing, beekeeping, subsistence agriculture, and mushroom harvesting, with growing interest in sustainable aquaculture and community tourism enterprises. Settlements such as Nsumbu, Kasaba Bay, Kaputa, and Mporokoso act as socio-economic nodes offering limited services and labour for tourism development. The Bemba and Tabwa peoples form the dominant cultural groups, with rich traditions that offer potential for cultural and heritage-based tourism experiences.

Ecological and biodiversity features

Nsumbu National Park and adjacent GMAs host a variety of wildlife including elephants, buffaloes, hippopotamuses, leopards, and numerous bird species, supported by diverse aquatic ecosystems in Lake Tanganyika and surrounding wetlands. These natural assets underpin the area's potential as a biodiversity-based tourism destination and contribute to climate resilience through ecosystem services such as water regulation and carbon storage.

Access and infrastructure

Accessibility remains a key challenge for tourism expansion. The primary road link from Mporokoso to Nsumbu is largely unsealed and seasonally degraded, requiring substantial upgrading. Air access is limited to small charter flights landing on the Kasaba Bay airstrip, which requires rehabilitation. There are ongoing discussions to develop a new domestic airport near Nsumbu, though the Destination Plan advises prioritising road and water transport improvements before major aviation infrastructure. Boat transport on Lake Tanganyika offers potential for improved connectivity to Mpulungu Harbour and regional destinations across the lake.

Zoning within the project area

Consistent with the Destination Plan's site analysis, the project area is divided into three operational focus levels:

Table 13: Project zoning levels

Level	Description	Tourism Potential / Function
Level 1 – Nature Tourism Zone	Nsumbu National Park and coastal strip from Nsumbu to Ndole Bay	Core tourism development area with beaches, wildlife, and existing lodges
Level 2 – Neighbouring Zone	Trunk road corridor Nsumbu–Mporokoso with adjacent villages	Nature-based enterprises, transit services, and support facilities
Level 3 – Surrounding Zone	Southern and eastern hinterlands (Mbala, Mpulungu, Kaputa)	Higher-level infrastructure, logistics, and skilled labour support

Environmental sensitivities and opportunities

The area's ecological sensitivity owing to its protected status and proximity to Lake Tanganyika necessitates low-impact, climate-resilient development models. However, opportunities exist to integrate community-led ecotourism, sustainable fisheries, renewable energy, and circular-economy ventures that align with the Eighth National Development Plan (8NDP) objectives of green growth and rural transformation.

Figure 2: The study area and the three levels of site analysis (sourced from Google Maps and adapted for this Plan)

1. Nature Tourism area
2. Neighbouring area
3. Surrounding area

Adapted from: Zambia Ministry of Tourism 2023, Green, resilient and transformational tourism development project, Project Implementation Manual, (Vol 3)

Figure 3 shows the three districts involved in the study area (Nsama, Kaputa and Mpulungu District and the two Game Management Areas (GMA's) – Kaputa and Tondwa, as well as the Nsumbu National Park and the Tourism Zone within this (shaded beige).

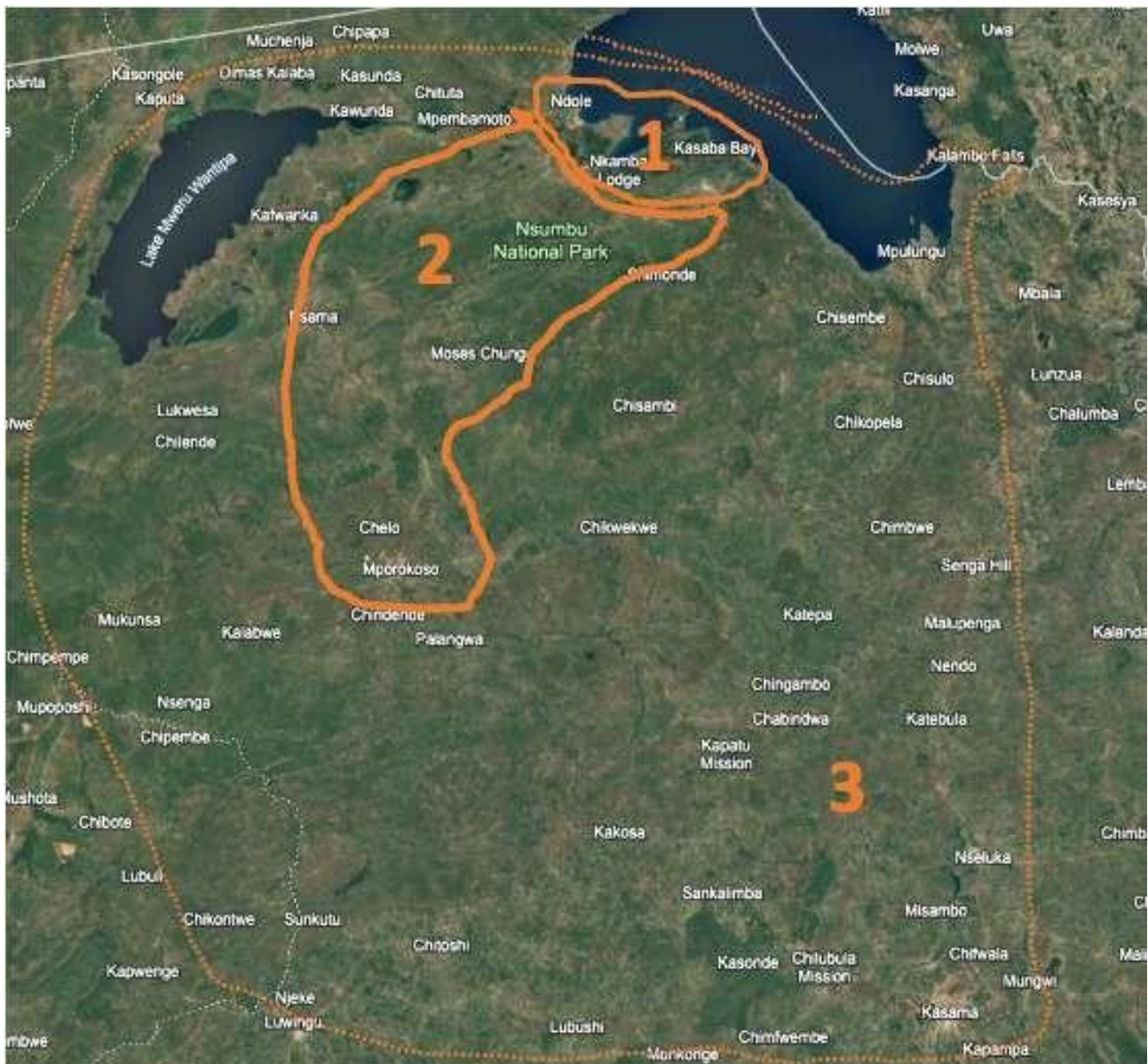
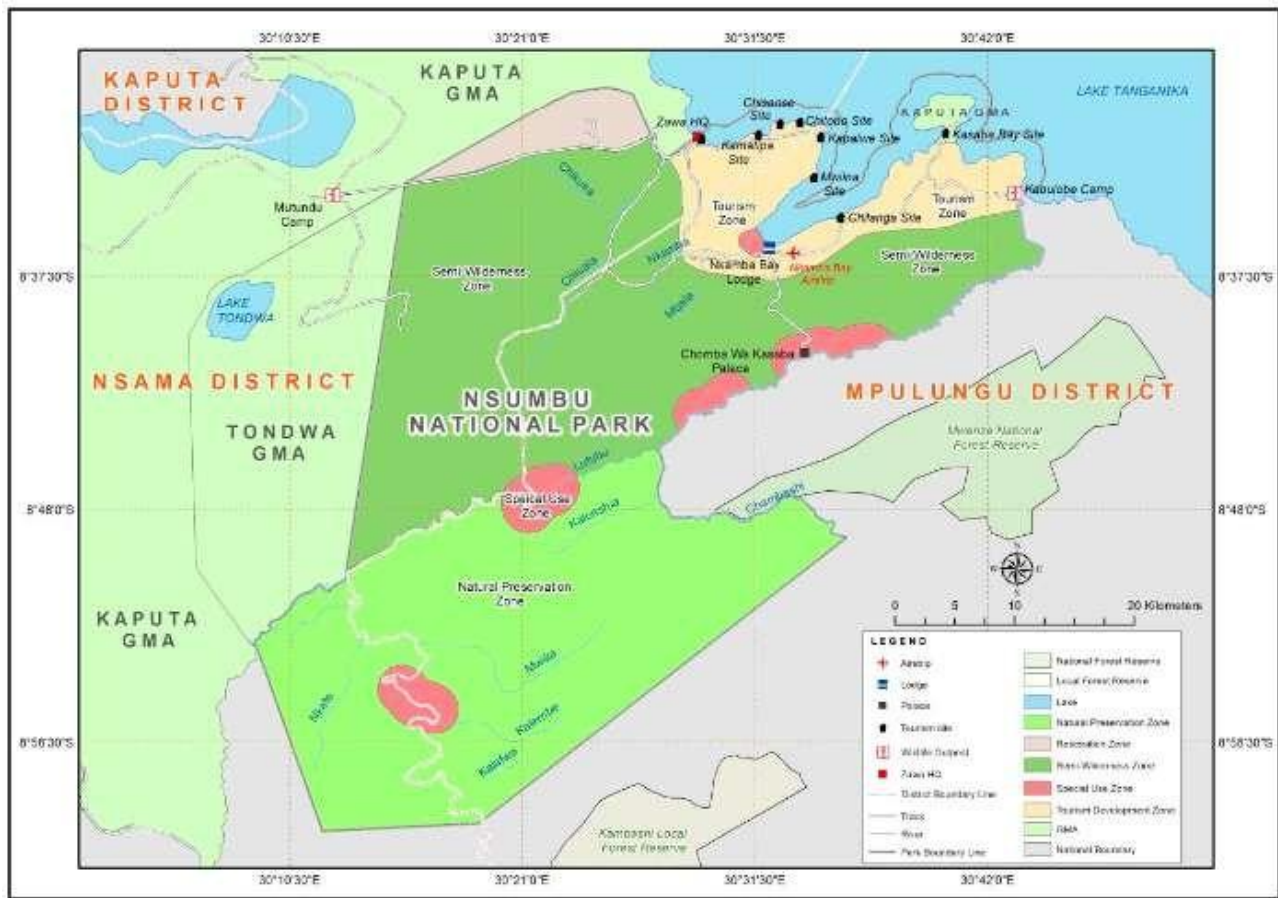


Figure 3: Map showing the three districts and two GMA's involved in the Destination Plan study area (Source: Ministry of Tourism 2023, Project Implementation Manual–Volume 3, Matching Grant Manual)



3. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

3.1 Description of policies, laws, regulations and guidelines on environmental assessment

3.1.1 Policy framework

In Zambia, the policy framework provides the basis for decision-making and action in different sectors and at different levels of governance. National policies are formulated by the Cabinet and constitute a formal policy instrument. A national policy contains government vision, rationale, sector objective and sets of actions required to implement measures aimed at achieving the overall vision. National policies set out broad objectives, thematic areas, and mobilization goals to guide the formulation of other legal instruments and policy objectives. The policy framework in Zambia is designed to ensure coherence, consistency, and alignment between different levels of policy documents. The vision 2030 provides the overarching goals and direction for all other policies, while the National Development Plans, sectoral and thematic policies, and implementation plans provide the necessary detail to achieve those goals.

As per Figure 1, the policy framework in Zambia consists, at the highest level, of the Vision 2030, which represents the long-term vision for the nation. It sets out the overarching goals and aspirations that Zambia aims to achieve by the year 2030. Below the vision 2030, there are sectoral and thematic policies designed for specific sectors and themes providing objectives and measures for the development and growth of each sector. Plans and strategies, such as the Tourism Master Plan (TMP), which serve as medium to long-term roadmaps outlining the government's development agenda and specific actions to be taken for achieving the vision 2030. Overall, the vision 2030 aims to transform Zambia into a prosperous, industrialized, middle-income nation with an improved standard of living for its citizens.

Programmes encompass cross-departmental bringing together various government entities to collaborate on specific initiatives, ensuring a coordinated and efficient approach to national development. Finally, at the implementation level, there are projects that act as tangible actions to implement sectoral policies, plans, strategies, and programmes.

Figure 4: Policy framework in Zambia [Source MoE SEA 2023]



The policy framework in Zambia, with its various components working in harmony, lays the foundation for sustainable development and progress towards achieving the nation's long-term vision.

Through clear policies, strategic plans, and effective implementation, Zambia strives to improve the lives of its citizens and foster socio-economic growth in the years to come. At all stages of policy development, public and stakeholder consultations are emphasized to ensure well-coordinated implementation and various actions are harmonized by all implementers in order to achieve intended results. The Figure 2 shows which aspect of the policy framework is subject to a Strategic Environmental Assessment (SEA).

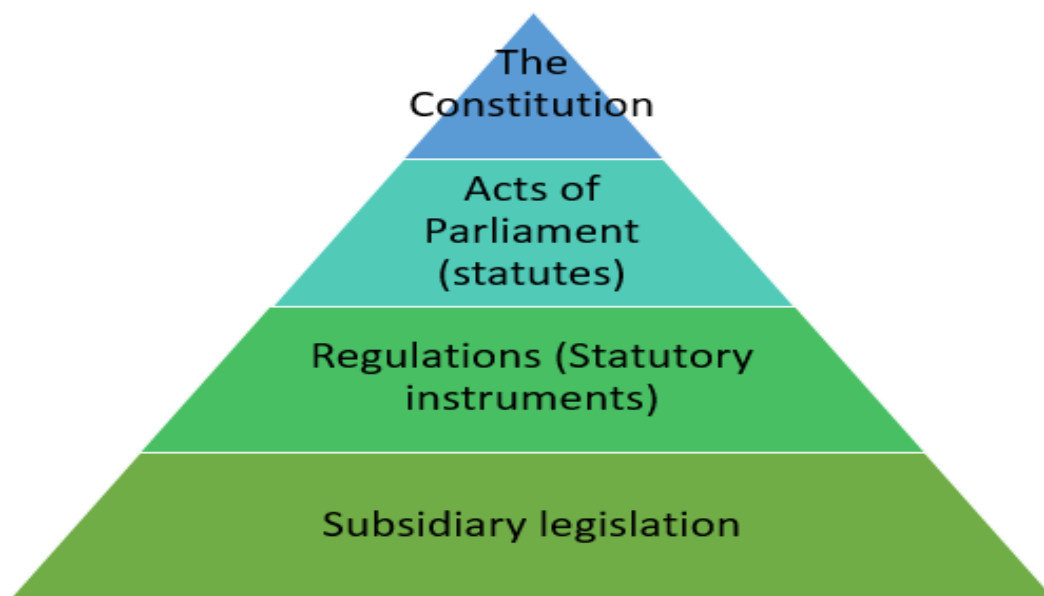
3.1.2 Zambian Constitution

The legal framework in Zambia is shaped by the country's 1991 constitution¹ as amended in 2016 by the constitutional Amendment No 2 of 2016. The constitution further sets out the respective jurisdiction of the public and traditional administration, including law and policy making process, and fundamental principles that govern the relationship between government and the people. The constitution is the highest law of the land and sets out the fundamental rights and duties of citizens, as well as the structure and functions of government. The National Legal framework is also influenced by international treaties and agreements that Zambia has signed and ratified based on instruments of ratification and later domesticated through statutes such as the United Nations Framework Convention on Climate Change (UNFCCC) Paris agreement treaty ratified by Zambia on the 9th of December 2016.

¹ ConstitutionNet. (n.d.). Constitutional history of Zambia. [online] Available at: <https://constitutionnet.org/country/zambia>.

The legal framework in Zambia consists of a system of laws, and judicial bodies that interpret the law and apply them. The legal system is based on English common law and African customary law if they do not contradict the constitution and it further includes both civil and criminal law. The Constitution provides the foundation and framework for all other laws in the country. Underneath the Constitution are other laws, including Acts of Parliament, statutory instruments, and subsidiary legislations.

Figure 5: Hierarchy of law in Zambia [Source MoE SEA 2023]



Acts of Parliament are laws made by the National Assembly and have the force of law. Regulations (statutory instruments) are laws made by the President or another authorised body under the authority of an Act of Parliament. Subsidiary legislation is made by bodies or individuals who have been delegated the power to make laws by an Act of Parliament.

Zambia has implemented various environmental management and governance systems to safeguard and conserve its natural resources. The Environmental Management Act of 2011 serves as the country's primary environmental legislation, establishing the legal framework for environmental management in Zambia. It designates the Zambia Environmental Management Agency (ZEMA) as the principal authority responsible for issuing environmental permits and licenses, conducting environmental assessments, and enforcing compliance with environmental regulations. ZEMA possesses the power to levy fines and penalties for non-compliance.

3.1.3 National Environmental Policy

The National Policy on Environment (NPE) is the principal policy that coordinates environmental management in Zambia. The National Environmental Policy was formulated in May 2005 by the Ministry of Tourism, Environment and Natural Resources. The NPE is designed to create a comprehensive framework for effective natural resource utilization and environmental conservation which will be sensitive to the demands of

sustainable development. The Policy is defined in terms of four basic natural resources of climate, land, water, and biological diversity. The specific objectives of the NPE are to:

- promote the sound protection and management of Zambia's environment and natural resources in their entirety, balancing the needs for social and economic development and environmental integrity to the maximum extent possible, while keeping adverse activities to the minimum;
- manage the environment by linking together the activities, interests, and perspectives of all groups, including the people, nongovernmental organizations (NGOs) and government at both the central and decentralized local levels;
- accelerate environmentally and economically sustainable growth to improve the health, sustainable livelihoods, income and living conditions of the poor majority with greater equity and self-reliance;
- ensure broadly-based environmental awareness and commitment to enforce environmental laws and to the promotion of environmental accountability;
- build individual and institutional capacity to sustain the environment;
- regulate and enforce environmental laws; and
- promote the development of sustainable industrial and commercial processes having full regard for environmental integrity.

3.1.4 National Policy on Climate Change, 2016

The National Policy on Climate Change (NPCC) was developed to provide a framework for coordinated response to climate change issues. It gives guidance on how the Zambian economy can grow in a sustainable manner and thereby fostering a smooth implementation of the National Development Plans including the achievement of the Vision 2030.

Prior to the formulation of the policy, climate change issues were being addressed in a fragmented manner using various sectoral policies, strategies, and plans and these have had limited overall effect.

Premised on the Vision “A prosperous and climate resilient economy by 2030”, the NPCC is thus envisaged to provide a framework that will allow the implementation of existing, and future initiatives and opportunities in a more coordinated manner, while providing a long-term vision to achieve sustainable development.

3.1.5 Wildlife Policy (2015)

Zambia's wildlife resources must be seen in the context of its potential to contribute to the country's socio-economic development and to the contribution Zambia's wildlife makes to the global biodiversity. The country's wildlife policy recognizes that the most effective way to protect rare and endangered species is to conserve entire ecosystems in which the species occur. Zambia is committed to improve human welfare by

using the national's renewable resources in a sustainable manner. This policy aligns closely with the objectives of the SESA in ensuring that tourism development in and around Nsumbu National Park protects biodiversity, promotes ecosystem restoration, and supports co-management with local communities. The SESA integrates these principles through its biodiversity risk assessments and recommended mitigation measures.

3.1.6 Health Policy Forestry Policy (1992)

The Health Reform Policy regarding malaria disease states that its prevention and control will be implemented in line with the principle of health reforms. It will endeavour to implement quality assured, cost effective malaria prevention, and control program that is as close to the family as possible through the principle of equity, partnership, and accountability. The SESA recognizes public health risks associated with tourism development, such as increased population movement, water and sanitation demands, and potential disease transmission. Alignment with this policy has been ensured through inclusion of health infrastructure planning, stakeholder consultations, and impact mitigation for community health and safety.

3.1.7 Forestry Policy (2014)

The mission statement of the forestry sector is to ensure sustainable flow of wood and non-wood forest products and services while at the same time ensuring protection and maintenance of biodiversity for the benefit of the present and future generations. The Policy is based on the following principles:

- i Ensure sustainable forest resources management
- ii Develop capacity of stakeholders in sustainable forest resources management and utilization.
- iii Promote a participatory approach to forest development by developing close partnership among stakeholders
- iv Facilitate private sector involvement in forestry development
- v Promote equitable participation by women, men, and children in forestry development
- vi Adopt an integrated approach, through intra and inter-sectoral coordination in forestry sector development

Forests within and around the Destination Area are critical to ecological resilience, climate regulation, and biodiversity. The SESA incorporates this policy by identifying forested areas, assessing deforestation risks, and recommending conservation-compatible land uses and forest-based livelihood options for local communities.

3.1.8 Decentralization Policy (developed in 2002, launched in 2004)

The National Decentralization Policy (developed in 2002, launched in 2004) aimed at decentralizing government responsibilities and functions to lower levels of government through ‘devolution’. It reaffirms the local authorities as the institutions responsible for water supply and sanitation. The SESA process has been designed to work closely with local councils (e.g., Nsama, Kaputa, Kasama), ensuring local government participation in environmental decision-making. The policy's decentralization principles are reflected in the stakeholder consultation framework and institutional roles outlined in the SESA.

3.1.9 Water Policy (2010)

The National Water Policy is the overarching policy framework for the water and sanitation sector in Zambia. The Policy was developed and adopted by the GRZ in 1994 and subsequently updated in 2010. The National Water Policy envisions “to optimally harnessing water resources for the efficient and sustainable utilization of this natural resource to enhance economic productivity and reduce poverty”. To achieve the national goal of increasing accessibility to reliable safe water by all sectors of the economy the policy addresses two broad categories of water resources management and development. The major outcome of the policy is to improve the management of water resources, institutional coordination and defined roles and responsibilities. The policy encourages the use of water resources in an efficient and equitable manner consistent with the social, economic, and environmental needs of present and future generations. The SESA has applied this policy by assessing water use demand for the proposed developments and recommending sustainable abstraction practices. It emphasizes water quality protection, pollution prevention, and coordination with WARMA for groundwater permitting.

Following the adoption of the National Water Sector Policy in 1994, the government implemented several strategies, including the following four:

1. Strategy and Institutional Framework for the Water and Sanitation Sector (1995): identifies the framework and arrangements for providing water and sanitation services by local authorities
2. Environmental Sanitation Strategy (1998): increases the awareness of sanitation in basic social services and outlines the strategy to provide sanitation services
3. Peri-Urban Water Supply and Sanitation Strategy (2000): targets water supply and sanitation services to urban low-income communities
4. Community Water Supply and Sanitation Strategy (2000): primarily targets rural areas, but also peri-urban areas

3.1.10 National Gender Policy (2022-2030)

From time to time, the GRZ has been making attempts to mainstream gender in the different sectors of the country. In the 1980s, government adopted the Women in Development (WID) approach as a framework to incorporate gender issues into its development activities. For example, there was a WID desk at the then National Commission for Development Planning. In 1996, this approach was changed to the Gender in Development Division (GIDD). In the year 2000, the government launched the National Gender Policy which serves as a gender mainstreaming institutional framework for government ministries. In the year 2006, the government established the Ministry of Women's Affairs which was later changed to the Ministry of Gender and Development to oversee the gender mainstreaming activities in the country.

The National Gender Policy aims to ensure equal benefits and opportunities for men and women from diverse backgrounds in both urban and rural areas, spanning the period from 2022 to 2030. It is expected that all government projects will adhere to the requirements of the National Gender Policy of 2000 particularly in the incorporation of gender issues where at least 30% of labour recruited in any given project must be women. However, there is no Act of Parliament to back the National Gender Policy that has been promulgated, and this is its major weakness as there is no legal recourse for not following its requirements. The SESA promotes gender inclusion throughout the Destination Plan by ensuring women's participation in consultations, gender-disaggregated impact analysis, and integration of gender-responsive strategies in the ESMMP. The policy underpins the SESA's commitment to social equity and inclusive development.

3.1.11 Strategies and plans

3.1.11.1 Realization of the Eighth National Development Plan, 2022-2026

The project will contribute to the realisation of Vision 2030 through directly supporting infrastructural development.

The 8NDP sets out Zambia's strategic direction, development priorities and implementation strategies for the period 2022 to 2026. The Plan is the fourth in the series of five-year national development plans (NDPs) towards actualisation of the National Vision 2030 in which Zambia aspires to become a prosperous middle-income nation.

This integrated development plan whose theme is "Socio-economic Transformation for Improved Livelihoods", responds to the Smart Zambia transformation agenda 2064 and embeds in it the economic recovery necessary for the actualization of a Smart Zambia. This is in support of the UN 2030 Agenda for Sustainable Development and the African Union Agenda 2063.

The plan is focused on the four strategic development areas, namely, Economic Transformation and Job

Creation, Human and Social Development, Environmental Sustainability, and Good Governance Environment. This means that the focus of the country is to attain economic transformation that will be marked by advancements in nonindustrial and economic diversification for sustained growth driven by the agriculture, mining, manufacturing, and tourism sectors. This will entail shifting labour and other resources from low to higher productive activities between and within sectors. Ultimately, this will increase employment opportunities for all Zambians especially for the youth, persons with disabilities (PWDs) and other vulnerable groups.

3.1.11.2 National Conservation Strategy

The National Conservation Strategy (NCS) formulated in 1985 has been the main policy document on the Environment and Natural Resources in Zambia. The NCS was prepared by the Government to manage natural resources and the environment, in the context of a centrally planned and controlled economy. The Strategy's main goal is to: "...satisfy the basic needs of all the people of Zambia, both present and the future generations, through the wise management of natural resources".

The strategy establishes policies and devises plans and to aims at fully integrating conservation into Zambia's social and economic development. It also aims to analyse trends and current issues to better anticipate problems and needs. The main objectives of the NCS are to:

- i. Ensure the sustainable use of Zambia's renewable natural resources such as forests.
- ii. Maintain Zambia's biological diversity; and
- iii. Maintain essential ecological processes and life support systems in Zambia.

The formulation and implementation of the NCS considerably enhanced the conservation of natural resources in Zambia. The NCS triggered the enactment of the Environmental Protection and Pollution Control Act in 1990, which was a regulatory instrument that cuts across sectors; and led to the creation in 1991, of the Environmental Council of Zambia to regulate environmental matters and deal with related issues

3.1.11.3 National Environmental Action Plan

The focus of the National Environmental Action Plan (NEAP) of 1994 is to identify environmental problems and issues, analyse their causes, and recommend necessary interventions. The NEAP was prepared as a comprehensive plan to contain the ever-increasing environmental degradation in Zambia. The preparation of NEAP was because of Government's desire to update the NCS for the following reasons:

- the economy was undergoing a period of liberalization;
- the main NCS recommendations had been implemented;
- the technical information in the NCS needed updating; and
- there was a requirement by World Bank for a NEAP as a prerequisite for IDA loan funding.

The NEAP is founded on three fundamental principles:

- ❖ the right of citizens to a clean and healthy environment;
- ❖ local community and private sector participation in natural resources management; and
- ❖ obligatory EIA is made compulsory for major development projects in all sectors.

The overall objective of the NEAP is to integrate environmental concerns into Zambia's social and economic development planning process.

3.1.11.4 National Biological Diversity Strategy and Action Plan

In May 1993 Zambia ratified the Convention on Biological Diversity and as part of the commitment to fulfil its objectives Zambia developed the National Biological Diversity Strategy and Action Plan (NBSAP), which was finalized in 1998. The five main goals of the NBSAP are to:

1. Ensure the conservation of the full range of Zambia's natural ecosystems through a network of protected areas
2. Conserve the genetic diversity of Zambia's crops and livestock
3. improve the legal and institutional framework and human resources to implement the strategies for conservation, sustainable use, and equitable sharing of benefits from biodiversity management
4. Sustainable management and use of Zambia's biological resources
5. Develop an appropriate legal framework and the needed human resources to minimize the risks of the use of genetically modified organisms

3.1.11.5 National HIV and AIDS Strategic Framework

The National HIV and AIDS Strategic Framework (NASF) 2006-2010 was built on the process of joint annual reviews and a broad consultative process with the cooperating partners. The management intent of the NASF is to:

- support coordinated, prioritized and knowledge-based scale up of the response;
- facilitate broad ownership of the response by all partners and practical partnerships for the implementation of the response;
- represent joint strategic direction of all Partners;
- enable the involvement of key sectors and decentralized levels in all stages of the process; and
- guide resource management at the strategic level.

The six themes of the NASF represent the cooperating partners' priority action areas and include:

1. Intensifying efforts for prevention of HIV
2. Expanding treatment, care and support for people affected by HIV and AIDS
3. Mitigating the socioeconomic impact of HIV and AIDS
4. Strengthening the decentralized response and mainstreaming HIV and AIDS

5. Improving the monitoring of the multi-sectoral response
6. Integrating advocacy and coordination of the multi-sectoral response

3.1.12 Relevant Laws

3.1.12.1 *Environmental Management Act No.12 of 2011*

The Environmental Management Act of 2011 provides the continuous existence of the Environmental Council of Zambia and re-name it as the Zambia Environmental Management Agency. The Act provides for integrated environmental management and the protection and conservation of the environment and the sustainable management and use of natural resources.

The Act provides for the preparation of the State of the Environment Report, environmental management strategies and other plans for environmental management and sustainable development.

- provides for the conduct of strategic environmental assessments of proposed policies, plans and programmes likely to have an impact on environmental management;
- provides for the prevention and control of pollution and environmental degradation; provides for public participation in environmental decision making and access to environmental information;
- establishes the Environment Fund;
- provides for environmental audit and monitoring;
- facilitates the implementation of international environmental agreements and conventions to which Zambia is a party;
- repeals and replaces the Environmental Protection and Pollution Control Act, 1990; and
- provides for matters connected with, or incidental to, the foregoing.

Sections 29 and 30 of Part II of the Act set out the requirements for EIAs and the regulations relating to environmental assessments, respectively. “A person shall not undertake any project that may have an effect on the environment without the written approval of the ZEMA, and except in accordance with any conditions imposed in that approval”. The ZEMA shall not grant an approval in respect of a project if it considers that the implementation of the project would bring about adverse effects or that the mitigation measures may be inadequate to satisfactorily mitigate the adverse effects of the proposed project.

Part IV of the Act makes provision for control of pollution (land, air and water, ozone depletion), the control of general and hazardous waste and the conduct of EIA. The ZEMA has the powers of arrest and prosecution under the Act. Regulations promulgated in terms of the Act include the following:

- i. The Act states that a developer shall not implement a project for which a project brief or an accordance with the Act and the ZEMA has issued a decision letter. The Act also provides for undertaking of an environmental audit of the project.
- ii. The Act prohibits any person from polluting the water by discharging effluent or wastewater. It states that no person may discharge or apply any poisonous, toxic, obnoxious or obstructing matter, radiation or other pollutant or permit any person to dump or discharge such matter or pollutant into the aquatic environment in contravention of water pollution control standards established or prescribed by the Agency.

This Act is central to the SESA process. The Destination Plan was subjected to a screening and scoping process under ZEMA's oversight, in line with this Act. The report was prepared in compliance with its requirements, including public consultation, cumulative impact analysis, and submission for regulatory review.

3.1.12.2 Strategic Environmental Assessment, Statutory Instrument No. 48 of 2021

In Zambia, the conduct of Strategic Environmental Assessments (SEAs) is regulated by the Environmental Management Act of 2011 and the Statutory Instrument No 48 of 2021 on Strategic Environmental Assessment, with ZEMA acting as the primary regulatory body. These regulations establish the legal framework for conducting SEAs in Zambia and outline the roles and responsibilities of various stakeholders involved in the process.

As per the regulations, a SEA must be conducted for any new policy, plan, or program that is expected to have significant environmental impacts. The regulations also specify the required information to be included in an SEA report, as well as the procedures for public consultation and review of the report. It is worth noting that the Environmental Management (Strategic Environmental Assessment) Regulations of 2021 stipulates that proponents who adopt a policy, plan, or program prior to the publication of these regulations, which necessitates a strategic environmental assessment, must notify ZEMA within twenty-four months from the date of the regulations' publication, in accordance with regulation 5.

The 12 Objectives of the SEA conducted in accordance with the Act and regulations are:

1. Prioritize and integrate environmental considerations in decision making, development implementation of a policy, plan or programme
2. Contribute to sound decision making that take s into account environmental sustainability
3. Create an enabling environment for conducting a project impact assessment
4. Establish a mechanism for evaluating the inter linkages of environmental considerations with economic and social aspects relating to policy, plan or programme
5. Strengthen then participatory approaches to enable to public and stakeholders to participate in the preparation of a plan or programme or strategic environmental assessment report
6. Delineate the influence of a policy plan or programme

7. Propose strategic measures to mitigate environmental and enhance opportunities associated with a plan policy or programme
8. Ensure that a policy, plan or programme is compatible with sustainable environmental planning and management
9. Recognize and evaluate trans boundary environmental impacts of multi sectorial development over specified time and broader geographical boundaries
10. Contribute to the establishment of contexts and baseline for future environmental assessments
11. Ensure consistence and coherence in the development and implementation of a policy plan or programme
12. Promote sustainable development

The SEA process is characterized by an iterative approach, involving activities such as the collection of information and data, formulation of alternatives, identification of environmental impacts, development of mitigation measures, and proposals considering potential effects. It is important to emphasize that stakeholder engagement is at the core of this entire SEA process. The implementation of this SEA process involves the following steps, as outlined below.

Phase I: Inception and Screening Phase

- a) Identify the policy, plan, or program for assessment: Determine the specific policy, plan, or program that will undergo assessment and gather relevant information about it
- b) Identify stakeholders and develop an engagement plan: Identify the individuals or groups that may be impacted by the Destination Plan and create a plan to engage them throughout the assessment process

Phase II: SEA Scoping

- c) Define the thematic and geographic scope of the SEA: through stakeholder consultations establish the boundaries of the assessment and outline the desired goals it aims to accomplish
- d) Once ZEMA approves the Scoping Report and Terms of Reference, the next phase will involve the preparation of the Draft SESA Report. This report will consolidate findings from baseline assessments, stakeholder consultations, policy and legal reviews, and risk analysis. Upon completion, the draft report will be submitted to the Project Implementation Unit (PIU) and ZEMA for review and comments. Following the incorporation of feedback, the Final SESA Report will be produced along with an Environmental and Social Management Plan (ESMMP) or Action Plan. These deliverables will guide the environmental and social integration into the Destination Plan and form the basis for continued monitoring and implementation.

Phase III: SEA Phase

- e) Assess the environmental baseline: Evaluate the existing environmental and social conditions in the area where the Destination Plan will be implemented

- f) Identify and assess potential environmental and social impacts: Identify the potential environmental impacts associated with the Destination Plan and assess their significance
- g) Identify and evaluate alternatives: Identify and evaluate alternative options or approaches that may have less environmental impact or greater sustainability
- h) Develop mitigation measures: Create measures to mitigate or minimize any adverse environmental impacts identified during the assessment
- i) Prepare the SEA report: Compile a report summarizing the assessment's findings, including conclusions and recommendations based on stakeholder consultations

Post SEA Report.

- a) Implement the recommendations: Execute the recommendations from the SEA to ensure that the Destination Plan is as environmentally sustainable as possible
- b) Monitor and review: Monitor and review the implementation of the Destination Plan to ensure that it is effectively meeting its environmental objectives

The regulations also encompass SEA guidelines, mandating that SEAs be carried out by qualified environmental assessment practitioners who follow a transparent and participatory process. Regulation 8(1) constitution of the SEA team, states that a proponent shall consult a team for purpose of considering a SEA which that proponent intends to submit to the Agency. Further, regulation 8(2) the Act states that the SEA team shall have the expertise and competence as set out in the third schedule as elaborated below:

1. A person qualifies to be a team leader if that person has;
 - a) Proven experience in preparation or review of SEA reports.
 - b) Professional qualifications and experience in one of the thematic areas that are relevant for SEA.
 - c) Knowledge in SEA process and
 - d) Knowledge and experience in the sector, Policy, Plan or Programme
2. A person qualifies to be a thematic area expert or sector expert if that person has:
 - e) Professional qualification and experience in the thematic areas that are relevant for SEA; and
 - f) Knowledge and experience in the sector policy, Plan or Programme
3. A person qualifies to be a stakeholder engagement expert if that person has experience in stakeholders' engagements.

Additionally, the regulations establish an Environmental Assessment Technical Committee to oversee the SEA process and ensure its compliance with the regulations. The SEA regulations in Zambia aim to ensure that the potential environmental impacts of policies, plans, and programs are identified and considered at an early stage, with appropriate measures taken to mitigate or minimize any adverse effects.

Summary of the Expected Deliverables and Reporting Flow:

Following the approval of the Scoping Report and Terms of Reference by ZEMA, the SESA process will proceed with the development of three core deliverables:

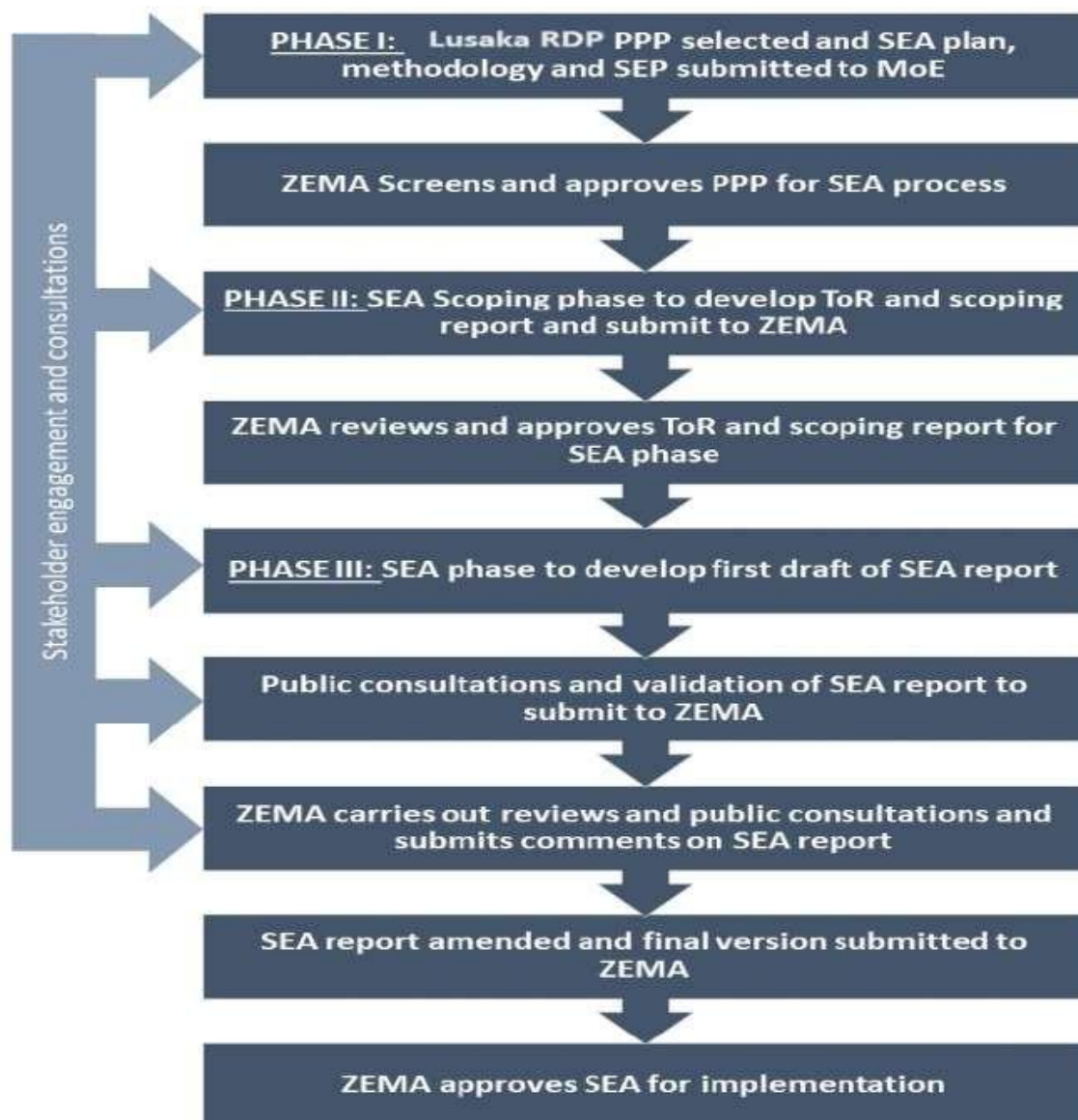
Draft SESA Report – This is the first comprehensive output of the assessment process. It will incorporate baseline findings, stakeholder input, legal/policy reviews, risk identification, and preliminary mitigation measures. The Draft SESA Report corresponds to item **2h** of the Inception Report Work Plan. It will be submitted to ZEMA and the PIU for review and comments.

Final SESA Report – After incorporating feedback from the Draft Report review, a Final SESA Report will be submitted. This version will reflect all technical and stakeholder input and comply fully with ZEMA’s format requirements. The Final Report aligns with item **4q** of the Work Plan.

Environmental and Social Management Plan (ESMMP)/Action Plan – This final deliverable will detail the implementation framework, mitigation actions, institutional responsibilities, and monitoring indicators derived from the SESA. It will guide long-term environmental and social safeguards for the Destination Plan.

All reports will be prepared in full compliance with ZEMA’s required structure for Strategic Environmental Assessments. Timelines and sequencing of these deliverables have been synchronized with the approved contract schedule and quality assurance requirements, ensuring timely and regulatory-compliant completion of the assignment. This alignment between the narrative and Figure 3.1.3 ensures that the documented SEA process corresponds directly with the required reporting and submission flow, meeting both legal requirements and best practice standards.

Figure 6: SESA Process [Source KCI based on UNDP 8 core principles of a Just Energy Transformation]



3.1.12.3 Environmental Impact Assessment Regulations No. 28 of 1997

The Environmental Impact Assessment Regulations, 1997 (Statutory Instrument No. 28) outline the procedures for preparing Environmental and Social Impact Assessments (ESIAs), including requirements for scoping, stakeholder consultation, reporting, approvals, and monitoring. These regulations are issued under the Environmental Protection and Pollution Control Act (EPPCA) and enforced by the Zambia Environmental Management Agency (ZEMA).

3.1.12.4 Water Resources Management Act No. 28 of 2011

The Water Resources Management Act, 2011, establishes the Water Resources Management Authority (WARMA) and defines its functions and powers. It also repeals and replaces the Water Act, 1949.

The ownership of all water is vested in the President. The use, diversion and apportionment of all water shall be made in terms of this Act. Any person may make an application to the Secretary of the WARMA for permission to impound and store or divert water from a public stream for primary, secondary or tertiary use, and the Water Board may grant such application on such terms and conditions as it may think fit provided that any such grant is made with reasonable regard to the primary use of water and any existing rights lawfully granted for any other purpose.

In Part IV (30), the Act ensures that there is consistency of water resources management with environmental and national heritage protection by providing for the protection, conservation and sustenance of the environment; take into account the regulations, standards and guidelines issued by, or under, the Environmental Management Act, 2011, and the Standards Act; ensure that an environmental impact assessment is carried out, where necessary, in accordance with the Environmental Management Act, 2011; ensure the right of access by members of the public to places of leisure, recreation or any natural beauty related to a water resource. In Part V, it provides for pollution control and prevention of water resources, as well as issuance of water rights in part IX .

Under this Act, any person who wilfully or through negligence pollutes or fouls any public water to render it harmful to man, beast, fish or vegetation shall be guilty of an offence and liable to a fine or imprisonment. It also empowers the Water Officers to call upon the person responsible therefore to take adequate measures to prevent such fouling or pollution within a specified period.

3.1.12.5 Environmental Management (Licensing) Regulations (S.I. No. 112 of 2013)

There are several parts in this statutory instrument giving regulatory powers to ZEMA to control the discharge of water pollutants, air emission pollutants, pesticides and other toxic substances, waste (both municipal and hazardous) and ozone depleting substances. The parts of relevance to the project at hand are II and III.

Part II

This part of the SI gives powers to ZEMA to regulate discharge of water pollutants and emission of air pollutants into the atmosphere to safeguard the general health, safety or welfare of persons, animal life, and plant life.

Part III

This part of the SI is meant to regulate the reclamation, reuse, recovery, recycling, transportation, export, collection, and disposal of waste from industrial, commercial, domestic, or community activities. ZEMA regulates these activities through licensing of handlers of waste and operators of disposal sites; the licenses are accompanied by conditions.

3.1.12.6 Public Health Act No. 22 of 1995

The Public Health Act, 1995 (CAP 295) provides the legal basis for the prevention, suppression, and control of diseases, and for maintaining environmental conditions that safeguard public health. It empowers local authorities to take measures necessary for mitigating disease outbreaks, enforcing sanitation standards, and preventing environmental nuisances.

Key provisions relevant to the SESA include:

- **Sanitation and Waste Management** – Requires proper disposal of waste to prevent public health hazards, including those from construction and operational activities.
- **Protection of Water Resources** – Prohibits the pollution of water bodies by individuals or institutions, safeguarding drinking water sources and aquatic ecosystems.
- **Public Health Nuisances** – Empowers local authorities to act against unsanitary conditions, unsafe dwellings, and environmental hazards.

In the context of the **Kasaba Bay SESA**, compliance with the Public Health Act will ensure that project activities incorporate measures to maintain sanitation, prevent water pollution, and protect community health. All solid waste generated during construction will be managed in accordance with the Act's requirements.

3.1.12.7 Public Health (Infected Areas) (Coronavirus Disease 2019) Regulations of 2020

The Public Health (Infected Areas) (Coronavirus Disease 2019) Regulations, 2020 was issued by the Minister of Health on 13 March 2020 pursuant to sections 28, 30 and 114 of the Public Health Act. The Regulation allows the Ministry of Health to convert a suitable building to a hospital, observation camp or station for the purpose of placing a person suffering or suspected to be suffering from, or who has been in contact with a person suffering from COVID-19. The Regulation also permits an authorized officer to enter premises to search for a case of COVID-19 or to enquire whether there is or has been a case of COVID-19. The Regulation also conferred a duty on a person who becomes aware or has reason to suspect that another person has died or is suffering from COVID-19 to immediately inform the nearest authorised officer in a local authority or a public health facility.

3.1.12.8 Mines and Minerals Development Act, No 11 of 2015

This legislation regulates activities relating to mines and minerals development operations including quarrying and provides for regulations for environmental protection during prospecting, processing activities and operation of quarries or mines.

The Act includes parts on mining rights generally; large-scale mining operations; small-scale mining operations; variations of licenses and permits; mining rights and surface rights; artisan mining; royalties and charges; and environmental protection. The Director of Mines and Minerals Development has responsibility for supervising and regulating the provisions of the Act. Under the Act, the Director Mines Safety has been charged with additional responsibility to superintend over the safety, health, and environmental concerns of mining or quarrying.

Under Part VI, section 80, Safety, Health and Environmental Protection, the Act stipulates that the granting of mining rights must consider the need to conserve and protect the environment and that a mining right may be subject to specified conditions relating to the conservation and protection of the environment.

3.1.12.9 Mines and Minerals (Environmental) Regulations, S.I. No. 29 of 1997

The SI provides the framework for conducting and reviewing environmental impact assessment for the mining sector. Further to that, it provides regulations for auditing project implementation. This SI defines the EIA requirements for the mining sector and for managing my dumps. It also contains provisions relating to air quality and emission standards; water standards; the requirements for storage, handling, and processing of hazardous materials; my inspections; and Environmental Protection Fund contributions.

Part II of the regulations set out the requirements for the preparation of an Environmental Project Brief and an Environmental Impact Statement (EIS). The regulations specify the requirement that the EIS be updated once a year and that an audit report on the impact on the environment of any exploration, prospecting, or mining operation be submitted to the Director within 15 months of commencing activities.

In Part IV of the regulations, it is indicated that a developer must comply with the ambient air quality and emission standards in addition to those provided in the Sixth Schedule.

The provisions of the Occupational Health and Safety (OHS) legislation apply to any person employed by the developer who is at risk of contracting any occupational disease because of any emission or pollutants arising from mining operations. Furthermore, a developer is required to provide adequate and effective ventilation in specified circumstances, and to provide water to suppress dust or fumes where effective extraction facilities are not available.

3.1.12.10 Local Government Act No. 2 of 2019

The Act to provides for an integrated three tier local administration system; to define the functions of local authorities; to repeal the Local Administration Act and certain related laws; and to provide for matters connected with or incidental to the foregoing. The Local Government Act allows for the Council to implement environmental protection and natural resources management functions, including prevention of pollution of water supplies.

3.1.12.11 Zambia Wildlife Act No. 15 of 2015

An Act to governing the affairs of the Zambia Wildlife Authority; establish the Department of National Parks and Wildlife in the Ministry responsible for tourism; provide for the establishment, control and management of National Parks, bird and wildlife sanctuaries and for the conservation and enhancement of wildlife ecosystems, biological diversity and objects of aesthetic, pre-historic, historical, geological, archaeological and scientific interest in National Parks; provide for the promotion of opportunities for the equitable and sustainable use of the special qualities of public wildlife estates; provide for the establishment, control and co- management of Community Partnership Parks for the conservation and restoration of ecological structures for non-consumptive forms of recreation and environmental education; provide for the sustainable use of wildlife and the effective management of the wildlife habitat in Game Management Areas; enhance the benefits of Game Management Areas to local communities and wildlife; involve local communities in the management of Game Management Areas; provide for the development and implementation of management plans; provide for the regulation of game ranching; provide for the licensing of hunting and control of the processing, sale, import and export of wild animals and trophies; provide for the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention on Wetlands of International Importance especially as Waterfowl Habitat, the Convention on Biological Diversity, the Lusaka Agreement on Cooperative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora and other international instruments to which Zambia is party; repeal the Zambia Wildlife Act, 1998; and provide for matters connected with, or incidental to, the foregoing.

3.1.12.12 Road Traffic Act No. 11 of 2002

The Road Traffic Act (2002) establishes the Road Transport and Safety Agency (RTSA) and defines its functions which include providing for a system of road safety and traffic management, licensing of drivers and motor vehicles, registration of motor vehicles and trailers, licensing and control of public service vehicles, promotion of road safety, and regulation of road transport between Zambia and other countries with which Zambia has concluded cross-border road transport agreements.

3.1.12.13 Public Roads Act CAP 12 of 2002

The Public Roads Act (CAP 12) of 2002 established the Road Development Agency and defines its functions; to provide for the care, maintenance, and construction of public roads in Zambia.

Section 5 of the Act lists the powers of the Agency which include setting road reserves and drains. Sections 22, 33 and 35 define powers for control of structures, road signs and advertisement in the road reserve respectively. Section 56 regulates the works of utility companies (undertakers) which includes works for buried pipelines and apparatus.

3.1.12.14 Lands Act of 1995 and Land Acquisition Act

The Lands Act, 1995 (Act No. 29 of 1995) was enacted to guarantee citizens' rights to land while promoting sustainable development. It formally recognises customary land tenure and the authority of traditional leaders in land administration. Under the Act, customary land cannot be converted to leasehold or otherwise alienated without the consent of the relevant Chief. The Act also provides for the registration of land rights, issuance of title deeds, and protection of landholders' interests. In the context of the Kasaba Bay SESA, the Lands Act ensures that any land use changes or developments respect customary land rights and involve engagement with traditional authorities.

3.1.12.15 Land Conversion of Titles Act, 1975 (Cap. 289)

The Land (Conversion of Titles) Act, 1975 (Cap. 289) regulates the conversion of freehold tenure to leasehold tenure and governs the alienation, transfer, and change of land ownership in Zambia. It also provides for the compulsory acquisition of land by the President when deemed necessary or expedient in the interest of the Republic. This includes provisions for compensation and procedural safeguards in such acquisitions. For the Kasaba Bay SESA, this Act is important in guiding any land acquisition or title conversion processes required for project implementation, ensuring compliance with national laws and protection of affected parties.

3.1.12.16 Urban and Regional Planning Act No. 3 of 2015

In its Preamble the Urban and Regional Planning Act, provides for the appointment of Planning authorities whose main responsibilities are the preparation, approval, and revocation of development plans. It also provides for the control of development and subdivision of land. The Urban and regional Planning Act provide for development, planning and administration principles, standards and requirements for urban and regional planning processes and systems. It seeks to provide environmental consideration to planning and provides for a framework for administering and managing urban and regional planning for the country at national level. This it does through planning frameworks, guidelines, systems, and processes for urban and regional planning. The Act gives platform for stakeholder (community, Private sector, interested groups and other stakeholders) involvement and participation in the planning, implementation, and operation of human settlement development. This is to enable functional efficiency and socioeconomic integration.

This Act repeals the Town and Country Planning Act, 1962, and the Housing (Statutory and Improvement Areas) Act, 1975; and provide for matters connected with, or incidental to, the foregoing.

3.1.12.17 National Heritage Conservation Commission Act No. 23 of 1989

The National Heritage and Conservation Act of 1989 (CAP 173) is administered by the National Heritage Conservation Commission (NHCC). The Act provides regulatory guidelines for the conservation of ancient, cultural, and natural heritage, relics, and other objects of aesthetic, historical, prehistoric, archaeological, or

scientific interest. The Act is used in concert with several other environmental policies to control the development of land areas, specifically the Town and Country Planning Act, 1962, as amended, which is under the administration of the MLGH to provide for the appointment of planning authorities, to prepare and approve and revoke development plans. The project sites will have to be investigated for any historical, natural, and cultural heritage. According to the Act, if anything is found relating to any heritage during construction, it must be reported to the Commission. The project will, in such a case, give access to the Commission that is empowered by the Act to enter upon and inspect any heritage excavation for the purposes of investigation, preservation, repair, or restoration of any heritage.

3.1.12.18 Forestry Act No. 4 of 2015

An Act to provide for the establishment and declaration of National Forests, Local Forests, joint forest management areas, botanical reserves, private forests and community forests; provide for the participation of local communities, local authorities, traditional institutions, nongovernmental organizations and other stakeholders in sustainable forest management; provide for the conservation and use of forests and trees for the sustainable management of forests ecosystems and biological diversity; establish the Forest Development Fund; provide for the implementation of the United Nations Framework Convention on Climate Change, Convention on International Trade in Endangered Species of Wild Flora and Fauna, the Convention on Wetlands of International Importance, especially as Water Fowl Habitat, the Convention on Biological Diversity, the Convention to Combat Desertification in those Countries experiencing Serious Drought and/or Desertification, particularly in Africa and any other relevant international agreement to which Zambia is a party; repeal and replace the Forests Act, 1999; and provide for matters connected with, or incidental to, the foregoing.

3.1.12.19 Petroleum Act No. 8 of 1995

The Petroleum Act (CAP 435) regulates the importation, conveyance and storage of petroleum and other inflammable oils and liquids. Transport, storage and dispensing of petroleum products must be done according to the regulations of this Act.

3.1.12.20 Explosives Act

The Explosives Act (CAP 115) makes provision for regulatory control over the manufacture, use, possession, storage, importation, exportation, transportation, and destruction of explosives, and for related matters. The Act requires that when being transported in any road vehicle or convoy of road vehicles, explosives shall be in the direct charge of a blasting license holder who shall take all due care of the operation and not be transported during the hours of darkness except with the prior permission of an Inspector of Explosives and under such conditions as he may prescribe.

No person shall use any explosives otherwise than in accordance with these Regulations, or except for the purposes and at the places specified in a permit. The Act also states that no person shall conduct any blasting operation on the surface at any mine, explosives factory or works between the hours of sunset and sunrise except for the purpose of blasting a hang-up at any ore or waste bin, grizzly, or crusher. An Inspector of Mines may, after examination and at his discretion, issue a blasting license, to a person experienced in the use and handling of explosives, and such license may be endorsed by the Inspector with any special restriction as to the purpose, place or period of use, and a copy of every such license shall be retained in the office of the Chief Inspector.

3.1.12.21 Factories Act, No 13 of 1994

The Factories Act (CAP 441) makes further and better provision for the regulation of the conditions of employment in factories and other places as regards the safety, health and welfare of persons employed therein and provides for the safety, examination and inspection of certain plant and machinery. The Act gives powers to an inspector to enter, inspect and examine, by day and night, any factory, when he has reasonable cause to believe that any person is employed therein or that explosive or highly inflammable materials are stored or used. The Act gives general provisions of health which include cleanliness, overcrowding, general ventilation, lighting, and sanitary conveniences. The Act also has general provisions of safety which include unfenced machinery, construction and maintenance of fencing, floors, steps, stairs, passages and gangways, precautions in places where dangerous fumes are liable to be present and precautions with respect to explosive or inflammable dust, gas, vapour or substance. Other items are prevention and fighting of fire and means of escape and warning in case of fire. Provisions for safety of lifting machinery, welfare of workers and demolitions are also included. Suppliers of materials for construction and operation of the project will have to be carried out in accordance with the provisions of this Act.

Under this Act construction sites are regarded as Factories and therefore its operations should meet the requirements of this Act. The act also provides for the examination and inspection of certain plant and machinery to ensure safety.

3.1.12.22 Occupational Health and Safety Act No. 36 of 2010

The Occupational Health and Safety Act, 2010 establishes the Occupational Health and Safety Institute as a body corporate with perpetual succession and defines its composition, powers, and functions. The Act provides for the establishment of health and safety committees at workplaces and aims to provide for the health, safety, and welfare of persons at work and persons who may face risks to health or safety arising from said work, and to establish the duties of manufacturers, importers, and suppliers of items for use at work.

The Act provides for preventing work related injuries, illnesses, and death by issuing and enforcing workplace health and safety standards. Hundreds of OHS safety standards, covering everything from first aid to fire

protection, apply to most federal and private workplaces. OHSa allows employees to question unsafe conditions, request inspections, and file lawsuits to correct unsafe conditions without retaliation.

3.1.12.23 Employment of Children and Young Persons Act

The Employment of Young Persons and Children Act (CAP 274) is the major legal instrument for the protection and regulation of child labour. This Act prohibits the employment of a child under the age of 15 in an industrial undertaking as defined under the Act. The prohibition applies to industrial undertakings that are hazardous or those which may be detrimental to health, safety, and morals. The Act also classifies the ages of eligibility to perform various types of employment and generally provides for regulations governing the conditions of employment such as restrictions relating to work at night and hours of work.

Children are defined as those under the age of 15 and a young person is defined as someone between the ages of 15 and 18. Under the Act, both children and young people are prohibited from working on construction sites.

3.1.12.24 Anti-Human Trafficking Act

The Anti-Human Trafficking Act, 2008, provides for the prohibition, prevention and prosecution of human trafficking, provides for the filing of and dealing with matters related to human trafficking, establishes the committee on Human Trafficking and provides for its powers and functions; establishes centres for victims of human trafficking; establishes the Human Trafficking Fund; domesticates the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime; and provides for matters connected with or incidental to the foregoing.

3.1.12.25 Employment Act Cap 268 and Minimum Wages and Conditions of Employment Act No. 25 of 1982

The Act provides for the employment of persons on contracts of service and for the form of and enforcement of contracts of service, appointment of officers of the Labour Department and for the conferring of powers on such officers and upon medical officers and protection of wages of employees as well control of employment agencies.

3.1.12.26 Energy Regulation Act, Cap 436, 1995

The Energy Regulation Act (CAP 436) allows for the establishment of procedures for the transportation, handling, and storage of fuels to minimize negative environmental impacts.

3.1.12.27 Minerals Regulation Commission Act, 2024

The "Mines and Minerals Act, Cap 32" is Zambia's historical mining law, although newer laws have taken its place. The Mines and Minerals Development Act of 2008 and its successor, the Mines and Minerals

Development Act of 2015, were two important pieces of legislation that updated and amended the previous Mines and Minerals Act (Chapter 213). Zambia's mineral resource management is currently governed by the Minerals Regulation Commission (MRC) Act, 2024, which most recently repealed the Mines and Minerals Development Act, 2015. The MRC Act regulate and monitor the Republic's mineral resource development and management; establish the Mining Appeals Tribunal; repeal and address issues related to or incidental to the aforementioned.

The Act established the Minerals Regulation Commission, a body corporate with perpetual succession and a common seal that has the authority to sue and be sued in its corporate name and the authority to carry out any actions that a body corporate is permitted by law to take.

The Minerals Regulation Commission (MRC) Act, 2024, which substitutes fragmented monitoring with a single, centralised regulator, has drastically changed Zambia's mining exploration licence regulatory process. The Department of National Parks and Wildlife's (DNPW) approval and ZEMA's authorised Environmental Project Brief (EPB) are essential for ensuring environmental compliance and protection, particularly in protected regions.

The process now involves applications submitted to the MRC, which handles the granting, suspension, and revocation of licenses, alongside other crucial functions like auditing environmental performance in collaboration with ZEMA.

3.1.12.28 Workers Compensation Act No. 10 of 1999

Provides for the establishment and administration of a Fund for the compensation of Workers disabled by accidents to, or diseases contracted by, such Workers in the course of their employment, and for the payment of compensation to dependents of workers who die because of such accidents or disease.

3.1.12.29 Chiefs Act (Cap 287) of the Laws of Zambia

This is an Act to make provision for the recognition, appointment and functions of Chiefs and Deputy Chiefs; for the exclusion of former Chiefs and Deputy Chiefs from specified areas in the interests of public order; for the appointment and functions of Kopassus (messengers or chief's retainers); and for matters incidental to or connected with the above mentioned. Zambia's Dual Land Tenure System recognizes the role of Chiefs in the administration of Land. Land in the project areas is predominantly customary land, which falls under the control of traditional authorities. Furthermore, the Act provides for elaborate administrative structures in areas of jurisdiction. This important institution will be key to the successful implementation of the project.

3.1.12.30 Gender Equity and Equality Act No. 22 of 2015

The Gender Equity and Equality Act of 2015 was enacted to promote gender equality and equity and to prohibit gender discrimination in both public and private sectors. It provides for the establishment of the Gender Equity

and Equality Commission and outlines the obligations of state and non-state actors in mainstreaming gender. The Act mandates the incorporation of gender equality principles in all policies, plans, and development programs to ensure equal access to opportunities and resources for both men and women. This Act is relevant to the SESA for Kasaba Bay as it ensures that gender considerations are integrated into tourism planning, employment frameworks, and benefit-sharing mechanisms. Compliance with the Act will ensure that both men and women equally benefit from project interventions.

3.1.12.31 Gender-Based Violence Act No. 1 of 2011

The Gender-Based Violence Act was enacted in 2011 to provide for the protection of victims of gender-based violence and to criminalize all forms of physical, emotional, sexual, and economic abuse. It establishes procedures for reporting, protection orders, and support services for victims. Given that tourism development often leads to social changes, there is a risk of gender-based violence, particularly for women and children in and around the project area. Integrating GBV risk mitigation in the SESA ensures the project contributes to safe and equitable community development. Awareness and sensitization activities will be promoted as part of the ESMMP.

3.1.12.32 Employment Act Cap 268

The Employment Act is the principal law governing labour relations in Zambia. It outlines the minimum standards for employment including contracts, working hours, leave entitlements, termination procedures, and protection of wages. It also covers the rights and obligations of both employers and employees. This Act is important in ensuring that all labour-related aspects of the Destination Plan comply with national law. Employment created during project implementation (e.g., infrastructure development, park services, tourism enterprises) will be required to meet the standards set by the Act, ensuring fair treatment, non-discrimination, and labour rights for workers.

3.1.12.33 The Mines Regulation Commission

The Minerals Regulation Commission Act of 2024 established the Minerals Regulation Commission (MRC), an independent organisation in Zambia that consolidates regulatory control of the mining industry under a single entity. Its primary responsibilities include approving the transfer of mining rights, auditing environmental performance, regulating mineral marketing and value, and awarding and cancelling mining and non-mining rights. Key steps in the new regulatory process include:

1. Application submission to the new Minerals Regulation Commission (MRC): In place of the Ministry of Mines and Mineral Development, the process now starts with an application submitted to the newly formed MRC.
2. Licensing: The MRC can grant, suspend, and cancel exploration and mining rights.
3. Zambia Environmental Management Agency (ZEMA) environmental approval: The application must include an approved Environmental Project Brief (EPB) from ZEMA. Monitoring and enforcing environmental protection measures is ZEMA's responsibility, and the MRC will work with ZEMA to audit environmental performance.
4. Approvals from DNPW: The Department of National Parks and Wildlife's (DNPW) approval is a crucial prerequisite for applications in environmentally sensitive areas, including those found in National Parks. The new rules contain special provisions aimed at preventing mining activity in national parks.
5. Additional requirements: Investors must also submit other required paperwork, including information about the mineral resource and a valid tax clearance certificate.

The following table summarises the key policies, laws and regulations relevant to the Destination Plan and has been repositioned here to align with the legal and policy analysis presented in Section 3.1.

Table 14: Project alignment with National development priorities

National / Sectoral Framework	Relevant Objective or Strategy	Project Alignment
Vision 2030	Achieving sustainable economic growth through tourism and environmental protection	The DP operationalises Vision 2030 by promoting eco-tourism as a driver for green growth and job creation.
Eighth National Development Plan (2022–2026)	Diversify the economy through tourism; improve environmental management and climate resilience	The project strengthens tourism infrastructure, enhances governance of protected areas, and integrates climate-resilient planning.
National Tourism Policy (2020)	Promote inclusive, sustainable, and competitive tourism anchored on natural and cultural assets	The DP directly implements policy provisions on nature-based and community-driven tourism development.
National Policy on Climate Change (2016)	Mainstream climate change adaptation and mitigation in national planning	The DP integrates ecosystem-based adaptation and climate-resilient infrastructure in line with national policy.
National Environmental Policy (2007)	Ensure environmental protection and sustainable resource use	The SESA provides the strategic framework to mainstream environmental safeguards across the DP.
Decentralisation Policy (2013)	Empower local authorities and communities in planning and management	The project strengthens local governance through participatory planning and benefit-sharing frameworks.

3.2 Organisations and institutions relevant to the Destination Plan

The environmental sector in Zambia is subject to oversight from various government regulators, authorities, and agencies. The main national institutions and agencies relevant to this plan are:

1. Zambia Environmental Management Agency (ZEMA)
2. Local Authorities
3. Ministry of Tourism
4. Civil Society Organizations (including WWF)
5. Ministry of Local Government and Rural Development
6. Water Resources Management Agency (WARMA)
7. National Heritage and conservation
8. Ministry of Green Economy
9. Ministry of Energy
10. Ministry of Water and Sanitation
11. Ministry of Transport and Logistics
12. Ministry of Fisheries and Livestock
13. Ministry of Agriculture
14. Ministry of Small and Medium Enterprise
15. Ministry of Infrastructure Housing and Urban Development

Under Stakeholder Engagement, the role of each of these statutory entities is covered, along with an explanation of how relevant they are to this project.

3.2.1 Stakeholder engagement strategy with institutional functions and roles

This Stakeholder Engagement Strategy describes the approach and procedures for including stakeholders in the GREAT-TDP's Nsumbu and Kasaba Bay area during the preparation of the Strategic Environmental and Social Assessment (SESA). The six objectives are to:

1. Ensure meaningful participation of all relevant stakeholders
2. Identify and understand key environmental and social issues, values, and aspirations
3. Gather local and traditional knowledge to inform the SESA
4. Build trust, transparency, and local ownership of the development process
5. Manage expectations and mitigate potential conflicts
6. Fulfill national regulatory requirements and international best practices (e.g. World Bank Environmental and Social Standards)

3.2.1.1 Guiding principles

The engagement for the SESA was guided by the following principles:

- **Inclusivity:** Actively seeking out and facilitating the participation of all stakeholder groups, especially vulnerable and marginalized groups (women, youth, indigenous communities, the elderly, and the poor).
- **Transparency:** Providing clear, accessible, and timely information.
- **Accessibility:** Using appropriate languages (e.g., Bemba, Mambwe) and formats (oral, visual, written) and holding meetings in accessible locations.
- **Two-Way Communication:** Ensuring engagement is a dialogue, not a monologue. We will listen, acknowledge concerns, and provide feedback on how input was used.
- **Cultural Respect:** Acknowledging and respecting traditional governance structures, customs, and knowledge.
- **Gender Sensitivity:** Ensuring women's voices are heard and their specific concerns addressed.

In this SESA Process, Free, Prior, and Informed Consent (FPIC) is essential because it gives local communities and indigenous peoples the ability to agree or disagree with initiatives that impact their rights, lands, and resources. FPIC allows local communities and Indigenous peoples to approve or disagree with projects that affect their rights, lands, and resources. It is therefore crucial to this SESA Process for:

- ❖ disclosure of all available information regarding future development potential, potential impacts, and unknowns;
- ❖ the consultant makes it very evident that local communities are free to decline at any time;
- ❖ the consultant makes it very evident that local communities are free to decline at any time;
- ❖ request Consent for the SESA Process: Clearly ask the communities whether they agree to give consent to the consultant to continue with an in-depth assessment to investigate the area's potential for development in tourism. The feedback of the community will be documented; and
- ❖ establish Continuous Feedback Loops to guarantee that results from technical research are continuously translated and disseminated to the community and wider stakeholders for validation.

3.3.2 Stakeholder analysis

Table 15 presents the key stakeholders identified for the SESA.

Table 15: Stakeholder Group Key Interests & Concerns Influence/Impact Level

Stakeholder		Key Interests & Concerns	Influence / Impact Level
Direct Beneficiaries and Affected Communities			
1.	Community Leaders and community members	Land rights livelihoods (fishing, farming),	High

Stakeholder		Key Interests & Concerns	Influence / Impact Level
		compensation community benefits cultural heritage	
2.	Fishermen & Farmers	access to fishing grounds impact on fish stocks, agricultural land pollution	High
3.	Women's Groups	access to resources (water, firewood) new economic opportunities health safety	High
4.	Youth Groups	Employment opportunities, skills training, recreation.	Medium
5.	Local Business Owners	opportunities for tourism-related services supply chains	Medium
Government Institutions			
1.	Ministry of Tourism & Ministry of Green Economy	policy alignment, tourism development, conservation goals.	High
2.	Minerals Regulation Commission (MRC)	consolidation of regulatory control of the mining industry under a single entity the Department of National Parks and Wildlife's (DNPW) approval and ZEMA's authorised Environmental Project Brief (EPB) are essential for ensuring environmental compliance and protection, particularly in protected areas	High
2.	Department of National Parks & Wildlife (DNPW)	biodiversity conservation park management human-wildlife conflict	High
3.	Nsumbu National Park Management	on-the-ground coordination enforcement	High
4.	Local Authorities (District Council)	local development planning revenue generation service provision	High
5.	Traditional Authorities (Chiefs)	custodians of land and culture community welfare conflict resolution	Very High

Stakeholder		Key Interests & Concerns	Influence / Impact Level
Civil Society & Academia	Local and International NGOs (e.g., WWF, COMACO, FZS)	environmental protection social justice community empowerment	Medium
Private Sector	Existing Tourism Lodges & Operators	competition, market access, environmental standards	Medium
	Potential Investors	regulatory clarity investment opportunities	Medium
Development Partners	World Bank/Financing	institution compliance with safeguards project success, risk management	High

3.3.3 Zambia Environmental Management Agency

The Zambia Environmental Management Agency (ZEMA) is the lead agency on environmental management in Zambia. It is empowered by the Environmental Management Act No. 12 of 2011 to identify projects, plans and policies for which environmental assessment is necessary. The general functions of ZEMA are to ensure the sustainable management of natural resources, the protection of the environment, and the control of pollution, as provided under Article 9(1) of EMA. In view of the scale and the significance of the project, the Ministry of Tourism is required to submit SESA report for the proposed development of the plan to ZEMA, requiring approval from the agency to undertake the proposed Plan. ZEMA is the statutory authority responsible for approving this SESA. All phases of the SESA process including scoping, terms of reference, stakeholder engagement, and reporting have been aligned with ZEMA's regulatory framework. ZEMA will provide review, feedback, and final clearance for the SESA and its associated Environmental and Social Management Plan (ESMMP).

3.3.4 Ministry of Tourism

For the GREAT-TDP -Environmental and Social Management Framework, the Ministry provides for the conservation and enhancement of wildlife eco-systems, biological diversity, and objects of aesthetic, prehistoric, historical, geological, archaeological, cultural heritage, and scientific interest. It also provides for the development of tourism skills, the establishment, control, and management of National Parks, GMAs, bird and wildlife sanctuaries, and the promotion, coordination, and management of tourism. The Ministry will play a crucial role in providing technical direction and project coordination throughout its execution. For the Ministry's numerous departments and statutory authorities to effectively deliver project outcomes, capacity building will be essential. As the implementing agency for the Destination Plan, the Ministry of Tourism has

been engaged in coordinating technical inputs and facilitating alignment between tourism development goals and environmental/social safeguards. The Ministry will play a lead role in ensuring that SESA findings are integrated into the Destination Plan's design, implementation, and monitoring.

3.3.5 Department of National Parks and Wildlife

The department of National Parks and Wildlife is required to prevent poaching and human encroachment in the park and game management regions, enhance park management, and safeguard game management areas. Its main goals are to safeguard wildlife from unauthorized exploitation and to manage and conserve habitats in order to maintain biological variety. Among other things, the department will be crucial in supporting the efficient and sustainable management of Liuwa National Park and Nsumbu National Park under Components 1 and 2 of the GREAT-TDP. Additionally, the department will strive to maintain sustainable biodiversity and consistently enhance community quality of life. Given that the Destination Plan includes areas within and surrounding Nsumbu National Park, DNPW's mandate is directly relevant. The department has been consulted to ensure that biodiversity conservation, buffer zone integrity, and human-wildlife conflict considerations are fully addressed in the SESA.

3.3.6 National Heritage Conservation Commission

The Ministry of Tourism's National Heritage Conservation Commission (NHCC) is responsible for managing, conserving, and safeguarding the natural and cultural heritage, which includes prehistoric, historic, and modern monuments and artifacts. The Commission will lead the GREAT-TDP's efforts to preserve and safeguard the natural and cultural heritage, which is essential for the growth of sustainable tourism, while highlighting the significance of the legacy for coming generations. NHCC has been identified as a key stakeholder in areas with cultural and archaeological significance. Their input ensures that any heritage sites within the project area are identified, preserved, and protected, in accordance with the National Heritage Conservation Commission Act.

3.3.7 Ministry of Finance and National Planning

The Ministry's statutory responsibilities include economic management, resource mobilization, debt management, public finance management, and the creation of the national budget. Effective, accountable, and transparent management of public resources is its responsibility in order to promote sustainable national development. The Ministry is also in charge of coordinating development aid programs, evaluating public investments, and national development planning and visioning. The Ministry will assist in managing and keeping an eye on the project's cash flows under the GREAT-RDP. In general, the Ministry's contribution will be crucial to the project's successful completion. This Ministry has been engaged to ensure that the financial

planning of the Destination Plan aligns with national development strategies. Their role will support the budgeting and integration of SESA recommendations into broader development frameworks.

3.3.8 Local Authorities

Local Authorities (Kasama, Nsama, Kaputa) are recognized under the Urban and Regional Planning Act, in consultation with the approval, planning Authority as a planning authority whose main responsibilities are the preparation, approval and revocation of development plans. Ministry of Tourism recognizes that the plan will operate in the jurisdiction of the mentioned Councils and will observe the by-laws and regulations set up by the local authorities. Planning and building permission will need to be sought from the local authority. These Councils are key to implementing the land-use planning, infrastructure development, waste management, and permitting provisions required to operationalize the SESA recommendations. They are critical partners in ensuring local compliance and in facilitating community consultations.

3.3.9 Water Resources Management Authority

The Water Resources Management Authority (WARMA) was established by the Water Resources Management Act to ensure the management, development, conservation, protection and preservation of the water resource and its ecosystems as well as equitable and sustainable utilization of the water resource. Considering that most of the areas in the plan are not serviced by Chambishi Water Supply and Sanitation Company, the plan shall take advantage of the groundwater potential of the area for supply of industrial and domestic use. Boreholes may be drilled, but in conformity to the Water Resources Management No. 21 of 2011 regarding exploitation of groundwater. Permits will thus need to be sought from WARMA and the company will abide by any condition, limitation, restriction, or prohibition that WARMA may impose for the sustainable utilization of ground water. WARMA's input is essential in regulating groundwater abstraction, water permits, and ecosystem protection related to water use. They will ensure that proposed water-related developments under the Destination Plan are sustainable and compliant.

3.3.10 Ministry of Local Government and Rural Development

The Ministry of Local Government and Rural Development (MLGRD) is tasked with advancing a good and decentralized local governance system and enabling the provision of high-quality municipal services to support long-term socioeconomic growth. The Ministry is in charge of ensuring that the local authorities carry out their assigned duties and obligations. Report No. 1123 of 2021 in the Government Gazette states that the Ministry is in charge of Portfolio functions. This Ministry has been engaged in relation to land tenure systems, waste management, and rural infrastructure. Their coordination is essential for integrating SESA outputs into district-level development plans.

3.3.11 National Heritage Conservation Commission

The National Heritage Conservation Commission (NHCC) is a statutory body under the Ministry of Tourism and Arts entrusted with the conservation of Zambia's natural and cultural heritage. The NHCC is decentralized into four areas of operations that are overseen by the Executive Director and the NHCC Board - the East-Central, South-West, North-West and Northern Regions, with offices in Lusaka, Livingstone, Solwezi and Kasama. Its main responsibilities include:

1. To preserve, protect and manage Zambia's natural and cultural (i.e., the prehistoric, historic, and contemporary monuments and relics) heritage. At present there are over 4,000 such sites recorded and hundreds of thousands of such relics inventoried, all of which are protected. Declaration of some of this heritage as national monuments ensures that they are protected in perpetuity. There are so far over 80 declared monuments, and many more are due for declaration. Listing, recording, and inventorying of this heritage is an on-going activity of the National Heritage Conservation Commission
2. To present Zambia's heritage to the public, this means to develop and provide facilities at national monuments for tourist purposes
3. To encourage and promote the preservation and protection of that heritage so as to create a more likely awareness of the public of the irreplaceable value of their heritage and the grave dangers which threaten it
4. To erect commemorative plaques and standard monuments at certain spots or places of importance in the nation's history, giving information about historic events which occurred at such places
5. To purchase or otherwise acquire any monument or relic if it is in the best national interest for its preservation
6. To assume guardianship of any monument or relic if so, requested by the person owning or controlling such a monument or relic and as trustees for the government to accept any such monument or relic which the owner desires to give or has bequeathed to the government
7. To control the movement and export of heritage objects (relics) and to lend or donate such objects to any museum or public institution for the purpose of displaying to the public and preservation
8. To co-ordinate all activities in connection with monuments and relics in order that monuments and relics are restored and exhibited to the public as tokens of the past and may serve as an inspiration for the future

The plan will ensure that it works together with the NHCC during the implementation to ensure that all national heritage sites are preserved in the working districts of the plan.

3.3.12 Ministry of Green Economy and Environment

The Ministry of Green Economy and Environment is mandated to promote the effective and sustainable use of the environment, while at the same time, facilitating support for adaptation to, and mitigation of the effects of climate change. The ministry has got four key departments that are cardinal to the Destination Plan, and these are Department of Environmental Management, Metrological Department, Green economy and climate and forestry department. The plan will ensure that it incorporates the concerns as well as work hand in hand with these departments in the planning as well as implementation of the plan. The Ministry of Green Economy and Environment's participation ensures that the SESA addresses climate risks and integrates sustainable environmental practices. Its departments have been consulted on forest conservation, green economy transitions, and emissions control strategies.

3.3.13 Ministry of Energy

The electricity industry in Zambia is overseen by the Ministry of Energy (MoE) is responsible for the development and management of energy policies including the NEP 2019 and implementation of various strategies, with the aim to manage energy resources in Zambia in a sustainable manner, aiming to benefit the nation's people.

The institutional arrangements in the energy sector of Zambia involve multiple government ministries and statutory bodies. Coordination among various stakeholders in the energy sector is facilitated through the 8NDP clusters, specifically focusing on Economic Diversification and Job Creation, as well as Reducing Development Inequalities. Additionally, Ad-hoc Inter-Ministerial Committees are formed to tackle specific challenges and emerging issues in the sector.

The Ministry of Energy (MoE) comprises three departments:

1. Department of Energy (DOE): The DOE operates as a technical department within the Ministry of Energy, responsible for formulating and implementing policies, programs, and projects concerning renewable energy, energy efficiency, electricity, and power development
2. Department of Petroleum (DOP): Operating as a technical department within the Ministry of Energy, the DOP takes charge of managing and advancing the petroleum industry within Zambia. The DOP plays a key role in coordinating the development and execution of petroleum programs and projects
3. Office for Promoting Private Power Investment (OPPPI): The OPPPI serves as a dedicated unit within MoE, established specifically to bridge the gap between the government and the private sector. Its primary focus is to promote private sector investment in the electricity subsector by fostering partnerships, encouraging collaboration, and supporting private power initiatives.

Energy planning and access are critical to the success of the DP. The Ministry was consulted to ensure that energy needs for proposed developments align with national sustainability targets and do not conflict with ecological priorities.

3.3.14 Ministry of Water Development and Sanitation

The Ministry of Water Development and Sanitation is responsible for the development and management of water resources, provision of clean water supply and adequate sanitation for all. Water is a finite resource like any other natural resource but critical for sustainable development of the country. The mandate of the Ministry is to provide policy guidance in the water sector. The project formulation of the comprehensive Destination Plan for greater Kasaba Bay will ensure that it works together with the ministry to ensure that all information patterning to policies, plans, and programs within the water and sanitation sector for the project areas are captured and incorporated in the planned program. Its role is vital for informing safe water supply systems and sanitation infrastructure. This SESA has taken into account the Ministry's policies and standards to ensure safe, equitable, and sustainable water services.

3.3.15 Ministry of Transport and Logistics

The Ministry of Transport and Logistics was created in September 2021 following the realignment of the mandate and functions of the Ministry of Transport and Communications. The Ministry draws its mandate from Government Gazette Notice No.1123 of 2021 and is mandated to coordinate the development, policy and regulation of the transport and logistics sector. Specifically, the Ministry is responsible for the following portfolio functions:

Airports, Aerodromes and Airstrips; Aviation Training; Canals and waterways; Civil Aviation and Airways Policy; Control of Government Transport; Flight Services; Government Fleet Management; Government Printing and Gazetting; Pontoons and Mechanical Services; Railways Policy; Road Traffic Policy and Road Transport Policy.

Therefore, the project formulation of the Destination Plan for Kasaba Bay will consult with the ministry and review the plans programs as well as policies that are related to this project being undertaken. Transport infrastructure will be a key enabler of tourism in the Destination Area. The Ministry's input ensures alignment between the transport sector and the SESA's environmental and social safeguards.

3.3.16 Ministry of Livestock and Fisheries

The Ministry of Livestock and Fisheries is responsible for the development and management of fisheries and livestock subsector in Zambia and the following are the specific responsibilities:

- 3.3.16.1 policy and legal development;
- 3.3.16.2 promotion of production and productivity;
- 3.3.16.3 animal health;
- 3.3.16.4 research and development;
- 3.3.16.5 agribusiness and export;
- 3.3.16.6 extension and advisory services;
- 3.3.16.7 vocation, technical; and
- 3.3.16.8 life learning skills development.

Therefore, consultation with the ministry and review the plans programs and policies that are related to this project was undertaken. The Ministry was consulted to evaluate the potential for community-based fisheries and livestock activities and to identify potential impacts on local natural resources.

3.3.17 Ministry of Agriculture

Ministry of Agriculture derives its mandate from the Government Gazette Notice No. 836 of 2016. Accordingly, its portfolio functions are:

1. Agricultural Credit
2. Agricultural Development
3. Agricultural Marketing Policy
4. Agricultural Research and Specialist Services
5. Agricultural Training
6. Agricultural Policy
7. Agriculture Extension Field Services
8. Food Security
9. Irrigation Development
10. Seeds, Standards and Grades

The Ministry is responsible for the following statutory bodies and institutions:

- i. Agriculture Colleges and Training Institutions
- ii. Cotton Board of Zambia
- iii. Food Reserve Agency
- iv. Natural Resources Development College
- v. Nitrogen Chemicals of Zambia
- vi. Seed Control and Certification Institute
- vii. Tobacco Board of Zambia

- viii. Warehouse Licensing Authority
- ix. Zambia Agricultural Research Institute
- x. Coffee Board of Zambia

Therefore, the project formulation of the Destination Plan for Kasaba Bay will consult with the ministry and review the plans programs as well as policies that are related to this project being undertaken. Further, the project will look at agriculture zoning areas within the project implementation areas. The SESA has included agricultural development zones in its planning process. The Ministry has been engaged to ensure compatibility of proposed tourism and conservation land uses with local agricultural activities.

3.3.18 Ministry of Small and Medium Enterprise Development

Ministry of Small and Medium Enterprise Development was created in September 2021 to promote the Development and Growth of Cooperatives, Small and Medium Enterprises to create jobs and wealth across the country. The formulation of the comprehensive Destination Plan for Kasaba Bay will ensure that it will consult the ministry regarding the planned programs within the project areas with regards to job creation and promotion of growth of cooperatives as well as small and medium enterprises in fostering economic growth and how best they can be incorporated in the development plans of the project. Its involvement ensures that SESA recommendations support inclusive economic growth by facilitating local enterprise participation, particularly for women and youth, in tourism value chains.

3.3.19 Ministry of Infrastructure, Housing and Urban Development

The Ministry of Infrastructure, Housing and Urban Development was created in September 2021 following the pronouncement to re-organize Government by the Republican President during the Official Opening of the 13th Session of Parliament. The Ministry is responsible for Infrastructure development and maintenance, including Housing and Urban Development. It is also responsible for public asset management, valuation, and insurance of Government property.

The portfolio functions for the Ministry are as follows:

- i. Architecture
- ii. Building and Construction Industry Policy
- iii. Government Housing Policy
- iv. Insurance of Government Property
- v. Maintenance Policy
- vi. National Housing Policy
- vii. Office Accommodation and Maintenance Services

- viii. Public Asset Management Policy
- ix. Public Infrastructure Development
- x. Quantity Survey
- xi. Urban Development Policy
- xii. Valuation of Government Property

Therefore, the consultation with the ministry and review of plans, programs and policies related to this project were undertaken. Further, the project engaged the ministry public infrastructure development as well as valuation of properties when it comes to resettlement action plan. This Ministry has been involved in assessing the implications of new infrastructure in the area. It will support the planning, approval, and monitoring of infrastructure projects to ensure they meet social and environmental standards.

Table 16: Summary of the involved institution with their functions and roles

Institution / Ministry	Core Functions / Mandate	Role in Destination Plan & SESA
Zambia Environmental Management Agency (ZEMA)	Environmental regulation, assessments, pollution control	Lead regulator for SESA approval, oversight, compliance monitoring
Local Authorities (Kasama, Nsama, Kaputa)	Land-use planning, infrastructure, waste management	Enforce by-laws; permit processes; community consultations
Ministry of Tourism	Wildlife & cultural heritage conservation, tourism development	Implementing agency; integrates SESA into tourism planning & coordination
Civil Society Organizations (WWF)	Environmental advocacy, biodiversity conservation	Provide stakeholder input, technical support, and public awareness
Ministry of Local Government and Rural Development	Decentralized governance, municipal service provision	Coordinate district integration of SESA outcomes
Water Resources Management Authority (WARMA)	Water resource conservation, permits, pollution control	Regulate groundwater use & ecosystem protection
National Heritage Conservation Commission (NHCC)	Cultural/natural heritage protection	Safeguard heritage sites; ensure tourism respects cultural assets
Ministry of Green Economy and Environment	Climate change adaptation, environmental sustainability	Address climate risks; promote green economy practices
Ministry of Energy	Energy policy & development	Align energy planning with project needs and sustainability goals
Ministry of Water Development and Sanitation	Water supply and sanitation policy	Inform water & sanitation infrastructure development
Ministry of Transport and Logistics	Transport sector policy & regulation	Align transport infrastructure with tourism & environmental safeguards
Ministry of Fisheries and Livestock	Fisheries and livestock development	Assess impacts on fisheries/livestock; promote sustainable practices
Ministry of Agriculture	Agricultural policy, extension, food security	Ensure compatibility with agricultural zones and activities
Ministry of Small and Medium Enterprise Development	SME growth, job creation	Support inclusive economic growth through local enterprise participation

Institution / Ministry	Core Functions / Mandate	Role in Destination Plan & SESA
Ministry of Infrastructure, Housing and Urban Development	Infrastructure development and maintenance	Guide infrastructure planning and resettlement actions
Department of National Parks and Wildlife (DNPW)	Manage parks & GMAs, biodiversity conservation	Manage protected areas within project; support biodiversity & conflict management
Ministry of Finance and National Planning	Economic management, budgeting, public finance	Aligns financial planning with SESA recommendations
Minerals Regulation Commission (MRC)	Approving the transfer of mining rights, auditing environmental performance, regulating mineral marketing and value, and awarding and cancelling mining and non-mining right	To ensure environmental compliance and restricted area protection, MRC regulatory control of the mining industry, especially in protected areas like national parks, will need the Department of National Parks and Wildlife's (DNPW) approval and ZEMA's authorised Environmental Project Brief (EPB).

3.4 International environmental and social requirements

Zambia is a signatory to over 39 international environmental and social agreements. The most relevant to the Destination Plan and its Strategic Environmental and Social Assessment (SESA) are outlined below.

- **Convention Concerning the Protection of the World Cultural and Natural Heritage (1972)** – Ratified by Zambia in 1982.
 - Objective: To identify, protect, conserve, and transmit to future generations cultural and natural heritage of outstanding universal value.
 - Relevance to SESA: Guides the protection of cultural and natural heritage sites in the Kasaba Bay area, ensuring tourism development does not compromise these resources.
- **United Nations Framework Convention on Climate Change (UNFCCC) (1992)** – Ratified by Zambia in 1993.
 - Objective: To stabilize greenhouse gas concentrations in the atmosphere and prevent dangerous anthropogenic interference with the climate system.
 - Relevance to SESA: Supports integration of climate change adaptation and mitigation measures, including in transport and energy planning for the Destination Plan.
- **Statutes of the International Union for the Conservation of Nature (IUCN)** – Zambia is a member.

- Objective: To influence, encourage, and assist societies in conserving the integrity and diversity of nature and ensuring equitable and sustainable resource use.
 - Relevance to SESA: Provides access to global conservation expertise, supporting biodiversity conservation and sustainable resource management in the project area.
- **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973)**
– Ratified by Zambia in 1981.
 - Objective: **To ensure that international trade in specimens of wild animals and plants does not threaten their survival.**
 - Relevance to SESA: **Ensures that tourism activities and associated trade do not impact endangered species found in and around Nsumbu National Park.**
- **Convention on Biological Diversity (CBD) (1992)** – Ratified by Zambia in 1993.
 - Objective: To conserve biological diversity, promote sustainable use of its components, and ensure fair and equitable sharing of benefits arising from genetic resources.
 - Relevance to SESA: Guides biodiversity protection, habitat restoration, and integration of ecosystem services into the Destination Plan.
- **Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention) (1971)** – Ratified by Zambia in 1991.
 - Objective: To conserve and wisely use wetlands through local, regional, and national actions and international cooperation.
 - Relevance to SESA: Relevant to wetland areas near Kasaba Bay, ensuring sustainable tourism development does not degrade critical habitats.
- **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989)** – Ratified by Zambia in 1994.
 - Objective: To reduce hazardous waste generation, restrict transboundary waste movement, and ensure environmentally sound disposal.
 - Relevance to SESA: Guides waste management during construction and operation phases to prevent pollution from hazardous materials.
- **African Convention on the Conservation of Nature and Natural Resources (Revised, Maputo 2003)** – Ratified by Zambia in 2014.

- Objective: To promote the sustainable use of natural resources and harmonize conservation measures across Africa.
 - Relevance to SESA: Reinforces sustainable natural resource management, ecosystem protection, and community participation principles central to the Destination Plan.
- **African Charter on Human and Peoples' Rights (Banjul Charter, 1981)** – Ratified by Zambia in 1984.
 - Objective: To promote and protect human and peoples' rights, including the right to a satisfactory environment conducive to development.
 - Relevance to SESA: Provides a human rights framework for community engagement, benefit sharing, and protection of livelihoods in the Kasaba Bay area.

3.5 World Bank Environmental and Social Framework

In order to help borrowers operate in accordance with best international practices in the management of environmental and social risks and impacts, the World Bank has developed ten Environmental and Social Standards as well as a Bank Policy that outline the Bank's commitment to sustainable development. The following section explains all of the WB's E&S standards along with an explanation of their applicability to the Project.

This SESA is prepared in accordance with World Bank Environmental and Social Framework and there are 10 Environmental and Social Standards (ESS) of which 8 are relevant to the project. In order to minimize harm to people and their environment during the construction and operation of the supported activities, the 10 World Bank's ESS aim to mitigate or compensate for any impact caused by the project. The ESS outlines the process for resolving social and environmental issues that arise throughout the planning, execution, and management of the project. It also mandates measures such as public consultation with impacted groups, the disclosure of the ESMMP and ESIA, and monitoring reports.

3.5.1 World Bank Environmental and Social Standards

The proposed project will have to comply with WB Standards. Projects supported by the Bank through Investment Project Financing are required to meet the following Environmental and Social Standards. Table 17 shows all the E&S standards as stipulated by the WB and indicates their applicability to the proposed Destination Plan.

Table 17: Summary of environmental and social standards

Environmental and Social Standard (ESS)	Description of the Standard	Relevant (Y – Yes; N – No)
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	This establishes the importance of integrated assessment to identify the social and environmental impacts, risks, and opportunities in the project's area of influence. This standard requires that social and environmental assessment and management systems are in place for managing social and environmental performance throughout the project life cycle. Its main elements include: i) social and environmental assessment; ii) management program; iii) organizational capacity; iv) training; v) community engagement; vi) monitoring; and vii) reporting.	Y
ESS 2: Labour and Working Conditions	It requires that the worker-management relationship is established and maintained, compliance with national labour and employment laws and safe and healthy working conditions are ensured for the workers. This standard is very important as the project will employ workers to execute the project.	Y
ESS 3: Resource Efficiency and Pollution Prevention and Management	This gives an approach to pollution prevention and abatement in line with Internationally accepted technologies and practices with objectives to a) avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from activities; and b) promote the reduction of emissions that contribute to climate change. Under this standard, a project is required to avoid, minimize, or reduce adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. This standard is relevant in that there is a possibility of pollution into the water resources as well as air quality	Y
ESS 4: Community Health and Safety	It outlines the responsibility to be undertaken by the client to avoid or minimize the risks and impacts to the community's health, safety and security that may arise from project activities. The project activities for the road rehabilitation project are likely to cause health and security risks if not managed properly.	Y
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	This standard requires that project does not result in involuntary resettlement or at least if unavoidable it is minimized by exploring alternative project designs. It also requires that the project ensures that social and economic impacts from land acquisition or restrictions on affected persons' use of land are mitigated. The road rehabilitation project will involve the acquisition of land	Y
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	This standard aims to protect and conserve biodiversity, the variety of life in all its forms, including genera, species and ecosystem diversity and its ability to change and evolve, which is fundamental to sustainable development. The road rehabilitation project will try to avoid or mitigate threats to biodiversity arising from project activities and where this cannot be avoided relevant mitigation measures will be in place.	Y
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	It recognizes the possibility of vulnerability of indigenous people owing to their culture, beliefs, institutions and living standards and that it may further get compromised by one or other project activity throughout the life cycle of the project. This standard underlines the requirement of minimizing adverse impacts on indigenous people in the project area, respecting the local culture and customs, fostering good relationship and ensuring that development benefits are provided to improve their standard of living and livelihoods. The country does not have undeserved traditional local communities, and as such the application of this standard is limited.	N
ESS 8: Cultural Heritage	It aims to protect the irreplaceable cultural heritage and to guide project proponents on protecting cultural heritage in the course of project operations. In cases where the project finds items of cultural importance, notification procedures will have to be followed to ensure protection of cultural heritage of the area and the country.	Y

Environmental and Social Standard (ESS)	Description of the Standard	Relevant (Y – Yes; N – No)
ESS 9: Financial Intermediaries (FIs)	This ESS identifies that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction. FIs are required to monitor and manage the environmental and social risks and impacts of their portfolio and FIs subprojects. They also develop and maintain, in the form of an Environmental and Social Management System (ESMS), effective environmental and social systems, procedures and capacity for assessing, managing, and monitoring risks and impacts of subprojects, as well as managing overall portfolio risk in a responsible manner. There are no FIs identified for this project, therefore its relevance is limited	N
ESS 10: Stakeholder Engagement and Information Disclosure	This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. The proposed road rehabilitation project will require extensive stakeholder engagement because its success will depend on how it is received by the communities. In addition, its design will have to be informed by the involvement of the affected communities and other stakeholders.	Y

3.6 Alignment between World Bank Environmental and Social Standards (ESS) and Zambian Legal Framework

The World Bank Environmental and Social Standards (ESS) provide an international benchmark for managing environmental and social risks in development projects. The Destination Plan will be implemented in compliance with both the World Bank ESS and Zambia's legal framework.

In most areas, the ESS closely align with Zambian laws and regulations. ESS1 on the assessment and management of environmental and social risks and impacts is reflected in the Environmental Management Act of 2011 and the Strategic Environmental Assessment Regulations of 2021, which require environmental and social assessment, stakeholder engagement, and mitigation planning. ESS2 on labour and working conditions corresponds to the Employment Act, the Occupational Health and Safety Act, and the Factories Act, which establish minimum labour standards, health and safety requirements, and worker protections. ESS3 on resource efficiency and pollution prevention and management is supported by the Environmental Management (Licensing) Regulations of 2013 and the Public Health Act, which control pollution, waste management, and sanitation.

ESS4 on community health and safety aligns with the Public Health Act and relevant safety regulations, ensuring safe project operations and emergency preparedness. ESS5 on land acquisition, restrictions on land use, and involuntary resettlement is addressed under the Lands Act, the Land (Conversion of Titles) Act, and

the Urban and Regional Planning Act, which govern land tenure, acquisition, and compensation. ESS6 on biodiversity conservation and the sustainable management of living natural resources is implemented through the Zambia Wildlife Act, the Forestry Act, and the Fisheries Act, which mandate biodiversity conservation, species protection, and sustainable resource use. ESS8 on cultural heritage is fully supported by the National Heritage Conservation Commission Act, which safeguards archaeological, cultural, and historical sites.

In cases where the requirements of the ESS go beyond those in local legislation, such as in gender-based violence prevention under ESS4, stakeholder engagement under ESS10, and grievance redress mechanisms, the project will apply the higher World Bank standards. This approach ensures that international best practices are followed, community interests are safeguarded, and compliance risks are reduced.

3.7 WorldBank Group General Environmental, Health and Safety Guidelines

Most international financial institutions and banks have introduced regulations and guidelines, which compel project proponents to undertake an Environmental Impact Assessment. Notable among these are the World Bank and ADB. These guidelines have elaborate procedures for screening, public participation, reviews, resettlement and compensation and monitoring audits. The World Bank's Environmental and Social Framework makes reference to the Environmental, Health, and Safety (EHS) Guidelines, which are technical reference publications that provide examples of Good International Industry Practice (GIIP) that are both industry- and general-specific. Borrowers/Clients are required by the World Bank Group to implement the applicable levels or measures of the EHS Guidelines. Projects must comply with whichever host country rule is stricter when it comes to the standards and measures outlined in the EHS Guidelines. The General EHS Guidelines provide guidance on and are organized according to the following topics: Environmental, Occupational Health and Safety, Community Health and Safety, Construction and Decommissioning.

3.8 Industry Sector Guidelines

3.8.1 Environmental, Health and Safety Guidelines for Toll Roads

The EHS Guidelines for Toll Roads include information relevant to construction, operation and maintenance of large, sealed road projects including associated bridges and overpasses. Issues associated with the construction and operation of maintenance facilities are addressed in the General EHS Guidelines. Issues associated with sourcing of construction materials are presented in the EHS Guidelines for Construction Materials Extraction, while those related to vehicle service areas are included in the EHS Guidelines for Retail Petroleum.

3.8.2 Environmental, Health and Safety Guidelines for Water and Sanitation

The EHS Guidelines for Water and Sanitation include information relevant to the operation and maintenance of (i) potable water treatment and distribution systems, and (ii) collection of sewage in centralized systems (such as piped sewer collection networks) or decentralized systems (such as septic tanks subsequently serviced by pump trucks) and treatment of collected sewage at centralized facilities.

3.8.3 Environmental, Health and Safety Guidelines for Tourism and Hospitality Development

The EHS Guidelines for tourist and Hospitality Development include information about tourist and hospitality establishments, such as resorts, ecolodges, business and city hotels, and other lodging and catering establishments. Cruise ships and other ocean-going activities are not covered by this agreement, nor is the tourism travel industry.

3.8.4 Environmental, Health and Safety Guidelines for Thermal Plants

Regardless of the fuel type (solid waste is covered under a separate Guideline for Waste Management Facilities), the EHS Guidelines contain information pertinent to combustion processes fueled by gaseous, liquid, and solid fossil fuels as well as biomass and designed to deliver heat, steam, electrical or mechanical power, or any combination of these. These processes must have a total rated heat input capacity above 50 Megawatt thermal input (MWth) on a Higher Heating Value (HHV) basis. It is applicable to both new and existing facilities' combustion turbines, reciprocating engines, and boilers.

4. ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS AND SITUATIONAL ANALYSIS

4.1 Physical environment

4.1.1 Overview of the study area

The study area includes the western shoreline of Lake Tanganyika in Zambia's Northern Province, within the administrative boundaries of Nsama District and extending into the Nsumbu National Park and the Tondwa and Kaputa Game Management Areas (GMAs). The study area forms part of the wider Green, Resilient and Transformational Tourism Development Project (GREAT-TDP) corridor and represents one of Zambia's most ecologically and culturally distinctive tourism frontiers. Physiographically, the area occupies the western margin of the Tanganyika Rift Valley, descending sharply from the Northern Plateau ($\approx 1\,200$ m a.s.l.) to the lake basin (≈ 760 m a.s.l.). This transition produces a complex landscape of steep escarpments, narrow lacustrine terraces, inland plateaus, and riparian floodplains, each supporting different ecological communities and land-use potential. Given the ecological gradients and drainage sensitivity of the area, climate change exacerbates existing vulnerabilities, particularly through intensified rainfall and lake level fluctuations that increase the risk of flash floods, shoreline erosion, and infrastructure degradation. As such, **climate resilience** must be integrated into the design of infrastructure and eco-tourism investments, aligned with **World Bank's Good Practice Note on Climate Risk Screening**. Development should prioritize low-impact infrastructure, buffer zones near rivers and wetlands, and apply slope-adaptive designs. A spatial decision-support tool should be developed under the SESMF to guide investment zoning and siting decisions.

Key spatial characteristics relevant to destination planning

- ❖ Rift-margin morphology and drainage – short, steep catchments draining eastwards into Kasaba Bay, Tondwa Bay, and Nsumbu Bay generate flash-flood and sedimentation risks that constrain infrastructure siting along valley bottoms.
- ❖ Ecotone mosaic – transitional zones between miombo woodland, riparian forest, wetland, and grassland provide high scenic diversity and biodiversity value but are sensitive to uncontrolled clearing and construction.
- ❖ Access corridors – overland connections from Mporokoso and Kaputa, lake transport to Mpulungu Harbour, and limited air access via the Kasaba Bay airstrip collectively define the study area's accessibility envelope; these routes also concentrate potential environmental pressures such as dust, noise, and waste generation.

- ❖ Transboundary context – the shared Lake Tanganyika ecosystem links Zambia with the Democratic Republic of Congo, Tanzania, and Burundi, necessitating cooperative fisheries and pollution-control frameworks under regional conventions.

Environmental Sensitivity and Planning Implications

Preliminary slope and drainage analysis indicates that approximately 40 % of the study area comprises high-slope terrain (> 20 %), classified as highly sensitive to erosion and slope instability. These areas correspond to escarpment and upper-catchment zones where development should remain minimal and focused on conservation or low-impact ecotourism (TDP Zone 1). The remaining terrace and beach zones ($\approx$ 60 %) are of moderate sensitivity, suitable for eco-lodges and small-scale community enterprises, subject to geotechnical verification and buffer-zone management. The unique geomorphology, hydrology, and ecological gradients of the Kasaba Bay landscape underpin both its tourism attractiveness and its environmental vulnerability. Understanding these baseline characteristics is therefore fundamental to the impact screening (Chapter 6) and zoning recommendations (Chapter 7) that guide the sustainable implementation of the Tourism Destination Plan.

4.1.2 Topography and geology

The study area forms part of the western rift escarpment of the Northern Plateau, representing one of Zambia's most geologically dynamic landscapes. The terrain descends sharply from the plateau ($\approx$ 1 200 m a.s.l.) to the shores of Lake Tanganyika ($\approx$ 760 m a.s.l.), producing strong relief contrasts that shape drainage, vegetation distribution, and the suitability of land for tourism infrastructure.

Topography

The topographic pattern of the study area is defined by three major geomorphic units:

- The Upper Plateau Zone – located west of Nsumbu and Kasaba Bay, this unit comprises gently undulating terrain underlain by deeply weathered granitic and schistose rocks. Elevations range between 1 000 m and 1 200 m a.s.l., characterised by open miombo woodlands and subsistence agriculture on sandy loam soils.
- The Escarpment Zone – a steep transitional belt (slope 20–35 %) separating the plateau from the Tanganyika Basin. It consists of narrow ridges and deeply incised stream valleys with active mass-movement processes including sheet erosion and gullying. Construction in this zone is highly constrained and requires slope stabilisation and drainage control measures.
- The Lacustrine Terrace Zone – a relatively flat to gently sloping strip (< 5 %) fringing the lake. Composed mainly of alluvial and beach deposits, it offers the most viable terrain for tourism facilities, access roads,

and community infrastructure. However, it is also prone to flooding and shoreline erosion during high-rainfall seasons and lake-level fluctuations.

The combined elevation difference of more than 400 m between the plateau and the lake generates striking vistas, one of the key scenic assets underpinning nature-based tourism in the study area. At the same time, it introduces engineering challenges related to road alignment, storm-water management, and soil stability.

Geology

Geologically, the study area is located within the Western Arm of the East African Rift System, dominated by Precambrian crystalline basement rocks overlain locally by younger sedimentary and volcanic formations. The principal lithological units include:

- Basement Complex (Precambrian Gneiss and Granite): hard, weathered rocks forming the plateau; these provide stable foundations but produce coarse, low-fertility soils susceptible to erosion once vegetation is cleared.
- Katanga Supergroup (Metamorphic Schists and Quartzites): Occurring mainly along the escarpment; jointed and faulted, contributing to slope instability and groundwater seepage zones.
- Recent Alluvial and Colluvial Deposits: found along stream valleys and the lakeshore; rich in sand and silt fractions, locally exploited for construction material.
- Rift-related Fault Structures: several NE–SW trending normal faults mark the structural boundary of the Tanganyika Rift; these control drainage patterns and influence the alignment of valleys such as the Lunzua and Tondwa Rivers.

Soils and engineering implications

Soils derived from these formations range from coarse-textured sands and loams on the upper plateau to colluvial clays and silts along the lower terraces. The escarpment soils are thin, stony, and highly erodible. For tourism infrastructure, these conditions imply:

- high bearing capacity on weathered granite and quartzite substrates but poor nutrient content for landscaping or vegetation restoration;
- moderate to high erosion potential on slopes > 15 %, necessitating terracing and vegetative cover management; and
- seasonal instability of lacustrine clays due to water-table fluctuations, requiring elevated foundations and proper drainage.

Planning and sensitivity considerations

Topography and geology together determine both the aesthetic appeal and environmental risk profile of the study area. Areas of steep escarpment and active faulting are classified as high-sensitivity zones where only limited, non-intrusive activities (viewpoints, walking trails) should be permitted. The plateau margins and lacustrine terraces are moderate-sensitivity zones suitable for eco-lodges, provided geotechnical assessments confirm soil stability. Extraction of sand and gravel for local construction should follow approved borrow-pit management plans under the Environmental Management (Soil Conservation and Rehabilitation) Regulations, 2013. To improve climate adaptation and disaster resilience, **engineering guidelines should incorporate site-specific geotechnical assessments**, including slope failure risk, erosion potential, and drainage load capacity. Given the active tectonic fault lines and steep escarpment, the area could also be vulnerable to **seismic-induced landslides**, though current risk remains low. Investments in roads, lodges, and water points must therefore include natural hazard assessments during the ESIA stage (referencing **ESS4** – Community Health and Safety). A geohazard mapping exercise should be considered to inform the downstream design of infrastructure.

4.1.3 Soils and land capability

The soils within the study area are derived from the complex interplay between parent geology, topography, climate, and vegetation. Their texture, drainage, and fertility vary sharply across the plateau–escarpment–lacustrine gradient described in the previous subsection, shaping both the ecological functions and the suitability of land for tourism, infrastructure, and agriculture.

Soil Types and Distribution

Soils across the Nsumbu–Kasaba Bay study area exhibit marked heterogeneity, reflecting the interactions between parent material, geomorphology, slope, hydrology, and vegetation cover. Understanding these soil types is critical for guiding tourism infrastructure placement, erosion control, and sustainable land-use planning under the GREAT-TDP. The soils can be generalised into four dominant categories:

- Ferrallitic soils (Lixisols and Acrisols) – found across the upper plateau zone, these are deeply weathered red-brown sandy loams developed over granitic and gneissic parent material. They exhibit low base saturation and moderate acidity (pH 5.0–6.0) and exhibit low base saturation, resulting in limited natural fertility. While they provide good drainage and foundation strength, their structure collapses quickly under vegetation clearance, making them highly erodible on slopes exceeding 10%. These areas require soil conservation measures (e.g., mulching, agroforestry) and bioengineering techniques if selected for tourism infrastructure development.

- Colluvial soils (Cambisols) – occur along the escarpment slopes and foot-slopes, where gravity-driven deposition from plateau erosion accumulates. These soils are shallow to moderately deep, stony, poorly structured, and unstable, with variable drainage and a high risk of gully erosion during intense rainfall events. This makes them very prone to sheet and gully erosion under intense rainfall (particularly during the rainy season when rates exceed 100 mm/hr). These zones should be designated as high-sensitivity areas (Zone 1) in the SESMF and avoided for any permanent structures.
- Alluvial and hydromorphic soils (Fluvisols and Gleysols) – restricted to valley bottoms, river plains, and the lakeshore, these soils consist of fine sandy-clay deposits with moderate to high organic matter content. They are often water-logged in the wet season (imperfect drainage) but support riparian vegetation and small-scale gardening during dry months. They are unsuitable for built infrastructure unless properly engineered. Any intervention in these areas should include flood hazard mapping, hydrological modelling, and clear buffer-zone policies to maintain ecological integrity.
- Lacustrine Sands and Beach Deposits – found in the Kasaba and Tondwa Bay fringes, these are coarse-textured sands and silts of recent depositional origin, thus with minimal cohesion. They are nutrient-poor, lack cohesion, and are prone to wind and wave erosion if vegetation is cleared. While excellent for drainage and recreation areas (e.g., nature trails, beach lodges), they are poor in nutrients and require engineered foundations (such as deep pile or floating slab foundations) to prevent subsidence and wind erosion. These areas must be coupled with shoreline stabilization measures (e.g., buffer vegetation, non-intrusive pathways) to avoid degradation of the coastal zone.

Soil Fertility and Land Capability

Soil fertility levels are generally low to moderate, limited by high leaching and low cation-exchange capacity. Table 18 summarises key physical and chemical characteristics relevant to land-use planning.

Table 18: Summary Key Physical and Chemical Land-Use Characteristics

Soil Group	Texture / Drainage	Erosion Risk	Agricultural Capability	Engineering Suitability	Overall Sensitivity Class
Ferrallitic (Lixisols/Acrisols)	Sandy loam – well drained	High (on slopes >10 %)	Moderate (rain-fed crops with fertility inputs)	Good for foundations if vegetation retained	Moderate to High
Colluvial (Cambisols)	Stony loam – variable drainage	Very High	Poor (unstable for cultivation)	Poor (requires cut-and-fill design)	High
Alluvial (Fluvisols/Gleysols)	Fine sandy clay – imperfect drainage	Moderate (flood risk)	High for horticulture	Moderate (avoid water-logged sites)	Moderate
Lacustrine Sands	Coarse sand – excessively drained	High (wind and wave erosion)	Very Low	Fair with pile foundations	Moderate to High

Soil degradation and erosion risks

The steep escarpment terrain, coupled with increasing vegetation clearance for small-scale cultivation and settlement, has accelerated sheet erosion, gullyng, and sedimentation in the downstream valleys. The most affected zones include the Lunzua, Tondwa, and Chituta catchments, where exposed ferrallitic soils contribute to high sediment loads entering Lake Tanganyika, impacting water quality and aquatic habitats. Erosion vulnerability is heightened during the November–April rainy season, when rainfall intensity exceeds 100 mm/hour in localized events. The risk is compounded by poor land management practices such as slash-and-burn cultivation and uncontrolled footpath formation on steep slopes.

Implications for destination planning

- **Tourism Infrastructure:** Suitable sites for eco-lodges and community facilities occur on moderate-slope, well-drained ferrallitic soils near terrace edges – development should avoid colluvial slopes and water-logged alluvials.
- **Soil and Vegetation Protection:** retention of native vegetation and use of bio-engineering techniques (grass strips, vetiver barriers, contour bunds) are critical for slope stabilisation.
- **Agricultural and Community Land Use:** Soil conservation measures such as minimum tillage, mulching, and contour ridges should be promoted under the district agricultural extension services.
- **Land Capability Zoning:** Based on FAO (1976) and national guidelines, approximately 45 % of the study area falls under Capability Class III – Moderate Limitation, 35 % under Class IV – Severe Limitation, and only 20 % under Class II – Slight Limitation (suitable for limited commercial or community tourism infrastructure).

Planning and environmental sensitivity

Given the strong slope–soil correlation, soil management must be integral to site-specific Environmental and Social Impact Assessments (ESIAs). The high-sensitivity soils on escarpment and colluvial zones should be designated as no-build areas, while moderate-sensitivity terrace soils may support controlled, low-impact tourism investments. Proper erosion-control design, drainage planning, and landscaping will be essential mitigation measures referenced in the ESMMP (Chapter 7). Soil protection should be treated as a core cross-cutting safeguard priority due to its implications for sedimentation in Lake Tanganyika, affecting water quality, aquatic biodiversity, and tourism aesthetics. A **Soil Conservation Action Plan (SCAP)** should be developed as part of the SESMF to ensure that borrow pits, construction staging areas, and agriculture-adjacent zones are regulated and rehabilitated. FPIC processes must also ensure that **community farming activities are not displaced by erosion-control measures**, and that nature-based solutions (e.g., vetiver grass strips, buffer hedgerows) are co-developed with local knowledge systems.

4.1.4 Land use and land cover

The study area exhibits a diverse land-use mosaic shaped by its topography, ecological systems, and long-standing community practices. The interplay between natural ecosystems, subsistence activities, and emerging tourism investments has produced a distinctive landscape pattern that both supports livelihoods and presents management challenges for sustainable tourism planning.

Current land use patterns

Based on spatial analysis of 2024 Sentinel-2 satellite imagery and field verification (ZEMA, Nsama District Council, and MoT, 2024), the dominant land-use classes within the study area are summarised in Table 19.

Table 19: Dominant land use classes within the study area (Source: ZEMA GIS and Sentinel-2 Analysis, 2024)

Land Use Category	Approx. Area (km ²)	% of Total study area	Description and Key Features	Land Use Category	Approx. Area (km ²)
Protected Areas (Nsumbu NP and GMAs)	~2,350	58%	Core conservation zone under DNPW management; includes wildlife habitats, wetlands, and tourism concessions.	Protected Areas (Nsumbu NP and GMAs)	~2,350
Forested and Woodland Areas (Miombo, Riparian, Mopane)	~650	16%	Secondary vegetation cover outside the protected estate; provides fuelwood, beekeeping sites, and carbon sinks.	Forested and Woodland Areas (Miombo, Riparian, Mopane)	~650
Cultivated Land and Settlements	~480	12%	Predominantly subsistence farms and clustered settlements in Mukupa, Nsumbu, and Chituta wards. Expansion noted along main access routes.	Cultivated Land and Settlements	~480

Land cover characteristics

The land cover reflects the region’s ecological heterogeneity and ongoing human-environment interactions. Key cover types include:

- **Miombo Woodland** (Brachystegia–Julbernardia associations) – the most extensive natural cover, dominating the plateau and gentle slopes. It supports high biodiversity and ecosystem services such as carbon sequestration, pollination, and soil protection.
- **Riparian and Wetland Vegetation** – occurs along the Lunzua, Tondwa, and Chituta River valleys and the lake shore. These areas provide essential ecosystem functions but are increasingly pressured by cultivation, fishing camps, and infrastructure development.

- Grassland and Open Scrub – present on shallow or degraded soils, often representing fallowed fields or overgrazed communal areas. While offering wildlife grazing grounds, these are highly susceptible to bush fires and invasive species.
- Cultivated and Settlement Areas – concentrated in the hinterland villages (Mukupa, Nsumbu, Kalungwishi). Predominant crops include cassava, maize, and groundnuts. Shifting cultivation and expansion toward riparian zones are key drivers of habitat fragmentation.
- Bare and Rocky Terrain – observed on escarpment slopes and lakeshore bluffs; unsuitable for agriculture but sometimes cleared for construction staging and quarrying.

Trends and emerging pressures

Land-use dynamics over the past decade reveal gradual deforestation and encroachment around community zones adjacent to the Nsumbu–Kasaba Bay boundary. Field observations and stakeholder consultations (ZEMA/MoT, 2024) indicate the following trends:

- expansion of agricultural fields along the Nsumbu–Kaputa road corridor, reducing buffer zones adjacent to protected areas;
- increasing demand for construction materials (sand, gravel, and timber) from planned tourism investments, often outside licensed borrow areas;
- shoreline modification near fishing and tourism camps, leading to vegetation clearance and soil erosion;
- frequent dry-season bush burning, used for hunting and field preparation, affecting soil fertility and biodiversity regeneration; and
- emerging private tourism concessions within Nsumbu National Park and along Kasaba Bay’s northern shore, altering land tenure and access patterns.

Thus, a **Land-Use Change Risk Matrix** should be developed to monitor shifts in land use due to tourism-induced development, including potential conflicts over land tenure, biodiversity corridors, and customary resource rights. This should be monitored through **remote sensing and community mapping**, with annual validation by the Nsama District Council and DNPW. Moreover, development of tourism concessions should be contingent on their **consistency with ESS5 (Land Acquisition and Involuntary Resettlement)** and **ESS6 (Biodiversity Conservation)** requirements. Clear **zoning regulations and concession agreements** should include conditions on land restoration, buffer maintenance, and prohibition of construction in riparian zones.

Land capability and zoning implications

The integration of land cover data with slope and soil sensitivity analyses (Sections 4.1.2–4.1.3) yields a clear land capability gradient:

- **Zone I – Conservation Priority Areas ($\approx 60\%$)**
Includes steep escarpments, riverine forests, wetlands, and wildlife corridors within the park and GMAs. These are high-sensitivity zones where new development must be strictly controlled.
- **Zone II – Moderate-Use Areas ($\approx 25\%$)**
Comprising woodland and grassland mosaics on moderate slopes suitable for eco-lodges, nature trails, and community-based tourism. Requires strong enforcement of vegetation buffers and erosion control.
- **Zone III – Development Support Areas ($\approx 15\%$)**
Flat to gently sloping terrace lands suitable for infrastructure and services such as access roads, visitor centres, and community enterprises. These areas should host planned tourism infrastructure under clear environmental design guidelines.

Environmental and social considerations

Uncontrolled land conversion poses significant risks to ecosystem integrity, water quality, and cultural heritage assets. Therefore, all land-use planning within the study area should adhere to the following guiding principles:

- maintain vegetation buffers of at least 50 m along rivers, streams, and lakeshores;
- apply Integrated Land Use Planning (ILUP) approaches consistent with the 8th National Development Plan (8NDP) and Tourism Policy (2024);
- promote co-management agreements with Community Resource Boards (CRBs) for sustainable resource use;
- strengthen enforcement of land allocation under the Town and Country Planning Act, 2015 and Environmental Management Act, 2011; and
- integrate remote sensing-based annual land cover monitoring into the provincial environmental reporting system.

Planning sensitivity and implications for SESA

The land-use and cover configuration demonstrates that roughly two-thirds of the study area remains under natural or semi-natural vegetation, offering a strong ecological foundation for nature-based tourism. However, the remaining one-third exhibits varying levels of anthropogenic pressure requiring targeted interventions. These findings directly inform the impact assessment (Chapter 6) and mitigation planning (Chapter 7), ensuring that tourism development proceeds within the limits of environmental sustainability.

4.1.5 Hydrology, surface water and groundwater resources

The study area lies within the Lake Tanganyika Catchment, a major sub-basin of the Congo River System. Hydrologically, it represents one of Zambia's most significant freshwater interfaces, characterised by steep escarpment drainage networks, extensive lacustrine systems, and groundwater aquifers embedded in fractured

crystalline rocks. Understanding the hydrological regime of the area is crucial for ensuring sustainable water use, mitigating erosion and flood risks, and supporting climate-resilient tourism development.

Surface water resources

The study area's surface hydrology is dominated by short, high-gradient streams that drain eastwards from the Northern Plateau into Lake Tanganyika. The most prominent rivers include the Lunzua, Tondwa, Chituta, and Kalambo Rivers, each forming key ecological and socio-economic features within the tourism landscape.

- **Lunzua River System** – the largest within the study area, originating from the plateau near Mporokoso and flowing through forested escarpments into Lake Tanganyika at Lunzua Bay. The river supports hydropower generation at the Lunzua Falls Mini-Hydro Station, supplies water to local settlements, and maintains riparian habitats crucial for aquatic biodiversity.

Hydrological Concern: Rapid runoff during heavy rainfall contributes to bank erosion and sedimentation near Kasaba Bay.

- **Tondwa and Chituta Rivers** – smaller seasonal tributaries draining the mid-eastern escarpment. These streams sustain wetland vegetation and fish-breeding grounds near Tondwa Bay.

Hydrological Concern: Flash floods and sediment load increase during peak rainy seasons, especially where catchment vegetation has been cleared for agriculture.

- **Minor Streams and Gullies** – numerous unnamed ephemeral channels dissect the escarpment zone. Though small, they significantly influence soil erosion and slope instability, particularly near footpaths and access roads.

- **Lake Tanganyika** – forming the eastern boundary of the study area, Lake Tanganyika is the second deepest freshwater lake in the world (max. depth $\approx 1\,470$ m) and supports transboundary fisheries, transport, and ecotourism.

Hydrological Concern: Fluctuations in lake level (recorded amplitude ≈ 1.5 m between wet and dry seasons) periodically inundate low-lying beaches and threaten shoreline infrastructure.

Hydrological regime

The area experiences a unimodal rainfall pattern, with precipitation concentrated between November and April, averaging 1 200–1 400 mm annually. Streamflow is strongly seasonal discharge peaks in February– March, followed by sharp declines from June to October. Due to steep slopes and shallow soils, runoff coefficients are high (0.35–0.45), and infiltration rates low, increasing flash-flood potential.

Evapotranspiration averages 1 600 mm/year, exceeding rainfall in the dry months, leading to temporary drying of smaller streams. This hydrological pattern underscores the importance of integrated catchment management and water storage systems for both community and tourism use.

Groundwater resources

Groundwater occurs predominantly within fractured basement aquifers (gneiss and schist formations) and alluvial/lacustrine deposits along valley bottoms. Borehole data from WARMA (2023) indicate average static water levels of 10–35 m, with yields ranging from 1.2 to 5.0 L/s, sufficient for small-scale domestic and tourism water supply.

Table 20: Summary of groundwater aquifer characteristics within the study area (Source: WARMA, 2023)

Aquifer Type	Formation / Location	Average Depth (m)	Yield (L/s)	Quality Indicators	Suitability for Use
Fractured Basement Aquifer	Plateau and escarpment zones	25–45	1.2–3.0	Slightly acidic (pH 6.0–6.5), low conductivity	Suitable for domestic/tourism use after treatment
Alluvial Aquifer	Valley bottoms, Kasaba & Tondwa Bays	10–20	2.5–5.0	Neutral (pH 6.8–7.2), moderate turbidity	Suitable for boreholes and shallow wells
Lacustrine Sediments	Lakeshore terraces	8–15	1.5–3.5	Slight salinity and iron content	Moderate, requires filtration and periodic monitoring

Groundwater recharge mainly occurs through direct infiltration during rainfall and indirect recharge via stream seepage. However, deforestation and soil compaction have reduced infiltration efficiency, leading to declining dry season yields in certain community wells.

Water quality

Water quality in the study area is generally good to moderate, with periodic localised pollution linked to:

- human settlements and fishing camps discharging greywater and solid waste directly into streams and lakeshore zones;
- agricultural runoff introducing nutrients and sediments, particularly in the Lunzua and Tondwa catchments;
- fuel and oil spills from boats and generators along Kasaba Bay’s tourism camps; and
- baseline sampling by ZEMA (2024) recorded mean values of:

- i. pH: 6.5–7.4

- ii. Turbidity: 15–50 NTU (higher near river mouths)
- iii. Dissolved Oxygen: 7.5 mg/L (within acceptable range)
- iv. Biological Oxygen Demand (BOD₅): 3.0 mg/L (indicating moderate organic load)

These parameters fall within Zambia’s Environmental Management (Water Quality) Regulations, 2011, but indicate increasing stress in nearshore areas due to anthropogenic influence.

Hydrological sensitivity and planning implications

Hydrological analysis highlights the following planning sensitivities:

- flood and Erosion Risk Zones – Low-lying beaches and escarpment valleys (notably along Tondwa and Chituta Rivers) should be designated as no-build zones with at least 50 m riparian buffers;
- water Supply Vulnerability – Small-scale tourism and communities relying on shallow boreholes require climate-resilient storage and backup systems;
- catchment management – Integrating soil conservation, reforestation, and controlled land-use within upper catchments is critical to maintain stream stability;
- Transboundary Water Governance – Strengthened collaboration under the Lake Tanganyika Authority (LTA) is essential for monitoring fisheries, effluent discharge, and shoreline development; and
- monitoring priority – Install continuous-flow gauges in the Lunzua and Tondwa Rivers and establish annual water quality sampling points through WARMA–ZEMA cooperation.

SESA linkages

Hydrology directly influences the project’s environmental and social risk rating (Section 2.6) and informs the design of mitigation measures in the ESMMP (Chapter 7). The high runoff potential and shoreline dynamics necessitate adoption of integrated catchment and water resource management (ICWRM) strategies, ensuring that tourism infrastructure development enhances, rather than undermines, the hydrological balance of the Kasaba Bay–Nsumbu ecosystem.

4.1.6 Climate and meteorology

The study area lies within Zambia’s Northern Agro-Climatic Zone, characterised by a humid tropical climate moderated by altitude and proximity to Lake Tanganyika. The region’s climatic regime plays a decisive role in shaping its ecosystems, water resources, infrastructure planning, and tourism seasonality. Understanding spatial and temporal variations in temperature, rainfall, and wind is essential for climate-resilient development and environmental management.

Climatic Classification and Influences

The climate of the study area is classified under the Köppen–Geiger system as Cwa, denoting a humid subtropical climate with a distinct dry winter season. Key modifiers include:

- Lake Tanganyika’s thermal mass, which moderates temperature extremes and enhances local humidity;
- escarpment altitude variations (750–1,800 m a.s.l.) that generate microclimatic differences between plateau, slope, and lakeshore zones; and
- prevailing easterly and north-easterly winds, which influence convection and local rainfall distribution.

These factors collectively produce a three-season climatic pattern, typical of Zambia’s northern highlands.

Seasonal climate characteristics

Table 21: Summary of seasonal climatic characteristics

Season	Period	Dominant Features	Implications for Development
Hot-Wet Season	November–April	High rainfall (1,200–1,400 mm); humidity 75–85%; average temperature 23–27°C; frequent thunderstorms.	Flooding risk in low-lying valleys; access constraints for roads; recharge of rivers and groundwater.
Cool-Dry Season	May–August	Reduced humidity (45–60%); temperatures 16–22°C; clear skies; low evapotranspiration.	Favourable period for construction and tourist activity; minimal rainfall erosion.
Hot-Dry Season	September–October	High daytime temperatures (28–33°C); humidity <40%; increased evapotranspiration and fire risk.	Heat stress for workers; high bushfire frequency; reduced water availability.

Temperature regime

- Mean annual temperature across the study area ranges between 20°C and 26°C, depending on altitude.
- Lakeshore zones (e.g., Nsumbu, Kasaba Bay) experience higher average maximums of 31°C in October and minimums of 18°C in July, due to the moderating influence of Lake Tanganyika.
- Plateau zones record cooler conditions, with mean maximums of 27°C and minimums of 14°C.

These thermal gradients influence vegetation composition, wildlife habitats, and human comfort levels, thus determining the spatial suitability of tourism facilities and agricultural enterprises.

Rainfall patterns

Rainfall is unimodal, with nearly 95% of annual precipitation occurring between November and April. Data from Kasama Meteorological Station (1981–2023) and Nsumbu Field Station (ZMD, 2024) indicate:

- mean annual rainfall: 1,280 mm;

- coefficient of variation: $\pm 18\%$ (moderate inter-annual variability);
- maximum monthly rainfall: 320 mm (recorded in February 2022); and
- dry spell duration: typically 5–6 months (May–October).

Spatially, rainfall intensity increases along the escarpment and decreases toward the plateau interior. Orographic uplift near Lake Tanganyika enhances convection, producing frequent late-afternoon storms. These rainfall dynamics critically influence runoff, erosion risk, and sediment loading in rivers discussed under Section 4.1.5.

Humidity, wind and evapotranspiration

Relative humidity follows a seasonal cycle, exceeding 80% in January–March and dropping below 40% during the dry season. The main wind regimes include:

- northeasterlies (November–April): Associated with moist Congo air masses and thunderstorm formation;
- southeasterlies (May–August): Drier, cooler airflows contributing to clear skies and lower humidity;
- mean wind speeds range between 3–5 m/s, increasing along the lake shore where open fetch enhances turbulence; and
- potential evapotranspiration (PET) averages 1,600–1,800 mm/year, exceeding annual rainfall in the dry months explaining the sharp drop in streamflow and soil moisture observed from June to October.

Climate variability and change

Recent climate trend analyses by the Zambia Meteorological Department (ZMD, 2023) reveal:

- rising mean annual temperatures by approximately 0.2°C per decade since the 1980s;
- shorter wet seasons, with delayed onset (shifting from mid-November to late November);
- increased frequency of high-intensity rainfall events, leading to erosion and flash flooding; and
- higher incidence of dry spells within the growing season, affecting smallholder agriculture.

Under future projections (IPCC AR6, RCP4.5 scenario), the region may experience:

- temperature increase of 1.5–2.0°C by 2050;
- rainfall variability intensifying, with longer dry spells and heavier peak rains; and
- potential reduction in mean annual rainfall by 3–8%.

These changes will heighten the sensitivity of water systems, ecosystems, and tourism infrastructure.

Climate sensitivity and planning implications

Climate directly influences the design and sustainability of tourism and infrastructure development in the study area. Key implications include:

Infrastructure Design and Siting:

- Use elevated or reinforced foundations in flood-prone areas.
- Incorporate rainwater harvesting and storm drainage systems in all major facilities.

Ecosystem Management:

- Protect forested slopes and riparian vegetation as natural buffers against erosion and flash flooding.
- Introduce fire management plans during the hot–dry season to reduce habitat degradation.

Tourism Seasonality:

- Promote peak visitation during the cool–dry season (May–August) to optimise accessibility and comfort.
- Diversify tourism products (e.g., birding, cultural festivals) to reduce dependence on climate-sensitive activities.

Community and Livelihood Resilience:

- Encourage adoption of climate-smart agriculture (mulching, agroforestry, drought-tolerant crops).
- Develop early-warning systems for communities in flood-risk zones.
- Climate Monitoring and Integration:
 - Support the installation of automatic weather stations in Nsumbu and Kasaba Bay.
 - Mainstream climate data use into environmental management and local development planning.

SESA linkages

The climate and meteorological context directly underpin the impact assessment (Chapter 6) and sustainability appraisal (Chapter 7). Given the rising frequency of climate extremes, all proposed tourism and infrastructure developments under the GREAT-TDP must integrate climate risk screening and adaptive design criteria consistent with the National Climate Change Policy (2016) and National Adaptation Plan (2022–2030). These considerations ensure the study area’s long-term environmental and socio-economic resilience.

4.1.7 Transboundary rivers, lakes and aquifers in the study area

The study area is hydrologically linked to one of Africa’s most significant transboundary freshwater systems the Lake Tanganyika Basin. This basin extends across four riparian countries: Zambia, Tanzania, the Democratic Republic of Congo (DRC), and Burundi, forming a critical component of the Congo River Catchment. The transboundary nature of this system necessitates coordinated water governance, ecosystem protection, and sustainable resource management to support both local livelihoods and regional tourism development.

Hydrographic context

Lake Tanganyika and its feeder rivers define the eastern boundary of the Kasaba Bay–Nsumbu study area. The regional drainage system is composed of short, steep catchments descending from the Northern Plateau into the lake, along with deep, fractured aquifers that extend laterally across international boundaries.

Major transboundary water bodies

Table 22: Summary of major transboundary water bodies and shared aquifers relevant to the study area

Water Body	Shared Riparian States	Key Functions and Values
Lake Tanganyika	Zambia, Tanzania, DRC, Burundi	Global biodiversity hotspot; supports 350+ endemic fish species; major inland fisheries; transboundary navigation and tourism corridor.
Kalambo River	Zambia–Tanzania boundary	Forms part of the international border; drains into Lake Tanganyika; site of the Kalambo Falls, a UNESCO World Heritage candidate.
Lunzua River Sub-Catchment	Entirely within Zambia but discharges into Tanganyika’s international waters	Provides domestic and tourism water supply; affects transboundary water quality and sediment load.
Groundwater Systems (Tanganyika Rift Aquifer)	Zambia–Tanzania–DRC	Shared fractured-rock aquifer system; critical for water security in riparian settlements and tourism facilities.

Hydrogeological connectivity

The Lake Tanganyika Rift Aquifer System underlies much of the eastern portion of the study area. This aquifer is composed of fractured Precambrian gneisses, schists, and dolomitic layers, exhibiting interconnected groundwater flow toward the lake basin. Hydrogeological modelling by WARMA (2023) and the Lake Tanganyika Water Management Project (LTWMP) indicates that groundwater gradients along the Nsumbu escarpment are gentle but continuous, facilitating transboundary recharge and discharge. Key hydrogeological features include:

- recharge zones along the northern plateau where rainfall infiltration is high;

- discharge zones along the lakeshore, particularly near Kasaba Bay and Tondwa Bay, where groundwater seeps directly into Lake Tanganyika; and
- hydraulic connectivity between shallow alluvial aquifers and deep fissured systems, meaning pollution in one layer can migrate across the border through subsurface flow.

Transboundary water governance

Lake Tanganyika's management falls under the Lake Tanganyika Authority (LTA), established in 2008 through the Convention on the Sustainable Management of Lake Tanganyika. The LTA Secretariat, headquartered in Bujumbura, Burundi, coordinates joint programs on fisheries, pollution control, and climate adaptation among the four riparian states. Zambia's national-level coordination is led by the Ministry of Water Development and Sanitation (MWDS) through WARMA, in collaboration with the Ministry of Green Economy and Environment (MGEE) and the Ministry of Tourism (MoT). Key frameworks guiding transboundary cooperation include:

- the Lake Tanganyika Authority Strategic Action Programme (SAP, 2017–2027) – outlines basin-wide objectives for ecosystem restoration, fisheries management, and pollution reduction;
- Zambia–Tanzania Joint Water Commission (2019) – facilitates data exchange and harmonised water quality monitoring;
- SADC Protocol on Shared Watercourses (2000, revised 2015) – provides the overarching legal basis for cooperative management of transboundary water resources; and
- National Water Policy (2020) – aligns domestic priorities with regional obligations under SADC and LTA conventions.

Transboundary environmental challenges

The shared nature of the basin introduces complex environmental management challenges that transcend administrative borders. Major concerns include:

Water Quality Deterioration

- Sediment and nutrient inflows from deforestation, agriculture, and shoreline settlements in both Zambia and Tanzania reduce lake transparency and oxygenation.
- Untreated effluent discharge and fuel leaks from boats threaten nearshore aquatic habitats.

Overfishing and Resource Depletion

- Commercial and artisanal fishing activities by multiple riparian states exert unsustainable pressure on shared fish stocks.
- Weak enforcement of fishing regulations and seasonal bans increases transboundary conflict risks.

Aquatic Invasive Species and Habitat Loss

- The spread of water hyacinth (*Eichhornia crassipes*) and sedimentation threaten breeding zones and indigenous fish species.

Climate-Induced Stress

- Fluctuating lake levels and higher surface temperatures alter aquatic ecosystems, affecting water supply reliability and tourism infrastructure viability.

Data and Institutional Gaps

- Limited harmonisation of monitoring systems between WARMA and its Tanzanian and DRC counterparts hampers effective basin management.

Strategic implications for the Destination Plan

Given the strong hydrological connectivity and shared ecosystem values, the study area must align its environmental management with regional transboundary frameworks. The following five strategic implications arise:

1. **Integrated Water Resource Management (IWRM):** Strengthen collaboration between WARMA, LTA, and local authorities to harmonise monitoring of water quality, abstraction rates, and shoreline development
2. **Pollution Prevention:** Implement strict wastewater and solid waste management controls in all tourism facilities to prevent cross-border contamination of Lake Tanganyika
3. **Climate Adaptation Synergy:** Align SESA-recommended adaptation actions with the Lake Tanganyika Climate Resilience Action Plan (LTA, 2023) to address shared climate risks.
4. **Data Sharing and Early Warning Systems:** Establish a joint hydrological data exchange protocol under the Zambia–Tanzania Water Commission, covering rainfall, streamflow, and water quality
5. **Stakeholder Engagement and Co-Management:** Involve local communities, Community Resource Boards (CRBs), and cross-border fisher associations in co-management initiatives for sustainable fisheries and biodiversity conservation

SESA linkages

Transboundary water systems represent a Tier 1 sensitivity category under the SESA framework, due to their ecological significance, shared jurisdiction, and potential for cumulative impacts. Findings from this section inform the Cumulative Impact Assessment (Section 6.4) and the Environmental and Social Management Plan (Chapter 7), particularly in the design of monitoring indicators, institutional coordination mechanisms, and mitigation strategies for water-related transboundary effects.

4.2 Biological environment

The Nsumbu–Kasaba Bay landscape forms part of the wider Lake Tanganyika basin, a globally significant biodiversity zone characterised by a mosaic of miombo woodlands, riparian forests, wetlands, savannah grasslands, escarpment vegetation and lacustrine ecosystems. These interconnected habitats support high levels of species richness and endemism, particularly among fish, birds and large mammals.

According to the IUCN Red List, several species of conservation concern occur within or near the project landscape. These include African Elephant (Vulnerable), Hippopotamus (Vulnerable), Lion (Vulnerable), Leopard (Near Threatened), and a range of Lake Tanganyika’s endemic cichlids some of which fall under Vulnerable or Endangered risk categories due to overfishing and habitat degradation. Notable avian species include the African Fish Eagle, Shoebill, and migratory species protected under international conventions.

Ecological sensitivity is highest along riparian zones, lake shorelines, wetlands and escarpment slopes, which serve as feeding, breeding and refuge habitats for a variety of fauna. These areas also function as ecological ‘sensitive receptors,’ especially vulnerable to disturbance. The interface between Nsumbu National Park, Todwa GMA and surrounding settlement areas forms a functional ecological corridor used by elephants, buffalo, predators and migratory waterbirds. Ensuring the integrity of these corridors is essential for maintaining landscape connectivity.

The project area faces several biodiversity pressures, including artisanal fishing, deforestation for agriculture and charcoal production, bushfires, unregulated tourism activity and encroachment into riparian vegetation. These pressures have cumulative implications for habitat quality, wildlife movement and ecosystem resilience. The SESA therefore identifies biodiversity hotspots and sensitive receptors as priority areas requiring strategic-level management interventions in the Destination Plan.

4.2.1 Flora and vegetation types

The study area lies within Zambia’s Miombo Woodland Ecoregion, part of the Central and Eastern Zambebian Phytoregion, which is one of the largest and most ecologically diverse terrestrial ecosystems in Africa. Vegetation in the study area reflects a combination of altitudinal, geological, and climatic gradients,

transitioning from dense moist forests on the escarpment to open savannah woodlands and riparian wetlands near the lakeshore. These vegetation systems form the ecological backbone of the study area’s biodiversity, carbon storage, and nature-based tourism potential.

Dominant vegetation zones

The vegetation distribution within the study area can be broadly classified into four principal ecological zones, each with distinct floristic and structural characteristics:

Table 23: Major vegetation zones (Source: ZEMA & FAO, 2024)

Vegetation Zone	Dominant Species Composition	Altitude Range (m a.s.l.)	Ecological Function and Significance
Miombo Woodland (Brachystegia–Julbernardia Complex)	Brachystegia spiciformis, Julbernardia paniculata, Isoberlinia angolensis, Uapaca kirkiana	1,200–1,800	Dominant vegetation type; critical for carbon sequestration, soil fertility, and wildlife habitat; source of fuelwood and non-timber forest products.
Mopane–Combretum Woodland	Colophospermum mopane, Combretum imberbe, Acacia nigrescens	900–1,200	Occurs in drier, lower slopes and valleys; tolerant to drought; supports browsing herbivores such as elephants and impalas.
Riparian Forests and Wetlands	Syzygium guineense, Ficus sur, Raphia farinifera, Phoenix reclinata	750–1,000	Found along rivers and around wetlands; provide erosion control, water purification, and key breeding habitats for aquatic and bird species.
Montane Grasslands and Thickets	Hyparrhenia rufa, Setaria sphacelata, Pteridium aquilinum	>1,500	Occur on exposed ridges and hilltops; prone to fire; provide grazing for wildlife and buffer for upper catchments.

Figure 7: Typical trees found along the banks of Lake Tanganyika (Source: SMA Tourism field survey)



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Vegetation composition and structure

The Miombo Woodland, which covers approximately 70% of the study area, exhibits a multi-tiered canopy structure dominated by semi-deciduous hardwoods. The three layers are:

- canopy layer: *Brachystegia spiciformis* and *Julbernardia globiflora* (average height 12–18 m);
- sub-canopy layer: *Uapaca nitida*, *Monotes africanus*, and *Pericopsis angolensis*; and
- ground layer: Dominated by grasses such as *Andropogon gayanus* and *Hyparrhenia filipendula*, interspersed with shrubs like *Combretum molle* and *Terminalia sericea*.

This vegetation structure supports high biomass production and provides critical ecosystem services including nutrient cycling, erosion control, and carbon storage, estimated at 45–55 tonnes C/ha (ZEMA, 2023).

Riparian and wetland vegetation

Along the Lunzua, Tondwa, and Chituta Rivers, vegetation transitions into gallery forests and swamp mosaics, characterised by *Syzygium guineense*, *Phragmites mauritianus*, and *Typha capensis*. These zones serve as natural flood buffers, improving water quality by trapping sediments and pollutants. Wetlands around Tondwa Bay and Kasaba Bay also provide nesting and feeding grounds for species such as Pelicans, Herons, and African Fish Eagles. The *Raphia* palm stands (*Raphia farinifera*) near Nsumbu and Papyrus swamps (*Cyperus papyrus*) along the Lunzua floodplain have both ecological and cultural significance, providing materials for crafts and traditional ceremonies.

Fire ecology and vegetation dynamics

Fire is a major ecological driver shaping vegetation patterns in the study area:

- early dry-season fires help maintain open grasslands and prevent woody encroachment; and
- late dry-season fires, often anthropogenic, cause canopy scorch and inhibit regeneration.

Uncontrolled burning has resulted in patchy degradation of Miombo woodland, especially near fishing camps and agricultural clearings. The Department of Forestry (2024) identified increasing fire frequency (average return period: 2–3 years) as a major threat to woodland integrity. Fire management and community awareness programs are therefore essential to sustain ecosystem health.

Vegetation condition and degradation trends

Vegetation degradation within the study area is moderate but increasing in localised hotspots. Satellite imagery analysis (Landsat 8, 2015–2024) indicates a 12% reduction in dense woodland cover, primarily around:

- Nsumbu–Kasaba Bay corridor: due to settlement expansion and fuelwood collection;
- Upper Lunzua catchment: agricultural encroachment and charcoal production; and
- Shoreline areas: small-scale tourism and infrastructure development.

Degraded areas show signs of secondary succession, dominated by *Combretum*, *Dichrostachys cinerea*, and *Terminalia sericea*. Without management intervention, continued pressure may shift the landscape toward open savannah and bushland mosaics, reducing biodiversity and ecosystem resilience.

Conservation and Management Implications

- **Ecosystem Services and Tourism Linkages:** Miombo woodlands and riparian forests provide the scenic backdrop for nature-based tourism. Their preservation enhances the aesthetic and ecological appeal of the destination.
- **Community Forest Management:** Integration of community-managed forest zones within the study area should be strengthened under the Forest Act (2015) to promote local stewardship and reduce illegal timber harvesting
- **Fire and Charcoal Control:** Implement early burning programs, regulate charcoal licensing, and provide alternative energy options for households.
- **Restoration Opportunities:** Reforestation using indigenous species (*Brachystegia*, *Albizia*, *Syzygium*) and natural regeneration in degraded corridors can enhance connectivity and carbon sequestration.
- **Integration with National Policies:** Vegetation protection measures should align with the National Forestry Policy (2014) and NBSAP II (2015–2025), both of which prioritise forest restoration and biodiversity mainstreaming in development planning.

SESA linkages

Vegetation dynamics are central to the impact and sustainability analysis (Chapters 6 and 7). Loss or alteration of Miombo woodland and riparian vegetation would have cascading effects on biodiversity, hydrology, carbon balance, and livelihoods. The SESA therefore underscores the need for integrating landscape-scale vegetation monitoring, community forestry programs, and habitat connectivity mapping into the implementation framework of the GREAT-TDP.

4.2.2 Fauna and wildlife species

The study area forms part of Zambia’s Northern Circuit biodiversity landscape, an ecologically rich zone that supports an exceptional range of terrestrial, aquatic, and avian species. Its wildlife assemblages reflect the diverse habitats spanning Miombo woodlands, riparian forests, wetlands, open grasslands, and lacustrine ecosystems. The area provides critical habitat linkages between Nsumbu National Park (NP), Tondwa Game Management Area (GMA), and Kaputa GMA, forming a continuous ecological corridor that connects to the Tanganyika–Congo basin system.

Wildlife composition and diversity

Faunal surveys conducted by the Department of National Parks and Wildlife (DNPW, 2023) and corroborated by the Kasaba Bay SESA field team (2024) identified a high diversity of wildlife species, including several species of national and international conservation concern.

Table 24: Representative Fauna Recorded (Sources: DNPW 2023; ZEMA Field Observations, 2024)

Faunal Group	Representative Species	Conservation Status (IUCN)	Key Habitat Type
Large Mammals	African Elephant (<i>Loxodonta africana</i>), Lion (<i>Panthera leo</i>), Leopard (<i>Panthera pardus</i>), Hippopotamus (<i>Hippopotamus amphibius</i>), Sable Antelope (<i>Hippotragus niger</i>), Roan Antelope (<i>H. equinus</i>)	Vulnerable to Endangered	Woodlands, riparian zones, open grasslands
Medium & Small Mammals	Impala (<i>Aepyceros melampus</i>), Bushbuck (<i>Tragelaphus scriptus</i>), Warthog (<i>Phacochoerus africanus</i>), Civet (<i>Civettictis civetta</i>), Porcupine (<i>Hystrix africaeaustralis</i>)	Least Concern	Woodlands and forest edges
Primates	Chacma Baboon (<i>Papio ursinus</i>), Vervet Monkey (<i>Chlorocebus pygerythrus</i>)	Least Concern	Riparian forest, escarpment
Aquatic & Semi-Aquatic Species	Nile Crocodile (<i>Crocodylus niloticus</i>), African Clawless Otter (<i>Aonyx capensis</i>), Monitor Lizard (<i>Varanus niloticus</i>)	Least Concern	Rivers, lakeshore, wetlands
Avifauna	African Fish Eagle (<i>Haliaeetus vocifer</i>), Grey Crowned Crane (<i>Balearica regulorum</i>), Shoebill (<i>Balaeniceps rex</i>), African Skimmer (<i>Rynchops flavirostris</i>), Pel’s Fishing Owl (<i>Scotopelia peli</i>)	Near Threatened to Vulnerable	Wetlands, lake margins

Faunal Group	Representative Species	Conservation Status (IUCN)	Key Habitat Type
Reptiles & Amphibians	Rock Python (<i>Python sebae</i>), Nile Monitor (<i>Varanus niloticus</i>), Tree Frog (<i>Leptopelis flavomaculatus</i>), Toad (<i>Bufo maculatus</i>)	Least Concern	Forest and aquatic habitats
Fish (Lake Tanganyika)	Lates microlepis, Tilapia tanganicae, Stolothrissa tanganicae, Limnothrissa miodon	Several Endemic Species	Lacustrine habitats (Lake Tanganyika)

Terrestrial mammals

Nsumbu National Park hosts a recovering population of elephants, buffalo, and large carnivores due to recent anti-poaching and habitat management efforts by DNPW and the Nsumbu Tanganyika Conservation Programme (NTCP). Populations of roan and sable antelopes, along with reedbuck and hartebeest, are frequently observed in the Tondwa GMA and Itigi forest edges. However, smaller mammals such as duikers, genets, and mongooses remain under-documented due to limited camera trapping and night surveys. Wildlife corridors between Nsumbu NP and Kaputa GMA remain partially functional, though increasingly constrained by settlement expansion and charcoal production near Mukupa and Chituta. These linkages are vital for gene flow and ecological balance, making them high-priority zones for habitat conservation under the GREAT-TDP.

Avifauna (birdlife)

The study area is part of the Tanganyika–Luapula Birdlife Corridor, classified as an Important Bird and Biodiversity Area (IBA-ZM005) by BirdLife International. Over 380 bird species have been recorded, representing both resident and migratory populations. Notable species include:

- African Fish Eagle (*Haliaeetus vocifer*), a flagship species of the Lake Tanganyika ecosystem;
- Shoebill (*Balaeniceps rex*), Grey Crowned Crane (*Balearica regulorum*), and Pel's Fishing Owl (*Scotopelia peli*), all of conservation concern due to habitat disturbance;
- migratory waterfowl, including White-faced Whistling Ducks and Lesser Flamingos, which use the wetlands and backwaters during the rainy season; and
- Avifaunal richness underscores the potential for bird-based ecotourism, which can complement broader wildlife and cultural tourism initiatives in the region.

Aquatic and fisheries biodiversity

The Lake Tanganyika ecosystem sustains one of the world's most diverse freshwater fish communities, with over 350 endemic species. Key species groups include:

- pelagic clupeids: *Stolothrissa tanganicae* and *Limnothrissa miodon*, forming the basis of local artisanal fisheries;
- predatory species: *Lates microlepis* and *Bathybates* spp., which support semi-commercial fishing; and
- Cichlids: A wide array of endemic rock-dwelling species such as *Tropheus moorii* and *Neolamprologus brichardi*, central to the lake's evolutionary and ecological uniqueness.

However, unsustainable fishing practices including the use of fine-mesh nets and light attraction have contributed to stock depletion and habitat degradation, raising concerns for both biodiversity and livelihoods.

Threats to wildlife

Despite its ecological wealth, the study area faces multiple threats to fauna and habitat integrity:

- poaching and illegal wildlife trade – targeting elephants, pangolins, and bushmeat species, driven by cross-border demand;
- habitat Fragmentation – encroachment along the Nsumbu–Kasaba corridor reducing wildlife mobility;
- human–wildlife conflict – crop raids by elephants and hippos, livestock predation by lions and leopards;
- overfishing and pollution – degradation of aquatic habitats and fish spawning grounds; and
- climate variability – altered water levels and vegetation shifts affecting species distribution and breeding cycles.

These pressures underscore the need for coordinated conservation planning integrating ecological connectivity, law enforcement, and community-based resource management.

Conservation and Management Implications

- Strengthen Anti-Poaching Measures: enhance DNPW patrol capacity, intelligence sharing, and cross-border coordination with Tanzanian wildlife authorities.
- Reinforce Habitat Corridors: designate and restore ecological corridors linking Nsumbu NP with Kaputa and Tondwa GMAs. Integrate these corridors into the TDP spatial framework.
- Promote community conservation: Support Community Resource Boards (CRBs) in co-management of wildlife resources and benefit-sharing mechanisms.
- Support wildlife-based tourism: develop low-impact, high-value wildlife viewing circuits aligned with carrying capacity and biodiversity sensitivity analyses.
- Biodiversity monitoring: establish systematic wildlife census programs and biodiversity monitoring under the National Biodiversity Monitoring Network.

Biodiversity Sensitivities in the Study Area

Biodiversity sensitivity is informed by global conservation risk screening principles including species vulnerability classifications and ecosystem integrity indicators applied to freshwater and woodland systems.

Category	Examples	Sensitivity
Mammals	Elephant, Buffalo	High
Birds	African Fish Eagle, migratory birds	Medium–High
Fish	Endemic Lake Tanganyika species	High
Vegetation	Miombo woodland, lakeshore riparian forest	High
Habitats	Wetlands, wildlife corridors	Critical

Several species fall within international conservation interest categories due to restricted geographic ranges and transboundary ecosystem dependence.

4.2.3 Key biodiversity areas and ecosystem corridors

The study area is located within one of Zambia’s most ecologically significant landscapes the Tanganyika–Nsumbu–Mweru Biodiversity Complex, forming part of the Central Zambezian Miombo Woodland ecoregion (WWF AT0725). This landscape provides critical ecological connectivity between terrestrial, freshwater, and lacustrine systems, hosting high levels of species richness, endemism, and ecosystem service value. The delineation of Key Biodiversity Areas (KBAs) and ecological corridors is essential for guiding land-use planning, tourism zoning, and conservation investment within the GREAT-TDP framework.

Key biodiversity areas (KBAs)

Based on spatial analysis and national conservation datasets (ZEMA, DNPW, and BirdLife International, 2024), the following have been identified as the core KBAs within or adjacent to the study area:

Table 25: Key biodiversity areas (Sources: DNPW, ZEMA, and BirdLife International, 2024).

KBA Name	Approx. Area (km ²)	Key Ecological Attributes	Conservation Significance
Nsumbu National Park (NNP)	~2,020	Contains Miombo–riparian mosaic ecosystems; habitat for elephants, lions, sable and roan antelopes; supports endemic and migratory bird species.	Nationally protected area; IUCN Category II; focal tourism hub for GREAT-TDP.
Tondwa Game Management Area (GMA)	~1,200	Transitional woodland and floodplain habitats; serves as ecological buffer between NNP and community lands.	Key wildlife corridor and buffer zone; critical for elephant and carnivore migration.

KBA Name	Approx. Area (km ²)	Key Ecological Attributes	Conservation Significance
Kaputa GMA (Northern Sector)	~1,400	Semi-arid woodland and grassland matrix; seasonal migration route for large mammals.	Forms western connectivity to Nsumbu NP; vital for ecosystem resilience and genetic exchange.
Lake Tanganyika Basin (Lunzua–Tondwa Bay Complex)	~2,500 (Zambian portion)	Freshwater biodiversity hotspot with >350 fish species (95% endemic); nesting sites for aquatic birds and hippos.	Ramsar-eligible wetland of international importance; supports regional fisheries and tourism.
Itigi Thicket and Escarpment Forests	~350	Dense, fire-sensitive vegetation with endemic flora; rare vegetation type in northern Zambia.	Classified as an Endangered Ecosystem (IUCN, 2019); important for botanical conservation.

Ecosystem corridors and connectivity

The ecological corridors in the study area serve as biophysical linkages between core protected areas, ensuring the movement of species, gene flow, and ecosystem functionality across administrative boundaries. Spatial modelling and field verification (ZEMA GIS Unit, 2024) identified four main connectivity systems:

1. Nsumbu–Tondwa–Kaputa Wildlife Corridor
2. Extends westwards from Nsumbu NP through Tondwa GMA into Kaputa GMA, facilitating movement of elephants, lions, and antelopes
3. Currently functional but threatened by agricultural expansion and charcoal production near Mukupa
4. Recommended for immediate protection under the Wildlife Act (2015) and incorporation into the TDP spatial plan as a Conservation Priority Zone (CPZ-I).

Lunzua–Tondwa Riparian Corridor

- Follows the Lunzua River system down to Lake Tanganyika, linking terrestrial and aquatic habitats.
- Provides foraging and nesting grounds for waterfowl and supports amphibian diversity.
- Should be managed as a multi-use buffer zone, integrating riparian forest restoration and community conservation initiatives.

Itigi–Escarpment Ecological Link

- A high-altitude corridor connecting the Itigi thicket forests with the Miombo–woodland mosaic of the plateau.
- Critical for maintaining flora endemism and preventing genetic isolation of restricted plant populations.
- Recommended for designation as a Biodiversity Management Area (BMA) under the Forest Act (2015).

Ecological sensitivity and threat analysis

The integrity of these biodiversity areas and corridors is being undermined by increasing anthropogenic pressures and climate-related stresses. The most critical threats identified through SESA field consultations and satellite monitoring include:

- deforestation and habitat fragmentation: expansion of smallholder agriculture and charcoal production within corridor zones;
- unregulated tourism infrastructure: construction of lodges and access roads within sensitive zones (especially along Kasaba Bay and Nsumbu Bay);
- poaching and wildlife trafficking: persistent illegal hunting along cross-border routes;
- fire incidence: high fire recurrence (every 2–3 years) degrading Miombo regeneration; and
- climate change: increasing frequency of dry spells and intense rainfall affecting vegetation dynamics and wildlife mobility.

Conservation priorities and strategic recommendations

- Corridor Legal Recognition: Integrate wildlife and ecological corridors into the official spatial planning framework of the GREAT-TDP, aligning with the National Spatial Planning Policy (2021).
- Habitat Restoration: Implement restoration in degraded corridor zones using native vegetation to re-establish connectivity, focusing on the Nsumbu–Tondwa linkage.
- Biodiversity Monitoring: Establish biodiversity observation stations and ecological monitoring indicators (species richness, canopy cover, wildlife sightings) under ZEMA’s environmental information system.
- Community Participation: Involve local communities through Community Resource Boards (CRBs) and benefit-sharing schemes to reduce resource pressure within buffer zones.
- Transboundary Coordination: Collaborate with Tanzania National Parks Authority (TANAPA) and Lake Tanganyika Authority (LTA) to ensure corridor continuity across international borders.

SESA linkages

The identification of Key Biodiversity Areas (KBAs) and ecological corridors provides an essential basis for the Environmental and Social Impact Analysis (Chapter 6) and Mitigation Planning (Chapter 7). These spatially defined ecological systems will serve as biodiversity sensitivity layers in the SESA screening process, guiding tourism zoning, infrastructure siting, and conservation investment under the GREAT-TDP. This ensures that development proceeds without compromising the integrity of critical habitats and ecological connectivity across the broader Tanganyika Basin landscape.

4.2.4 Protected areas and conservation zones

The study area is located within one of Zambia’s oldest and most ecologically significant protected area complexes, consisting of Nsumbu National Park (NNP), Tondwa Game Management Area (GMA), Kaputa

GMA, and portions of Lake Tanganyika’s aquatic ecosystem. This integrated landscape supports an extraordinary diversity of flora and fauna, forming the foundation for both biodiversity conservation and nature-based tourism, which are central pillars of the GREAT-TDP initiative. The area’s protection status confers legal obligations and strategic opportunities that shape all environmental planning and management under the SESA framework.

Network of protected areas within the study area

Table 26: Protected areas and conservation zones (Source: DNPW, NHCC, and ZEMA, 2024).

Protected Area	Legal Status	Approx. Area (km ²)	Primary Conservation Value	Management Authority
Nsumbu National Park (NNP)	IUCN Category II – National Park	2,020	High biodiversity; includes Miombo woodland, escarpment forest, lake shoreline, and aquatic habitats. Core tourism zone of the GREAT-TDP.	Department of National Parks and Wildlife (DNPW) in partnership with Nsumbu Tanganyika Conservation Programme (NTCP).
Tondwa Game Management Area (GMA)	IUCN Category VI – Sustainable Use Area	1,200	Buffer between Nsumbu NP and communal lands; supports wildlife corridors and sustainable resource use.	DNPW and Community Resource Board (CRB).
Kaputa GMA (Northern Sector)	IUCN Category VI – Sustainable Use Area	1,400	Connects Nsumbu ecosystem to Luangwa Basin; seasonal migration route for large mammals.	DNPW and CRB.
Kasaba Bay Heritage Zone	Cultural/Natural Heritage Zone (Proposed)	~50	Contains historical KK Presidential Lodge, Iron Age sites, and scenic promontories.	Ministry of Tourism & National Heritage Conservation Commission (NHCC).
Lake Tanganyika Nearshore and Littoral Zone	Freshwater Protected Area (informal)	Variable	Habitat for endemic fish and aquatic vegetation; critical for fisheries and biodiversity.	Ministry of Green Economy & Environment (MGEE), WARMA, LTA.

Nsumbu National Park (NNP)

Established in 1950, Nsumbu National Park is the core conservation anchor of the study area. It spans approximately 2,020 km² along the southwestern shores of Lake Tanganyika, encompassing a rich mosaic of woodlands, grasslands, riverine forests, and aquatic ecosystems. The park provides habitat for key species such as elephant, lion, buffalo, roan, sable, and hippo, and harbours significant birdlife diversity (over 380 species). Through the Nsumbu Tanganyika Conservation Programme (NTCP) a partnership between DNPW and Frankfurt Zoological Society (FZS) notable improvements in anti-poaching, wildlife monitoring, and community engagement have been achieved since 2017. NNP is thus a high-sensitivity ecological zone and the primary tourism focal area under the GREAT-TDP.

Tondwa and Kaputa Game Management Areas (GMAs)

These GMAs form the ecological buffer surrounding Nsumbu NP, maintaining wildlife movement and providing sustainable resource-use opportunities for local communities. Tondwa GMA (1,200 km²) encompasses wooded plains and wetlands, supporting large herbivores and migratory birds. Kaputa GMA (1,400 km²) links the Nsumbu ecosystem to western woodlands, contributing to gene flow and species dispersal. However, these GMAs face increasing pressure from charcoal production, poaching, and agricultural expansion, highlighting the urgent need for revised co-management frameworks and strengthened Community Resource Boards (CRBs). Both GMAs have high potential for community-based tourism (CBT), photographic safaris, and conservation enterprises, which align with the GREAT-TDP's goal of inclusive, sustainable development.

Lake Tanganyika and Aquatic Protection

Lake Tanganyika is an integral component of the study area's environmental and socio-economic fabric. It provides freshwater, fisheries, and scenic value, supporting both subsistence and commercial livelihoods. Although the lake is not gazetted as a protected area under Zambian law, it falls under the Lake Tanganyika Authority (LTA) and the Water Resources Management Act (2011), which recognise its transboundary significance. The nearshore and littoral zones within the study area contain sensitive aquatic habitats such as:

- mangrove-like riparian vegetation and papyrus swamps, which stabilise shorelines;
- spawning and nursery grounds for endemic fish species; and
- critical feeding and nesting sites for aquatic birds such as cormorants and herons.

The absence of formal protection mechanisms for these littoral zones poses a major management gap, emphasising the need for a Freshwater Protected Area designation or inclusion under a Ramsar Site nomination.

Kasaba Bay Heritage and Conservation Zone

Kasaba Bay holds a dual natural and cultural heritage value. It encompasses pristine bay systems, rocky promontories, and historically significant sites including the former Presidential Lodge of Dr. Kenneth Kaunda (KK) and Iron Age archaeological remains. It is also one of the proposed flagship nodes under the GREAT-TDP, intended to host low-impact, high-value tourism infrastructure. Management of the bay must therefore integrate both heritage conservation protocols (NHCC, 2024) and environmental safeguards to preserve its scenic and cultural integrity.

Threats and management challenges

Despite its legal protection status, the conservation network faces mounting pressures:

- encroachment and illegal land allocation in GMA buffer zones;
- poaching and bushmeat trade targeting elephants, antelopes, and primates;
- unsustainable fishing practices degrading nearshore ecosystems;
- fire and deforestation leading to loss of woodland habitat and soil degradation; and
- weak enforcement capacity due to limited resources and institutional overlap among agencies.

The combined effect of these pressures undermines ecosystem connectivity, biodiversity integrity, and the ecological basis of tourism development.

Strategic conservation actions

To maintain the ecological and tourism potential of the study area, the following strategic conservation five actions are recommended:

1. Strengthen Collaborative Management: Enhance partnerships between DNPW, CRBs, NGOs (NTCP, FZS), and local councils under co-management frameworks
2. Integrate Protection into Spatial Planning: Embed protected area and buffer zone boundaries into the GREAT-TDP land-use zoning scheme and local development plans
3. Promote Ecotourism and Conservation Financing: Channel tourism revenue into conservation trust funds and community benefit-sharing mechanisms
4. Implement Landscape-Level Monitoring: Introduce remote-sensing and field-based biodiversity monitoring in collaboration with ZEMA and DNPW
5. Enhance Legal and Policy Harmonisation: Align local management plans with national policies (Tourism Policy 2024, Wildlife Policy 2023, Forest Policy 2014) and international frameworks (CBD, Ramsar, and World Heritage Conventions)

SESA Linkages

The protected area network within the study area provides the ecological baseline for the SESA's impact assessment (Chapter 6) and sustainability appraisal (Chapter 7). By maintaining functional landscapes and conserving ecosystem services, these zones anchor the environmental integrity upon which the GREAT-TDP's tourism-led economic model depends. The SESA thus prioritises the integration of conservation planning,

community participation, and institutional coordination to safeguard these protected landscapes for long-term sustainable development.

4.2.5 Main human pressures and threats to biodiversity

The biodiversity and ecosystem integrity of the study area face growing pressure from anthropogenic activities that, if unmanaged, risk undermining the environmental and economic foundations of the GREAT-TDP. Human-driven disturbances including land conversion, resource extraction, and unregulated tourism have accelerated ecosystem degradation and reduced the resilience of key habitats across terrestrial, freshwater, and riparian zones.

Overview of key pressure drivers

Through field assessments, stakeholder consultations, and spatial monitoring (ZEMA, DNPW, WARMA, 2024), five principal categories of biodiversity threats were identified:

Table 27: Main human-induced threats to biodiversity

Threat Category	Underlying Causes	Observed / Potential Effects	Risk Level (SESA Sensitivity)
Deforestation and Habitat Fragmentation	Agricultural expansion, charcoal burning, uncontrolled bush fires	Loss of woodland cover, fragmentation of wildlife corridors, increased soil erosion, altered hydrology	High
Illegal and Unsustainable Resource Extraction	Poaching, illegal timber harvesting, sand and gravel extraction	Decline of key wildlife species, loss of mature trees, landscape degradation	High
Overfishing and Aquatic Habitat Degradation	Use of undersized nets, night fishing with lamps, poor enforcement	Depletion of fish stocks, disruption of breeding zones, eutrophication and pollution	High
Unplanned Settlements and Land Encroachment	Weak land tenure control, population pressure, informal land sales	Shrinking buffer zones, human–wildlife conflict, sanitation-related pollution	Moderate–High
Climate Change and Extreme Weather Events	Prolonged dry spells, flash floods, lake level fluctuation	Vegetation dieback, wetland desiccation, increased fire frequency, erosion	Moderate

1. Deforestation and woodland degradation

Deforestation is the most pervasive threat in the study area, primarily linked to shifting cultivation, charcoal production, and illegal timber harvesting. Satellite imagery (Landsat 8, 2015–2024) reveals a 12–15% decline in dense Miombo woodland cover, concentrated along the Nsumbu–Kasaba corridor and upper Lunzua catchment.

Key drivers include:

- expansion of smallholder agriculture into forest margins;
- demand for charcoal and fuelwood from local communities and lodges; and
- weak enforcement of the Forest Act (2015) and limited forest patrol resources.

This loss of vegetation reduces carbon sequestration capacity, increases erosion and sedimentation, and fragments wildlife habitats threatening the ecological stability upon which tourism depends.

2. Illegal and unsustainable resource extraction

Poaching remains a serious concern despite increased law enforcement under the Nsumbu Tanganyika Conservation Programme (NTCP). Target species include elephants, sable, and pangolins, with illegal trade networks extending into Tanzania and DRC. In addition, unsanctioned sand mining and quarrying near the lakeshore and along riverbeds degrade riparian vegetation and destabilise slopes. Illegal logging, particularly of *Pterocarpus angolensis* and *Afzelia quanzensis*, continues in accessible zones outside the National Park, depleting valuable timber resources and altering forest structure.

3. Overfishing and aquatic habitat degradation

The Lake Tanganyika shoreline within the study area supports numerous artisanal fishing camps whose activities directly impact aquatic biodiversity.

Primary concerns include:

- overfishing due to lack of enforcement of seasonal bans;
- destructive fishing practices (e.g., mosquito nets, light attraction); and
- pollution from fish processing, fuel spills, and waste disposal along beaches.

These practices disrupt spawning cycles of endemic species (*Stolothrissa tanganyicae*, *Limnothrissa miodon*), reduce productivity, and threaten the ecological balance of the lake ecosystem. The absence of designated no-take zones or aquatic sanctuaries exacerbates the problem.

4. Land encroachment and settlement pressure

Population growth in Nsumbu and Mukupa wards has led to informal settlement expansion and conversion of buffer zones into agricultural or residential land. Without adequate land-use planning, this trend is eroding the ecological buffers that separate protected areas from community zones.

The key effects include:

- increased human–wildlife conflict, particularly crop damage by elephants and hippos;

- sanitation-related pollution from unregulated waste disposal in riparian areas; and
- loss of scenic and ecological integrity around tourism nodes like Kasaba Bay and Chituta.

This underscores the need for an integrated land-use zoning plan under the GREAT-TDP that balances conservation and community needs.

5. Climate change and fire regime alteration

Climate variability characterised by longer dry seasons, erratic rainfall, and rising temperatures has amplified ecological stress across the study area. Increased fire frequency and intensity (every 2–3 years) leads to:

- tree mortality and stunted woodland regeneration;
- soil nutrient loss and exposure; and
- displacement of wildlife and alteration of species composition.

These patterns are further compounded by anthropogenic burning for hunting or field preparation.

Fire management must therefore be a core component of environmental planning and community education initiatives.

Cumulative and cross-sectoral implications

The convergence of these pressures results in:

- declining biodiversity and ecological connectivity, undermining the study area’s carrying capacity for tourism;
- reduced ecosystem services, including water regulation, soil fertility, and carbon storage; and
- socio-economic vulnerability, as communities reliant on natural resources face diminishing productivity.

If left unmitigated, these drivers could erode the GREAT-TDP’s sustainability objectives, compromising both ecological integrity and economic viability.

Strategic Management Priorities

To counteract these pressures, the following six strategic interventions are recommended under the SESA framework:

1. **Integrated Landscape Management:** Develop a unified Land Use and Conservation Zoning Plan that delineates development, buffer, and core conservation zones

2. Community-Based Natural Resource Management (CBNRM): Strengthen CRBs and promote incentive-based conservation through benefit-sharing schemes
3. Restoration and Fire Control: Implement reforestation, assisted natural regeneration, and early burning regimes in degraded woodland areas
4. Sustainable Fisheries and Lake Management: Enforce fishing regulations, introduce no-take breeding zones, and expand water quality monitoring through WARMA and LTA
5. Alternative Livelihoods and Energy Sources: Promote renewable energy (solar cookers, biogas) and small-scale enterprises to reduce pressure on forests and fisheries
6. Climate Adaptation Planning: Integrate climate-resilient measures into local development and tourism infrastructure planning

SESA linkages

The identification of these biodiversity threats provides the foundation for the impact assessment (Chapter 6) and mitigation framework (Chapter 7). It ensures that the GREAT-TDP incorporates proactive measures to prevent, minimise, and offset adverse impacts while enhancing positive environmental outcomes. These findings also guide the formulation of sustainability indicators, monitoring protocols, and institutional responsibilities under the Environmental and Social Management and Monitoring Plan (ESMMP).

4.3 Socio-economic environment

4.3.1 Population and demographics

The study area is located primarily within Nsama District of Northern Province, with influence zones extending into Kaputa and Mpulungu Districts. The region is sparsely populated relative to national averages but exhibits steady population growth and localized concentrations around economic and natural resource nodes such as Nsumbu town, Kasaba Bay and Chituta. Understanding the demographic profile is essential for planning community participation, service provision and managing social pressures associated with tourism expansion.

Population size and distribution

According to the Zambia Statistics Agency (ZamStats) 2022 Census, Nsama District hosts approximately 79,400 people, while Kaputa District has an estimated population of 127,800. Within the defined study influence area a 40 km buffer around Nsumbu National Park and adjoining wards an estimated 47,000–52,000 residents are distributed across 11 main settlements, fishing camps and small agricultural hamlets.

Table 28: Estimated population distribution (Source: ZamStats 2022; Field Estimates, 2024).

Settlement / Ward	Approx. Population (2022)	Main Livelihoods	Observations
Nsumbu Town	~9,800	Fishing, trade, tourism services	Urbanising node; serves as administrative and economic hub of the study area.
Mukupa Ward	~6,200	Small-scale farming, charcoal, fishing	Rapid settlement expansion along the road corridor.
Chituta	~4,300	Fishing, subsistence agriculture	Located near Kasaba Bay; seasonal migration linked to tourism and fishing.
Tondwa	~3,900	Fishing, trading	Population fluctuates seasonally due to fisheries.
Nsumbu Bay (Fishing Camps)	~3,500 (variable)	Fishing, fish processing	High population density during fishing peaks.
Kasaba Bay	~2,600	Tourism support services, farming	Permanent community with emerging tourism-linked employment.
Other rural villages (combined)	~17,000	Mixed agriculture, natural resource use	Scattered settlements; limited access to services.

Population growth and dynamics

The region's population has been growing at an estimated annual rate of 2.8%, slightly above the national average of 2.5%. Growth is driven by natural increase and in-migration, particularly among fishing and agricultural households attracted to Lake Tanganyika's productive shorelines and emerging tourism-linked opportunities.

Key demographic characteristics include:

- A predominantly youthful population, with approximately 62% of residents below 25 years, contributing to high dependency ratios and pressure on education and employment systems.
- A relatively balanced gender distribution (51% female; 49% male), though men dominate migratory labour sectors such as fishing and construction.
- Seasonal mobility associated with fishing and tourism, with temporary population peaks during the fishing season (September–February) and around major tourism periods.

These dynamics shape service delivery needs, labour availability, and gendered patterns of economic participation.

Population density and settlement patterns

Population density within the broader study area is low, averaging 15–20 persons per km², but pockets of high density occur around Nsumbu town, Kasaba Bay, and Lunzua River. Settlements follow an elongated linear pattern along road corridors and water bodies, dictated by access to fishing grounds, fertile land, and market

centres. The Nsumbu–Kaputa road corridor is emerging as a key growth axis, hosting informal trading centres and peri-urban settlements. Unplanned expansion along this corridor, however, poses risks to ecological buffers, wildlife corridors, and water quality, reinforcing the need for integrated land-use control under the GREAT-TDP.

Ethnic and cultural composition

The population is ethnically diverse, dominated by Tabwa, Lungu and Mambwe groups, alongside smaller populations of Bemba and Namwanga origin. Cultural systems are strongly land- and resource-based and are governed through traditional authorities primarily Chief Nsama, Senior Chief Kaputa and Chief Mukupa Kaoma. These structures play critical roles in:

- land allocation and dispute resolution;
- community mobilisation; and
- stewardship of cultural and natural heritage sites.

Integrating traditional leadership into tourism planning and environmental governance will be important for ensuring local ownership and conflict prevention.

Migration and population mobility

The study area experiences two major mobility patterns:

- ❖ Inward seasonal migration, involving fishers, traders and labourers from Mpulungu, Kaputa and parts of Tanzania. This inflow increases pressure on infrastructure, sanitation, resource use and service delivery.
- ❖ Outward migration, particularly among youth seeking formal employment or education opportunities in urban centres such as Kasama, Mansa and Lusaka.

These patterns create fluctuating service demands and influence the design of responsive, flexible development strategies.

Demographic implications for the SESA and Destination Plan

The demographic structure presents both opportunities and risks:

- A youthful labour force can support tourism, conservation and small enterprise development if appropriate skills programmes are introduced.

- High dependency ratios and poverty levels increase reliance on natural resources, raising the risk of unsustainable extraction.
- Clustering of settlements near ecologically sensitive zones heightens vulnerability to human–wildlife conflict, pollution and infrastructure strain.

These demographic insights inform the social impact pathways assessed in Chapter 6 and shape strategies for social inclusion, employment generation and community engagement under the Destination Plan and ESMMP.

4.3.2 Livelihoods and economic activities

Livelihoods within the study area are predominantly rural, natural resource–dependent, and subsistence-oriented. Fishing, small-scale agriculture, informal trading, and harvesting of forest products form the core economic activities, reflecting the area’s ecological endowment and limited access to formal employment. The economic base remains narrow, with low productivity, limited diversification, and high vulnerability to environmental and market shocks. Understanding livelihood structures is essential for identifying both opportunities and risks associated with the Destination Plan.

Overview of Livelihood Patterns

Livelihoods across the Nsumbu–Kasaba Bay landscape are shaped by access to Lake Tanganyika, forest and woodland resources, and the expanding but still modest tourism sector. Based on household survey data, approximately 48% of households rely on artisanal fishing as their primary livelihood, while 32% depend on subsistence agriculture. Other households engage in charcoal production, small-scale trading, or a combination of seasonal activities that vary with fisheries cycles, rainfall patterns, and market access. Formal employment opportunities are limited, with fewer than 10% of residents engaged in salaried work. Tourism-linked jobs exist but are seasonal, low-paying, and constrained by limited hospitality skills and the small size of the current tourism economy. These conditions contribute to high economic sensitivity and low adaptive capacity.

Main livelihood sectors

Table 29 presents the main economic and livelihood sectors in the study area.

Table 29: Summary of main livelihood sectors (Source: Field Consultations, 2024).

Sector	Dominant Activities	Relative Importance	Key Issues / Constraints
Fishing and Fish Processing	Artisanal fishing, fish drying and smoking, trading	High	Overfishing, weak regulation, declining catch rates, limited cold-chain facilities

Sector	Dominant Activities	Relative Importance	Key Issues / Constraints
Agriculture and Livestock	Maize, cassava, beans, groundnuts; small ruminants and poultry	High	Poor soils, limited irrigation, climate variability, low yields
Tourism and Hospitality	Lodge operations, guiding, crafts, transport services	Medium-High	Limited infrastructure, skills gaps, seasonal demand
Forestry and Charcoal	Fuelwood harvesting, charcoal burning, timber extraction	Medium	Deforestation, unsustainable harvesting, weak enforcement
Informal Trade and Services	Market vending, transport, small shops	Medium	Poor access to finance, limited market linkages
Public and NGO Employment	Education, health, conservation projects	Low	Limited formal opportunities, short-term contracts

Fishing and fish processing

Fishing is the dominant livelihood along the Lake Tanganyika shoreline, employing an estimated 60% of the adult population directly or indirectly. Artisanal fishers primarily target kapenta, bream, and catfish, with key fishing activities concentrated in Nsumbu, Chituta, Tondwa, and surrounding fishing camps. The sector underpins both income generation and food security but faces several sustainability pressures, including:

- overfishing and the use of illegal nets;
- weak enforcement of licensing and seasonal fishing bans; and
- significant post-harvest losses linked to inadequate handling and storage facilities.

Fish processing mainly performed by women includes smoking, drying, and salting. While critical to household income, it drives high demand for fuelwood and contributes to localised woodland degradation. The Destination Plan identifies opportunities for improved fish processing technologies, value addition, cold-chain infrastructure, and women-centered skills programmes within the fisheries value chain.

Figure 8: Fishing activities on the lake are common (Source: SMA Tourism field survey)



Figure 9: Pende Fisheries Camp (Source: SMA Tourism field survey)



Agriculture and livestock production

Agriculture forms the secondary livelihood pillar, providing food security and supplementary income. Farming is predominantly rain-fed and relies on simple tools, with limited fertiliser use. Common crops include maize, cassava, beans, and groundnuts, while small livestock (goats, pigs, poultry) are kept at low scale due to disease

and predation.

Constraints to agricultural productivity include declining soil fertility, limited extension support, erratic rainfall linked to climate change, and poor access to storage and markets. The GREAT-TDP presents opportunities to enhance agriculture through:

- climate-smart and conservation agriculture practices;
- agroforestry and sustainable land management;
- strengthening supply chains for local produce to tourism establishments.

These interventions can help diversify income sources and reduce pressure on fragile ecosystems.

Tourism and hospitality

Tourism is an emerging growth sector with strong potential to transform the local economy. The area hosts high-value attractions, including Nsumbu National Park, Kasaba Bay, Chituta Beach, and notable cultural sites such as historic Iron Age features and the former Presidential Lodge of Dr. Kenneth Kaunda.

Existing lodges and safari camps create seasonal employment, though growth is constrained by:

- poor road access and limited connectivity;
- weak destination marketing;
- inadequate hospitality and guiding skills;
- limited integration between tourism operators and local suppliers.

The Destination Plan proposes infrastructure upgrades, community-based tourism models, and the establishment of a Destination Management Organisation (DMO). If implemented effectively, tourism can stimulate enterprise development, create jobs, and strengthen incentives for biodiversity conservation.

Forestry and charcoal production

Forestry resources support household energy needs and provide income through charcoal production. Charcoal is a major commercial product but is harvested unsustainably, contributing to deforestation and habitat loss. Women and youth often collect fuelwood, while men dominate charcoal carbonisation and transport.

The Destination Plan promotes alternative energy solutions and sustainable forest management, including:

- efficient cookstoves and renewable energy technologies;
- reforestation and community woodlot initiatives;
- strengthening Community Forest Management structures.

These measures can reduce environmental impacts while safeguarding livelihood

Informal trade and small enterprises

Informal trade is a significant component of the local economy, involving cross-border commerce, fishing gear sales, food vending, and transport services. These activities are concentrated in Nsumbu town and along the Nsumbu–Kaputa corridor. Most enterprises are unregistered, with low profit margins and limited access to finance. The DP directed development of ecotourism infrastructure and improved connectivity is expected to:

- stimulate micro-enterprises (crafts, food stalls, guiding);
- create demand for transport and accommodation services; and
- encourage the formalisation of small businesses through cooperatives and business training.

Public and NGO employment

Formal employment opportunities remain scarce. Public sector jobs are mainly in education, health, and local administration, while NGOs and conservation programmes (such as NTCP) provide temporary and project-based employment. The absence of long-term formal jobs contributes to reliance on subsistence and informal work. The SESA identifies this as an area for intervention through:

- vocational training, especially in hospitality, guiding, and construction;
- partnerships with private investors to integrate local labour in development projects; and
- youth skills and entrepreneurship programmes aligned with the GREAT-TDP objectives.

Gender dimensions of livelihoods

Women play a crucial but often under-recognised role in local economies particularly in fish processing, petty trade, and subsistence farming. Despite this, they face barriers in accessing land, credit, and markets, exacerbating socio-economic inequality. Tourism expansion must therefore incorporate gender-responsive strategies, such as:

- targeted training and support for women entrepreneurs;
- inclusive procurement policies for tourism operators; and
- gender-sensitive benefit-sharing mechanisms in conservation areas.

4.3.3 Infrastructure and social services

Health Services

Health service provision across the Nsumbu–Kasaba Bay landscape is limited by inadequate facility coverage,

staffing shortages, and long travel distances. Nsumbu Health Centre is the main facility serving over 16,000 people, supported only by a small health post in the Ndole zone. Outlying settlements such as Iyendwe, Chishela, Chomba and Kampinda rely on infrequent outreach services or must travel considerable distances, delaying treatment for pregnant women, children, and the elderly. A new hospital constructed under the Lake Tanganyika Development Project is expected to relieve pressure but remains non-operational. Until then, communities depend on overstretched infrastructure with limited diagnostic capacity, recurrent drug stockouts and weak emergency referral capability. Common health problems include malaria, respiratory infections, maternal complications, diarrhoeal diseases and injuries linked to fishing activities. Environmental health risks stem from unsafe water sources, poor sanitation and seasonal flooding, which increase outbreaks of cholera, diarrhoea and skin infections. Rainy-season road deterioration frequently disrupts access to care. Consultations also highlighted SEA/SH risks faced by women and girls when travelling long distances to facilities. Strengthening health infrastructure, staffing, equipment and referral systems and operationalising the new hospital will be key to preparing communities for increased tourism activity. Common health conditions narrated during consultations include malaria, acute respiratory infections, diarrhoeal diseases, maternal complications and fishing-related injuries. These reported trends align with documented disease patterns for Northern Province health profiles and district-level health bulletins.

Facility	Level	Location	Approx. Distance to Communities
Nsumbu Health Centre	Rural Health Centre	Nsumbu	Local
Ndole Health Post	Health Post	Ndole	~12 km
Mpulungu District Hospital	Referral Hospital	Mpulungu	~56 km
Planned Kasaba Bay Hospital	District Hospital	Kasaba Bay	Local

Health infrastructure remains inadequate due to limited staffing, weak referral systems and delays in operationalising newly constructed facilities.

Water Supply and Sanitation

Access to safe, reliable water remains a major challenge. Households use a mix of boreholes, lake water, streams and shallow wells, with marked variation in quality and distance. Survey data shows 61 households rely on boreholes, 17 on lake/stream water, and only nine on public taps. Boreholes are often far from settlements, prone to breakdowns and congested during peak hours. Households relying on unprotected water sources face high contamination risks from human waste, livestock, runoff and waste disposal, particularly during the rainy season. This contributes to recurrent diarrhoeal diseases, cholera, typhoid and skin infections.

Sanitation coverage figures reported in this assessment are based on a combination of household baseline surveys conducted during the 2024 field mission, participatory rural appraisals (PRAs) undertaken in Nsumbu, Kasaba Bay, Chishela and Iyendwe, and triangulation with district-level environmental health records. Where quantitative district datasets were incomplete, sanitation status was validated through community mapping,

structured interviews with Environmental Health Technicians, and observation of latrine types and settlement conditions. Nsumbu township has some waste collection points, but coverage is poor and irregular. Waste accumulation near the lakeshore threatens both environmental and tourism values. Women and girls bear the burden of water collection, often walking long distances or queuing at isolated points, which increases fatigue and SEA/SH risks. Strengthening water supply systems (borehole rehabilitation, new boreholes, piped schemes), improving sanitation, and formalising waste management will be essential for community health and tourism-readiness.

Energy Access

Energy access is limited and unreliable. Only 35 surveyed households have grid electricity, while most rely on charcoal (71 households) and firewood (8 households) for cooking. Electrification is largely confined to Nsumbu; surrounding settlements such as Iyendwe, Chishela and Chomba remain fully off-grid. Even within Nsumbu, supply is intermittent and insufficient for business growth. Reliance on firewood and charcoal drives deforestation, woodland degradation and indoor air pollution, exposing women and children to respiratory risks. Firewood collection also increases time burdens and safety concerns for women and girls. Solar lamps and small battery-powered devices provide basic lighting but cannot support value addition, cold storage, ICT services or hospitality operations. Limited energy access restricts participation in tourism supply chains and slows enterprise development. Opportunities include solar mini-grids, household solar systems, efficient stoves and renewable energy solutions for lodges and community services. Improved energy access will strengthen climate resilience and support sustainable, low-carbon tourism.

Transport and Communication

Transport infrastructure remains a major constraint to service access and economic development. The Nsumbu–Mporokoso gravel road deteriorates during the rainy season, becoming difficult to navigate and delaying movement of goods and people. Feeder roads to settlements such as Iyendwe, Chishela, Chomba and Kampinda are narrow, unpaved and erosion-prone, limiting access to schools, markets and health facilities. Lake Tanganyika is a key transport route, but most vessels are informal, unregulated and lack safety equipment. Landing sites offer limited infrastructure, exposing passengers and traders to safety risks. Mobile network coverage is reliable in Nsumbu but weak or absent in inland villages. Limited ICT access restricts digital financial services, online communication, education, emergency alerts and tourism marketing. Transport and communication deficits increase the cost of goods, weaken emergency response, restrict livelihood opportunities and reduce the attractiveness of the area for tourism. Improving road conditions, introducing regulated lake transport, and strengthening ICT infrastructure are essential for unlocking the Destination Plan's potential.

Education and Skills Development

Educational attainment is low. Survey data shows 48% of adults have no formal education, 29% completed primary school, only 4% reached secondary level, and very few attained tertiary qualifications. Primary schools

in Nsumbu and surrounding settlements face shortages of classrooms, trained teachers and learning materials. Sanitation facilities are often inadequate. Children in villages such as Iyendwe, Chishela and Chomba walk long distances to school, contributing to high absenteeism and dropout rates. Gender disparities are significant. Girls face barriers such as early marriage, domestic responsibilities and limited menstrual hygiene management, leading to earlier dropout and reduced access to vocational skills. Secondary and vocational training opportunities are scarce, limiting youth employability in tourism, fisheries value chains, conservation or construction. Strengthening school infrastructure, expanding vocational training, promoting adult literacy and supporting youth skills programmes will be crucial for enabling local participation in Destination Plan value chains.

Social Services, Governance and Community Structures

Social services beyond health and education are limited. Social welfare outreach, youth facilities and psychosocial support systems are minimal. Traditional leaders hold strong influence especially in remote villages and play central roles in community mobilisation, conflict resolution and land allocation. Ward Development Committees (WDCs) exist but face constraints including limited resources, weak record-keeping and inadequate training. These challenges undermine local planning, participation and service monitoring. Vulnerable groups such as widows, female-headed households, persons with disabilities, unemployed youth and the ultra-poor face barriers to accessing services due to distance, cost and minimal representation in governance structures. Weak coordination among traditional leaders, WDCs, district authorities and private actors results in fragmented decision-making and inconsistent communication. Strengthening governance capacity, improving coordination, and enhancing community-level social services will be essential for inclusive tourism development, effective benefit-sharing and ensuring that vulnerable households are protected as Destination Plan investments scale up.

4.3.4 Gender, youth and vulnerability dynamics

Vulnerability across the Nsumbu–Kasaba Bay landscape is shaped by poverty, limited access to services, geographic isolation, and dependence on natural resources. Households in remote villages such as Iyendwe, Chomba and Chishela face the greatest constraints due to long travel distances to schools, health facilities, markets, water points and administrative services. Seasonal flooding, road deterioration and declining fish stocks further heighten exposure to shocks and reduce adaptive capacity.

Vulnerable Groups

Consultations and baseline data indicate that several groups experience heightened vulnerability and barriers to participation:

- Female-headed households and widows, who have weaker access to land, credit and labour support.
- Persons with disabilities (PWDs), facing mobility challenges and limited access to inclusive infrastructure

or services.

- Unemployed youth, constrained by low education levels and few pathways to formal jobs or skills training.
- Elderly and chronically ill persons, particularly where family support is limited.
- Ultra-poor households, heavily reliant on subsistence activities and highly exposed to food insecurity.

These groups are less represented in community structures and often excluded from decision-making processes affecting local development.

Gender Dimensions

Gender roles in the area are strongly traditional, with women responsible for water collection, caregiving, fish processing and domestic labour. Despite their central economic contribution, women face structural barriers in:

- access to land, credit and productive assets;
- mobility and participation in markets;
- representation in WDCs, cooperatives and tourism-related platforms;
- participation in nature-based enterprises and access to matching grants under the Destination Plan.

Girls face heightened schooling challenges due to distance, early marriage, domestic workloads and limited menstrual hygiene management. These constraints result in early dropout and limited long-term opportunities for skills acquisition and employment.

SEA/SH and GBV Risks & Vulnerabilities

SEA/SH and GBV risks arise from several contextual drivers:

- women and girls travelling long distances to water points, schools, markets and health facilities;
- mobility around fisheries, landing sites and informal markets;
- increased interaction with migrant workers, traders and seasonal labourers;
- limited reporting systems and weak response mechanisms;
- economic vulnerability that may drive transactional sexual relationships among youth.

These risks align with ESS4 and ESS2 considerations and must be addressed through prevention, reporting and safeguarding mechanisms during Destination Plan implementation.

Key factors that exacerbate vulnerability include:

- Low literacy and limited skills, which restrict access to formal or tourism-based employment;

- Poor service coverage in health, water, sanitation, energy and education;
- Natural resource dependence, exposing households to declining fish stocks and environmental degradation;
- Weak governance, which reduces support for vulnerable groups and limits inclusive decision-making;
- Isolation and limited mobility, which increase access barriers and reduce participation in economic opportunities.

These drivers affect household resilience and shape the distribution of risks and benefits associated with tourism development. Vulnerability and gender considerations intersect with several Environmental and Social Standards:

- ESS1: social baseline assessment, vulnerability analysis and risk pathways.
- ESS2: labour risks, SEA/SH, migrant worker interactions and fair hiring practices.
- ESS4: community health and safety, including GBV risks and access to safe transport.
- ESS7: applicability for vulnerable groups requiring targeted measures.
- ESS10: inclusive stakeholder engagement and representation of marginalised groups.

Addressing these linkages will support responsible and equitable Destination Plan implementation. The analysis aligns with the National Gender Policy, which promotes a minimum 30% gender representation in decision-making structures. This benchmark should guide participation in WDCs, CRBs, cooperatives, Destination Management Organisation structures and any DP-related planning bodies.

Implications for the Destination Plan

Without targeted interventions, existing vulnerabilities may limit equitable participation in tourism development and increase exposure to risks. Incorporating social inclusion and gender-responsive measures will be essential to:

- ensure fair access to matching grants, training and nature-based enterprise opportunities;
- reduce SEA/SH risks associated with increased mobility and tourism activity;
- strengthen youth and women's participation in tourism value chains;
- improve representation in community governance structures;
- protect vulnerable households from displacement, livelihood disruption or exclusion;
- enhance adaptive capacity and resilience at community level.

A strong focus on inclusion will help ensure tourism contributes to sustainable and broadly shared development outcomes.

4.3.5 Cultural and natural heritage sites

The Nsumbu–Kasaba Bay landscape contains a range of cultural and natural heritage assets that hold social, historical and spiritual significance for local communities. These assets form part of the wider socio-ecological identity of the Tabwa, Lungu and Mambwe peoples and are closely linked to land, water and natural resource use. Traditional leadership structures act as custodians of these sites and regulate access, rituals and resource use through customary norms. Preservation of these assets will be essential as tourism expands under the Destination Plan.

Cultural Heritage Sites and Practices

The area hosts several tangible and intangible cultural heritage features, including:

- Sacred forests and groves associated with ancestral worship and community rituals.
- Traditional spiritual sites near lakeshore and river inlets used for offerings and initiation rites.
- Burial sites and clan cemeteries, often located in forested areas close to settlements.
- Oral traditions, folklore and customary ceremonies practiced by the Tabwa, Lungu and Mambwe groups.
- Historical sites linked to early settlement patterns, fisheries traditions and the former Presidential Lodge in Kasaba Bay.

These cultural features are integral to social cohesion and identity, with access controlled by traditional authorities. Community consultations indicated that certain sacred groves and spiritual sites remain sensitive to disturbance and should be carefully managed in tourism planning.

Natural Heritage Features

The landscape includes ecologically and culturally important natural assets such as:

- Lake Tanganyika, a globally significant aquatic ecosystem supporting fisheries, cultural identity and traditional livelihoods.
- Nsumbu National Park, hosting wildlife, scenic landscapes, and biodiversity of cultural and tourism value.
- Rivers, wetlands and forest patches used for rituals, medicinal plant harvesting and seasonal ceremonies.
- Caves and rocky outcrops associated with origin stories or ancestral practices.

These natural features provide cultural services and aesthetic value central to community identity, subsistence practices and local customary governance.

Threats and Pressures

Cultural and natural heritage sites face several pressures linked to increasing population, changing land use

and emerging tourism activities:

- Unregulated access to sacred areas due to in-migration and expanding settlements.
- Deforestation and charcoal production affecting sacred groves and ritual forests.
- Tourism infrastructure development near sensitive ecological or cultural areas.
- Potential disturbance of burial grounds during land clearing or construction.
- Loss of intangible heritage, as youth migration reduces participation in customary practices.

Local leaders expressed concerns that poorly planned tourism could erode cultural integrity if sensitive areas are not clearly mapped and protected.

ESS8 Considerations

The cultural and natural heritage of the area aligns with ESS8 (Cultural Heritage), which requires:

- identification of tangible and intangible cultural heritage;
- avoidance of impacts on sacred sites, burial grounds and culturally significant forests;
- engagement with traditional leaders on access and protection measures;
- integration of cultural heritage safeguards into planning, siting and construction;
- support for documentation and safeguarding of intangible cultural practices.

These considerations should guide site selection for tourism infrastructure and recreational activities.

Implications for the Destination Plan

Cultural and natural heritage sites present both opportunities and risks for the Destination Plan:

Opportunities:

- development of community-based cultural tourism (guided heritage walks, storytelling, crafts);
- promotion of cultural conservation as part of the tourism identity;
- revenue-sharing models to support cultural site protection.

Risks:

- disturbance of sacred sites due to poorly located trails, lodges or viewing areas;
- cultural commodification or erosion of traditional practices;
- increased visitor pressure on sensitive ecological and cultural areas.
- To ensure sustainable tourism development, cultural and natural heritage sites should be:
- mapped and screened using ESS8 criteria;

- integrated into land-use and zoning plans;
- protected through customary and statutory mechanisms;
- promoted responsibly to maintain authenticity and community control.

4.3.6 Urban and rural living environment

Social dynamics within the Nsumbu–Kasaba Bay landscape are shaped by traditional authority systems, migration patterns, resource dependence and the distribution of economic opportunities. Communities generally exhibit strong internal cohesion anchored in kinship networks, shared livelihoods and customary norms. However, increasing in-migration, pressure on natural resources and uneven access to services create emerging sources of tension that have implications for social stability and Destination Plan implementation.

Community Cohesion and Social Relations

Most settlements maintain strong social support systems based on extended families, communal work practices and participation in cultural events. Traditional leaders play a central role in maintaining order, mobilising communities and resolving disputes. These structures support collective action and help sustain social cohesion. In areas with high seasonal influxes of fishers and traders, cohesion is weaker due to transient populations, irregular settlement patterns and limited accountability. Conflicts over fishing grounds, landing sites and access to forests were noted during consultations, particularly in lakeshore settlements with high mobility.

Migration and Resource Pressure

Seasonal and long-term in-migration from Mpulungu, Kaputa and Tanzania increases demand for fishing grounds, land for settlement and forest resources. Communities reported rising competition over:

- access to fishing zones and gear conflicts;
- fuelwood and charcoal production areas;
- settlement space near the lakeshore;
- shared water sources and basic services.

These pressures heighten household vulnerability and can trigger disputes if not carefully managed.

Governance, Leadership and Dispute Resolution

Traditional leaders remain the main custodians of customary law and are the primary point of contact for land allocation, resource access and conflict resolution. Ward Development Committees (WDCs) are active but

face capacity constraints that limit their effectiveness in coordinating community planning and facilitating inclusive participation. Formal dispute resolution systems local courts, police posts and district offices exist but are often distant, understaffed or difficult for remote households to access. Strengthening coordination between customary and statutory systems will be essential for managing tourism-related grievances and community concerns.

Youth Dynamics

Youth constitute a large share of the population and play a central role in fishing, charcoal production and informal trading. Limited employment and training opportunities contribute to:

- frustration and perceptions of exclusion;
- involvement in high-risk activities;
- outward migration to urban centres;
- vulnerability to exploitation in informal labour.

Youth expressed strong interest in tourism-related skills and employment but lack structured pathways to participate.

SEA/SH and Community Safety Risks

Social and economic vulnerabilities contribute to SEA/SH risks in several contexts, including:

- unregulated landing sites and fishing camps;
- long-distance travel to water points, markets or health facilities;
- interactions with migrant traders and seasonal workers;
- informal lake transport lacking oversight.

Limited reporting mechanisms, weak referral pathways and cultural stigma restrict survivors' access to support services. These risks align with ESS4 and must be incorporated into community safety planning during Destination Plan implementation.

Potential Conflict Risks Linked to Tourism

Tourism growth may generate localised tensions if benefits are unevenly distributed or if development affects access to customary resources. Potential triggers include:

- competition for jobs or business opportunities;

- land acquisition disputes or perceived exclusion;
- cultural misunderstandings between communities and visitors;
- increased resource pressure in high-use zones.

Clear communication, benefit-sharing frameworks and inclusive decision-making will be essential to maintain stable community relations.

Implications for the Destination Plan

Strengthening social cohesion and conflict management systems will be critical for successful implementation of the Destination Plan. Key priorities include:

- enhancing the capacity of WDCs and traditional leaders for conflict resolution;
- ensuring transparent and inclusive engagement processes;
- promoting youth participation and livelihood opportunities;
- integrating SEA/SH risk mitigation into community engagement strategies;
- ensuring equitable access to tourism benefits and services.

A cohesive and well-supported community environment will help ensure that tourism development contributes positively to local well-being and long-term stability.

4.3.7 Health, safety and community well-being

Community health, safety and security within the Nsumbu–Kasaba Bay landscape are influenced by limited access to services, high dependence on natural resources, seasonal mobility and weak enforcement of safety standards in fisheries, transport and settlement development. The dispersed nature of settlements, poor road conditions and the absence of coordinated emergency response systems further increase vulnerability, particularly during the rainy season. These factors have implications for community well-being and for safe implementation of tourism and infrastructure investments under the Destination Plan.

Public Health and Disease Risks

Prevalent health risks are shaped by limited water and sanitation coverage, vector exposure and restricted access to timely medical care. The most frequently reported diseases include:

- malaria, driven by proximity to water bodies and poor household protection;
- respiratory infections, often linked to indoor air pollution from biomass fuels;
- diarrhoeal and waterborne diseases, associated with unprotected water sources;
- maternal and neonatal complications, due to long distances to health facilities;

- injuries, particularly among fishers engaged in high-risk activities.

Seasonal flooding increases exposure to stagnant water, contaminated runoff and waterborne disease outbreaks, while poor emergency transport limits rapid response.

Environmental and Infrastructure-Related Safety Risks

Households face safety risks related to infrastructure gaps and hazardous environmental conditions, including:

- poor road quality, making travel unsafe and delaying emergency evacuation;
- unregulated lake transport, where vessels lack life jackets, lighting and safety oversight;
- open waste disposal, attracting pests and increasing fire hazards;
- exposure to wildlife, particularly in settlements close to Nsumbu National Park.

In fishing communities, night-time fishing and use of unregulated lighting methods introduce additional risks.

Community Security and Protection Risks

Security risks in the area arise from a combination of mobility, economic vulnerability and weak law enforcement presence. Consultations indicated concerns related to:

- petty theft and gear conflicts in fishing camps;
- tensions between migrant fishers and host communities;
- unregulated movement during peak fishing periods;
- limited police presence in remote villages;
- SEA/SH risks affecting women, girls and persons with disabilities.

Long distances to police posts or community safety services reduce incident reporting and weaken overall community protection.

Emergency Response and Disaster Preparedness

- Formal emergency response systems are limited. Health facilities have restricted ambulance support, and most villages rely on informal transport arrangements during emergencies. Key constraints include:
- lack of functional emergency transport;
- limited communication networks in inland areas;
- poor road access during the rainy season;
- minimal preparedness for floods, storms or lake accidents.

Communities expressed the need for first-aid training, improved communication tools and coordination mechanisms for lake-related emergencies.

Implications for the Destination Plan

Community health, safety and security considerations will be essential to ensure safe and inclusive tourism growth. Priority areas for the Destination Plan include:

- improving access to health services and emergency care;
- enhancing water and sanitation conditions in high-use zones;
- regulating lake transport and enhancing safety standards;
- integrating SEA/SH risk mitigation across project activities;
- strengthening police presence and community protection systems;
- supporting community-based disaster preparedness and response planning.

Addressing these issues will help ensure that tourism development enhances community well-being while minimising risks related to increased mobility, infrastructure development and visitor activity.

4.4 Institutional and governance environment

Institutional arrangements in the study area are complex, involving multiple levels of government, statutory agencies, traditional authorities, and community structures. Effective governance in this landscape requires coordination across environmental, tourism, natural resource, and social sectors, which are currently fragmented. This section reviews the existing institutional framework, identifies capacity constraints, and outlines governance implications for the SESA and the DP.

4.4.1 National institutional framework

At the national level, several key ministries and statutory agencies play direct or supportive roles in guiding the sustainable development of the study area.

Table 30: Project National Institutional Framework

Institution / Agency	Mandate and Relevance to the study area
Ministry of Tourism (MoT)	Lead ministry responsible for policy formulation, planning, and oversight of tourism development. Oversees implementation of the Tourism and Hospitality Act (2015) and coordination of the GREAT-TDP.
Zambia Environmental Management Agency (ZEMA)	Statutory authority under the Environmental Management Act (2011) responsible for environmental protection, regulation, and environmental assessment (EIA, SEA, and SESA). Provides technical review and approval for the SESA.
Department of National Parks and Wildlife (DNPW)	Administers Nsumbu National Park and surrounding GMAs. Responsible for wildlife management, conservation enforcement, and community partnerships under the Wildlife Act (2015).
Ministry of Green Economy and Environment (MGEE)	Oversees climate change adaptation, carbon management, and environmental sustainability initiatives. Ensures national alignment with the Paris Agreement and SDG 13 (Climate Action).

Institution / Agency	Mandate and Relevance to the study area
National Heritage Conservation Commission (NHCC)	Custodian of cultural and historical sites under the NHCC Act (Cap 173). Critical for identifying and protecting heritage assets within the study area.
Zambia Tourism Agency (ZTA)	Promotes destination marketing and tourism product development. Supports the establishment of a Destination Management Organisation (DMO) for the Kasaba Bay–Nsumbu–Tondwa area.
Water Resources Management Authority (WARMA)	Regulates water abstraction and use under the Water Resources Management Act (2011). Vital for sustainable management of Lake Tanganyika and associated catchments.
Ministry of Lands and Natural Resources (MLNR)	Responsible for land allocation, tenure management, and mapping. Works with local authorities and traditional leaders on land-use planning and tenure security.
Ministry of Local Government and Rural Development (MLGRD)	Supervises local governance structures and supports the implementation of the Decentralisation Policy (2013). Provides oversight of council operations in Nsama District.

These institutions provide the policy and regulatory framework for tourism development, environmental management, and social inclusion. However, overlapping mandates and weak inter-agency coordination often undermine coherent decision-making.

4.4.2 Provincial and District governance framework

At the subnational level, governance is anchored in decentralised administrative structures managed through the Provincial Planning Unit (PPU) and the Nsama District Council. The Provincial Planning Unit (Northern Province) coordinates sectoral programmes, monitors development projects, and integrates the GREAT-TDP into provincial plans. The PPU provides a critical link between national ministries and district-level implementation. Nsama District Council acts as the local planning authority under the Local Government Act (2019) and is responsible for spatial planning, service provision, and licensing of tourism facilities. However, the Council lacks adequate financial and human resources to enforce environmental and building standards.

Sectoral Departments (District Level) responsibilities include:

- local offices for health, education, fisheries, community development, and forestry, which operate semi-autonomously but with overlapping jurisdictions; and
- coordination with the council remains weak, often leading to fragmented project implementation.

Community Resource Boards (CRBs):

- function under the DNPW framework to manage wildlife and share benefits from natural resource utilisation; and
- are instrumental in community engagement but require capacity building in governance, financial management, and reporting.

4.4.3 Traditional governance and customary institutions

Traditional authorities remain highly influential in land allocation, cultural stewardship, and local dispute resolution within the study area. The area falls under Chief Nsama, Senior Chief Kaputa, and Chief Mukupa Kaoma, each with jurisdiction over specific parts of the study area. Roles and influence include:

- allocating customary land for settlements and small-scale enterprises;
- safeguarding cultural sites and customary forests;
- mobilising community participation in conservation and tourism activities; and
- mediating conflicts related to land, fishing rights, and benefit sharing.

While their authority ensures local legitimacy, there are governance challenges such as inconsistent land record-keeping, elite capture, and limited integration into statutory planning frameworks. Strengthening coordination between chiefs and district authorities is critical to avoid land-use conflicts as tourism investment expands.

2. Institutional coordination and capacity challenges

The SESA identified several systemic constraints affecting institutional performance within the study area:

- overlapping mandates among ministries and agencies (e.g., tourism, environment, and lands);
- limited technical capacity for environmental and social assessment at local levels;
- insufficient funding for monitoring and enforcement activities;
- weak data systems for environmental baselines, land use, and socio-economic indicators;
- low awareness among communities regarding environmental and tourism regulations; and
- these constraints hinder integrated planning and accountability.

The lack of an existing single coordination platform for the DP increases risks of duplication, regulatory delays, and uneven implementation.

4.4.4 Governance

The DP provides an opportunity to strengthen institutional coordination through practical governance innovations, including:

- establishment of a Destination Management Organisation (DMO) proposed in the DP: a multi-stakeholder platform integrating government, private sector, and community actors for coordinated destination planning and marketing;

- inter-agency coordination framework: linking ZEMA, DNPW, NHCC, and the District Council through periodic joint planning sessions and shared environmental data systems;
- capacity-building and technical support: Training district staff, CRBs, and council officers in environmental monitoring, tourism planning, and social safeguards;
- policy alignment: ensuring that the TDP aligns with Zambia’s national frameworks, including the 8th National Development Plan (2022–2026), the Climate Change Strategy (2023–2030), and the Tourism Policy (2024); and
- community accountability mechanisms: Strengthening transparency through participatory budgeting, grievance redress systems, and benefit-sharing agreements.

4.4.5 Strategic implications for SESA implementation

Institutional and governance strengthening is integral to achieving the environmental and social sustainability objectives of the DP. The SESA recommends the following key measures:

- formalise the Inter-Agency Coordination Mechanism (IACM) at district level;
- develop and operationalise a joint monitoring and reporting system linked to the ESMMP;
- provide technical training on environmental and social safeguards for implementing agencies;
- integrate traditional governance structures into land-use planning and benefit-sharing frameworks;
- establish a Sustainability Steering Committee to guide cross-sectoral decision-making throughout implementation; and
- strengthen governance and institutional collaboration will ensure that the study area’s development is accountable, inclusive, and environmentally sound, reinforcing Zambia’s long-term vision for green and resilient tourism growth.

4.5 Situational and cumulative analysis

The study area represents a critical ecological, cultural, and economic landscape within Northern Zambia. Its unique combination of biodiversity richness, cultural heritage, and tourism potential positions it as a strategic growth node under the Green, Resilient, and Transformational Tourism Development Project (GREAT-TDP). However, the baseline assessments reveal a pattern of cumulative environmental pressures, socio-economic vulnerabilities, and institutional weaknesses that, if unaddressed, could undermine the area’s long-term sustainability. This situational analysis synthesises these findings to provide an integrated understanding of the study area’s development challenges and opportunities.

4.5.1 Environmental and ecological context

The physical and ecological baseline indicates that the study area lies within a highly sensitive natural environment, defined by steep escarpments, lacustrine ecosystems, and miombo woodlands.

While these attributes enhance the area's tourism appeal, they also increase its vulnerability to degradation.

Key environmental conditions include:

- erosion and sedimentation: the steep topography and deforestation along the Lunzua and Chituta catchments have accelerated soil erosion, leading to siltation of streams and nearshore zones of Lake Tanganyika;
- habitat loss and fragmentation: encroachment for agriculture, charcoal production, and informal settlements is progressively reducing woodland cover and wildlife corridors;
- climate stress: shifting rainfall patterns, prolonged dry spells, and rising lake levels threaten both ecosystems and infrastructure; and
- biodiversity pressure: unsustainable fishing and poaching continue to impact key species and undermine the ecological integrity of Nsumbu National Park and Tondwa GMA.

These environmental challenges are cumulative and interlinked, demanding coordinated landscape-level management approaches rather than isolated site-based interventions.

4.5.2 Socio-economic and cultural context

The socio-economic baseline reveals communities that are highly dependent on natural resources for their livelihoods. Poverty, unemployment, and limited access to services persist despite the area's high tourism potential. The following conditions stand out:

- livelihood vulnerability: fishing, subsistence farming, and charcoal production dominate but are increasingly unsustainable due to overexploitation and market fluctuations;
- social inequality: gender disparities, youth unemployment, and exclusion of vulnerable groups limit equitable participation in economic opportunities;
- public health risks: poor sanitation, limited healthcare access, and high malaria prevalence contribute to low well-being; and
- cultural erosion: traditional practices, sacred sites, and heritage values face neglect amid economic change and youth migration.

These social conditions create a fragile foundation that could be either strengthened or further strained by incoming tourism investments depending on the inclusivity of development planning.

4.5.3 Institutional and governance dynamics

The institutional framework is characterised by fragmented mandates, limited capacity, and weak enforcement at district and community levels. While national agencies such as ZEMA, DNPW, and NHCC provide regulatory oversight, coordination gaps remain significant. Key governance issues include:

- weak integration between customary and statutory land administration;
- inadequate funding for monitoring and environmental management;
- poor data-sharing and inter-agency communication; and
- limited community DP-TDP offers a mechanism to strengthen these linkages through a Destination Management Organisation (DMO) and improved multi-level coordination.

4.5.4 Cumulative pressures and drivers of change

Multiple environmental and social pressures converge in the study area, reinforcing each other over time. The SESA identifies cumulative drivers in Table 32.

Table 31: Key cumulative pressures and their implications for sustainable development

Pressure / Driver	Cumulative Effects	Implications for the GREAT-TDP
Unplanned settlement expansion	Habitat loss, pollution, informal land use	Need for integrated spatial planning and zoning
Deforestation and charcoal production	Climate impact, erosion, biodiversity loss	Promote alternative livelihoods and energy sources
Overfishing and unsustainable resource use	Declining fish stocks, reduced income	Strengthen fisheries co-management and enforcement
Weak institutional coordination	Regulatory overlaps and delayed project approvals	Establish Inter-Agency Coordination Framework
Climate variability	Infrastructure risk, reduced water availability	Incorporate climate-resilient design in infrastructure
Tourism expansion without safeguards	Cultural erosion, social displacement	Ensure inclusive, low-impact tourism models

The interaction of these pressures increases the risk of ecosystem degradation, inequality, and governance failure unless development interventions are guided by strategic environmental and social safeguards.

4.5.5 Synergies and opportunities

Despite these challenges, the study area also presents significant opportunities for transformational, sustainable growth if managed strategically under the DP:

- ecotourism potential: rich biodiversity and heritage assets can underpin green economic diversification;

- community empowerment: inclusive governance and benefit-sharing frameworks can reduce poverty and inequality;
- infrastructure investment: improved roads, air access, and utilities can stimulate economic growth if aligned with environmental planning;
- cross-border cooperation: shared Lake Tanganyika resources offer potential for regional collaboration on fisheries, trade, and biodiversity conservation; and
- climate adaptation and carbon financing: reforestation and ecosystem restoration can attract green finance while enhancing resilience.

Harnessing these synergies requires a coordinated, multi-sectoral approach built on robust environmental governance, transparent decision-making, and continuous community engagement.

4.5.6 Strategic implications for the SESA and DP

The situational and cumulative analysis underscores the urgency for integrated policy and planning responses. Key implications include:

- shift from site-level EIAs to programmatic landscape planning to address interconnected ecological and social systems;
- institutional reforms to align mandates, strengthen enforcement, and promote cross-sector coordination;
- community-based natural resource management as a foundation for local stewardship and benefit sharing;
- climate mainstreaming in all development components to safeguard long-term resilience; and
- monitoring frameworks that capture cumulative trends rather than isolated impacts.

The SESA will use this analytical foundation to guide scenario analysis (Chapter 6), sustainability appraisal (Chapter 7), and the DP-TDP achieves environmentally sound, socially inclusive, and economically viable outcomes.

5. STAKEHOLDER CONSULTATIONS

5.1 Introduction

Stakeholder engagement is a core requirement under the World Bank Environmental and Social Framework (ESS10) and forms a central pillar of the SESA process for the Nsumbu–Kasaba Bay Destination Plan (DP). The consultations undertaken for this SESA were designed to ensure that individuals, communities, institutions and organisations with an interest in, or potentially affected by, the DP had the opportunity to participate meaningfully in shaping the assessment.

The stakeholder engagement process drew upon multiple sources of consultation data, including:

- the Strategic Engagement Area (SEA) reference assessment;
- the Scoping Report consultations;
- field missions;
- socio-economic baseline surveys;
- follow-up meetings with district authorities, traditional leaders, community representatives, conservation partners and private-sector actors.

These engagements informed the baseline findings (Chapter 4), the impact pathways (Chapter 6) and the sustainability measures outlined in Chapter 7. This chapter summarises the consultation objectives, the stakeholder groups engaged, the methods used, key issues raised and how stakeholder inputs were integrated into the SESA and the Destination Plan.

5.2 Objectives of the Consultation Process

The stakeholder consultation process for the SESA was guided by the principles of inclusiveness, transparency, cultural sensitivity and meaningful participation, in line with the World Bank Environmental and Social Standard ESS10. The consultations conducted during the SEA assessment, Scoping exercises, ToR preparation and SESA field missions were designed to achieve the following objectives:

1. Inform stakeholders about the Destination Plan (DP) — its purpose, scope, proposed interventions and expected changes in the Nsumbu–Kasaba Bay landscape.
2. Gather local knowledge and insights on environmental, social, cultural and economic conditions that could influence the sustainability of the DP.
3. Identify stakeholder priorities, concerns and expectations, especially regarding tourism development, infrastructure improvements, resource access, livelihood opportunities and potential risks.

4. Understand the needs of vulnerable and high-risk groups, including women, youth, persons with disabilities, fishers, elderly people, and remote settlements.
5. Validate baseline findings (Chapter 4) and identify additional issues such as service delivery gaps, governance challenges, SEA/SH risks and cultural heritage sensitivities.
6. Inform the impact assessment (Chapter 6) by identifying perceived risks, community sensitivities and potential sources of conflict or exclusion.
7. Shape the sustainability measures (Chapter 7) including mitigation actions, monitoring indicators and institutional strengthening needs.
8. Strengthen trust, transparency and local ownership of the DP by engaging communities, traditional authorities, conservation actors, private sector operators and government institutions.
9. Lay the foundation for future engagement during implementation of the DP, ensuring that dialogue with communities and institutions continues beyond the SESA.

The consultation objectives ensured that local voices, especially those of marginalised and vulnerable groups, directly influenced the design and sustainability considerations of the Destination Plan.

5.3 Stakeholder Identification and Mapping

Stakeholders were identified through the Scoping Report, SEA assessment, consultation records from the ToR process, district engagement, and field missions undertaken in Nsumbu, Kasaba Bay, Chituta, Iyendwe, Chomba, Kampinda and surrounding communities. The mapping considered the stakeholder's:

- statutory roles and mandates;
- interest in, or influence over, the Destination Plan;
- vulnerability to change;
- dependence on natural resources;
- cultural custodianship responsibilities;
- service delivery functions;
- economic linkages to tourism and associated value chains.

Stakeholders were grouped into seven main categories: government institutions, traditional authorities, conservation actors, community groups, vulnerable groups, private sector actors and civil society organisations. Each group contributes uniquely to the success, sustainability and governance of the DP.

The stakeholder groups and their relevance to the DP are summarised in the table below.

Table 32: Key Stakeholders and Their Relevance to the Destination Plan

Stakeholder Group	Examples / Actors	Relevance to the DP / SESA
Government Ministries & Agencies	Ministry of Tourism; Ministry of Water; Ministry of Gender; Ministry of Health; Ministry of Community Development; Ministry of Transport; ZEMA; NHCC	Policy oversight; regulatory enforcement; WASH services; SEA/SH response; transport safety; cultural heritage protection; licensing and compliance
District Authorities	Nsama Town Council (Planning, Community Development, Public Health)	Land-use planning; development control; infrastructure services; waste management; community liaison
Traditional Authorities	Chief Nsama; Chief Mukupa Kaoma; Senior Chief Kaputa; village headpersons	Customary land governance; cultural heritage safeguarding; conflict resolution; community mobilisation
Conservation Actors	Department of National Parks and Wildlife (DNPW); Nsumbu Tanganyika Conservation Programme (NTCP)	Biodiversity protection; wildlife corridor management; anti-poaching; ecological monitoring; co-management of NNP
Local Communities	Nsumbu, Chituta, Iyendwe, Chomba, Chishela, Kampinda and other settlements	Directly affected groups; service users; residents dependent on fisheries, forests and agriculture
Vulnerable & High-Risk Groups	Women; youth; persons with disabilities; elderly; female-headed households; seasonal fishers	Require targeted inclusion; SEA/SH protection; livelihood support; equitable benefit-sharing
Private Sector Operators	Lodges; boat operators; transport providers; traders; informal enterprises; craft producers	Tourism employment; supply chains; investment; environmental compliance
Civil Society & NGOs	Women's groups; youth groups; local NGOs; faith-based organisations	Community engagement; capacity building; SEA/SH support; advocacy and social accountability

5.4 Methods of Consultation

The consultation process combined multiple approaches to ensure that stakeholders across the Nsumbu–Kasaba Bay landscape—including remote, vulnerable, and high-risk groups—were able to participate meaningfully. Methods were selected based on accessibility, cultural appropriateness, and the type of information required, in accordance with ESS10 good practice.

a) Community Meetings and Public Barazas

Open community meetings were conducted in Nsumbu, Chituta, Iyendwe, Chomba, Chishela, Kampinda and other settlements. These meetings provided platforms for residents to express concerns regarding tourism expansion, resource access, service delivery gaps, cultural heritage protection, and anticipated benefits. Barazas were particularly effective for engaging large groups and validating community-level issues.

b) Focus Group Discussions (FGDs)

Targeted FGDs were held with groups that required more nuanced engagement or whose voices are often underrepresented in public forums. These included:

- women's groups;

- fishers and fish processors (including seasonal migrant fishers);
- youth groups;
- charcoal producers and forest resource users;
- cultural custodians;
- persons with disabilities;
- elderly community members.

FGDs allowed for in-depth discussion on sensitive issues such as SEA/SH risks, livelihood pressures, cultural norms, land-use tensions and community expectations surrounding the Destination Plan.

c) Key Informant Interviews (KIIs)

KIIs targeted individuals with specialist knowledge of local governance, conservation, infrastructure, service delivery and tourism operations. Interviews were conducted with:

- traditional leaders (Chiefs and Indunas);
- district officials (planning, health, community development, water, education, public works);
- lodge operators and private tourism actors;
- DNPW area wardens and NTCP conservation managers;
- teachers, health staff and social welfare officers.

These interviews provided insights into institutional capacity gaps, regulatory challenges, landscape management issues, and opportunities for strengthening governance structures.

d) Household-Level Interactions and Baseline Surveys

Socio-economic baseline data were collected through household questionnaires, participatory discussions and informal interviews. These engagements helped validate local livelihood patterns, service access constraints, demographic features, and perceptions of tourism-related opportunities and risks.

e) Stakeholder Workshops (Scoping and ToR Stages)

Workshops held during the Scoping and ToR preparation stages brought together district authorities, conservation partners, sector ministries, private operators and traditional leaders. These sessions helped refine the scope of the SESA, validate priority issues and ensure that multi-sector perspectives were incorporated early into the assessment.

f) Direct Observations and Field Transects

Field visits to lake landing sites, cultural heritage locations, access roads, settlements, fishing camps, waste disposal areas, water sources and forested sites complemented community feedback and provided real-time verification of issues raised.

g) Documentation Review and Secondary Information

Consultation findings were supplemented with insights from the SEA reference report, Scoping Report, DP studies, environmental data, and district development plans. This ensured that stakeholder inputs were contextualised within wider institutional and policy frameworks.

5.5 Summary of Key Issues Raised During Consultations

Consultations across communities, district authorities, traditional leaders, conservation partners, private operators and vulnerable groups highlighted a set of recurring environmental, social, cultural and governance concerns. These issues reflect long-standing pressures in the Nsumbu–Kasaba Bay landscape as well as new expectations and risks associated with the proposed Destination Plan (DP).

Key issues raised clustered around:

- pressure on natural resources, particularly fisheries, forests and riparian zones;
- gaps in essential services (health, water, sanitation, education, waste management);
- livelihood vulnerability and limited economic diversification;
- cultural heritage protection and conflicts involving sacred sites;
- governance and institutional capacity challenges;
- high levels of youth unemployment and limited training opportunities;
- gender inequality, SEA/SH risks and safety concerns;
- concerns related to tourism growth (displacement, access, market exclusion).

These issues validated the baseline analysis and significantly influenced the SESA’s impact assessment and strategic mitigation frameworks.

The table below summarises the main issues raised by each stakeholder group and their implications for the Destination Plan.

Table 33: Summary of Key Issues Raised by Stakeholders and Their Implications for the DP

Stakeholder Group	Key Issues Raised	Implications for the Destination Plan
Local Communities (Nsumbu, Chituta, Iyendwe, Chomba, Chishela, Kampinda)	Declining fish stocks; limited livelihood options; poor water and sanitation; inadequate health facilities; road access problems; waste pollution; human–wildlife conflict; fear of displacement or loss of access	Need for livelihood diversification; WASH and health investments; access safeguards; equitable benefit-sharing; waste management systems
Women’s Groups	Limited access to land and credit; high workload; safety risks; SEA/SH concerns; marginalisation in tourism jobs; lack of childcare and support services	Gender-responsive planning; SEA/SH prevention and referral systems; targeted skills training; women-led enterprise support

Stakeholder Group	Key Issues Raised	Implications for the Destination Plan
Youth Groups	Lack of employment; limited training opportunities; exclusion from decision-making; interest in tourism but no pathways	Youth-focused skills development, apprenticeships, entrepreneurship programmes; inclusive governance
Fishers and Fish Processors	Overfishing and illegal gear; lack of cold storage; poor landing site infrastructure; harassment by enforcement during seasonal restrictions	Sustainable fisheries management; improved landing sites; cold-chain solutions; alternative livelihoods
Traditional Leaders	Encroachment on sacred sites; land disputes; lack of consultation in private investments; desire for stronger cultural tourism	Strengthened customary engagement; cultural mapping; ESS8 heritage screening; benefit-sharing mechanisms
District Authorities (Nsama Town Council)	Limited staffing; weak enforcement capacity; inadequate budget for waste, water and planning services; poor roads	Institutional strengthening; resourcing for service delivery; infrastructure upgrades
Conservation Actors (DNPW, NTCP)	Poaching pressures; deforestation; disturbance of wildlife corridors; unmanaged tourism access	Corridor protection; co-management; environmental screening; enforcement support
Private Sector Operators	Poor road access; unreliable electricity; weak market linkages; insufficient local skills; unclear land processes	Investment in infrastructure; skills upgrading; transparent land allocation; supportive business environment
Persons with Disabilities & Elderly	Limited access to services; mobility challenges; exclusion from benefits	Inclusive design; targeted support; accessible service delivery
Civil Society & NGOs	Need for coordinated SEA/SH services; gaps in community mobilisation; limited resource flows	Strengthen partnerships; integrate NGOs in community engagement and protection services

5.6 Integration of Stakeholder Inputs into the SESA and Destination Plan

Stakeholder inputs played a central role in shaping the analysis, findings and strategic recommendations of the SESA. Issues raised by communities, traditional authorities, district institutions, conservation partners, private sector operators, and vulnerable groups were systematically reviewed and integrated into the SESA's baseline (Chapter 4), impact assessment (Chapter 6), and sustainability appraisal (Chapter 7). This ensured that the Destination Plan (DP) responds directly to local priorities, vulnerabilities and opportunities.

Key areas where stakeholder feedback directly informed the SESA include:

a) Environmental and Natural Resource Management

Community and conservation concerns about deforestation, unsustainable fishing, disturbance to wildlife corridors, and lakeshore degradation informed the identification of key environmental pressures in Chapter 4. These concerns also shaped the DP's proposed zoning approach, environmental screening tools, and strategic mitigation measures.

b) Water, Sanitation, Health and Basic Services

Recurrent concerns about unreliable water sources, poor sanitation, inadequate health facilities and poor road access were incorporated into the social baseline and the social impact pathways in Chapter 6. These issues informed the need for targeted DP support to WASH systems, health infrastructure and climate-resilient transport corridors.

c) Livelihoods, Youth and Women's Inclusion

Livelihood vulnerability, youth unemployment and limited opportunities for women were central to community feedback. These inputs guided the analysis of socio-economic risks and opportunities and provided justification for the DP's focus on skills development, MSME support, youth training, women's enterprises and inclusive employment frameworks.

d) Cultural Heritage and Custodianship

Traditional leaders raised concerns about disturbance of sacred sites, cultural forests and burial grounds. Their input guided the cultural baseline and informed the requirement for participatory cultural mapping, ESS8-aligned heritage screening, and culturally appropriate visitor management guidelines.

e) Governance Capacity and Institutional Gaps

District authorities and local institutions highlighted weak enforcement capacity, inadequate staffing, limited budgets, and coordination challenges. These insights directly informed the institutional baseline and underpinned the governance strengthening measures in Chapter 7, including the need for clearer roles, monitoring responsibilities and multi-stakeholder coordination mechanisms.

f) SEA/SH Risks and Protection Services

Women's groups, youth and NGOs identified SEA/SH risks associated with service access, labour influx and evolving tourism markets. These concerns shaped the social impact assessment and informed the inclusion of SEA/SH prevention, referral pathways, gender-responsive engagement and targeted protection measures in the sustainability framework.

g) Tourism Development Expectations and Fears

Communities expressed concerns about displacement, restricted access to resources, and loss of land, but also showed strong interest in employment and enterprise opportunities. These inputs helped identify both risks and opportunities, which were incorporated into the impact pathways and mitigation/enhancement measures.

In summary, stakeholder views directly influenced all core SESA outputs — the baseline analysis, significance of impacts, design of mitigation and enhancement actions, institutional responsibilities, monitoring indicators and recommendations — ensuring that the Destination Plan is grounded in local realities and aligned with community priorities.

5.7 Ongoing Engagement Requirements and Next Steps

Stakeholder engagement will remain essential throughout the implementation of the Destination Plan (DP) to ensure transparency, community ownership, and sustained alignment with environmental, social and cultural priorities. The consultations undertaken for the SESA form the foundation for a long-term engagement framework that supports adaptive management, conflict resolution, benefit-sharing and inclusive decision-making.

Ongoing engagement during DP implementation will be guided by the following principles and actions:

a) Continuous Stakeholder Dialogue

Multi-stakeholder platforms involving district authorities, traditional leaders, conservation partners, community representatives, private sector operators and civil society organisations should be maintained to coordinate planning and address emerging issues. These platforms will support transparent communication about zoning, development proposals, land allocation processes and infrastructure upgrades.

b) Strengthened Community Structures

Ward Development Committees (WDCs), traditional councils and local action groups require targeted capacity building to support participatory planning, monitor DP activities, mobilise communities and ensure equitable representation of youth, women and vulnerable groups. Strengthening these structures will enhance accountability and social cohesion.

c) Engagement with Vulnerable and High-Risk Groups

Women, youth, persons with disabilities, elderly households and remote communities must be continuously engaged through targeted outreach to ensure their needs and concerns are adequately integrated in DP activities. Special attention will be given to SEA/SH prevention and reporting mechanisms, as well as access to training, employment and business opportunities.

d) Participatory Monitoring and Feedback Mechanisms

Community members will play a key role in monitoring environmental changes, service delivery gaps, cultural heritage risks and social impacts. Mechanisms such as community scorecards, feedback boxes, grievance redress channels and participatory patrols (with DNPW and NTCP) will support continuous learning and adaptive management.

e) Transparent Grievance Redress Systems

Accessible, culturally appropriate and gender-sensitive grievance mechanisms must be operationalised at community and district levels. These systems will allow stakeholders to raise concerns related to land, resource access, SEA/SH, project implementation and service delivery. Grievance records will feed into the Strategic Monitoring Framework under Chapter 7.

f) Alignment with National and District Planning Processes

Ongoing engagement should be harmonised with Nsama Town Council planning processes, District Development Coordinating Committee (DDCC) meetings, and sectoral work plans. This ensures that DP activities complement existing development commitments and strengthen institutional accountability.

g) Communication and Information Sharing

Regular information sessions, community updates, public notices, digital communication platforms and radio programmes should be used to inform stakeholders of planned activities, investment opportunities, zoning requirements, employment processes and environmental safeguards.

h) Adaptive Engagement as the DP Evolves

As tourism development intensifies, new risks and opportunities will emerge. Engagement strategies must therefore be flexible, enabling rapid adjustments in response to changing conditions such as population movement, climate impacts, investor interest, cultural sensitivities or infrastructure expansion.

Overall, ongoing stakeholder engagement is critical to sustaining trust, ensuring inclusion, and maintaining the environmental and social integrity of the Nsumbu–Kasaba Bay Development Plan.

6. ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

6.1 Impact Assessment Methodology

The impact assessment evaluates how the Destination Plan (DP) may affect biophysical and socio-economic conditions using a structured, criteria-based approach aligned with the Environmental Management Act (2011), national EIA regulations, and the World Bank Environmental and Social Framework (ESF). The approach integrates qualitative and quantitative analysis to ensure that the predicted impacts are evidence-based, traceable, and grounded in the baseline conditions established in Chapter 4.

6.1.1 Impact Identification and Pathway Analysis

Impacts are identified using a clear cause–effect methodology that links specific DP activities with potential changes in environmental or social conditions. This follows an impact pathway logic in which a project action creates a pressure or change, which then interacts with a specific environmental or social receptor to produce an impact. The pathway approach strengthens analytical transparency and addresses reviewer concerns regarding fragmented or unsupported impact narratives. Receptors considered in the analysis are drawn from the updated baseline and include ecological systems, water resources, cultural and natural heritage, households, vulnerable groups, governance structures, public infrastructure, and key livelihood sectors such as fisheries, agriculture and tourism. This ensures that the assessment captures the full range of sensitivities across both biophysical and human systems.

6.1.2 Impact Evaluation Criteria

Each identified impact is evaluated through a significance rating that incorporates five core criteria:

- Magnitude, representing the scale of change from baseline conditions;
- Extent, describing whether the impact is site-specific, local or regional;
- Duration, indicating whether the impact is short-term, medium-term or long-term;
- Reversibility, assessing the potential for the affected condition to return to baseline; and
- Likelihood, estimating the probability that the impact will occur.

These parameters are assessed in relation to the sensitivity and vulnerability of receptors. For example, modest changes in water access may have high significance for fishing households, while minor disturbances near sacred sites may have disproportionate cultural implications. This receptor-sensitivity lens is critical for determining realistic and meaningful significance ratings.

6.1.3 Integration of Environmental and Social Standards (ESS)

The assessment incorporates the requirements of relevant Environmental and Social Standards to ensure that risks and opportunities are considered comprehensively. ESS1 provides the overarching framework for risk management, while ESS2, ESS4 and ESS10 inform labour, community safety and engagement considerations. ESS6 and ESS8 ensure that biodiversity and cultural heritage sensitivities are explicitly included in the analysis, and ESS5 and ESS7 guide the assessment of land access issues and the needs of vulnerable or marginalised groups. Embedding ESS considerations within the methodology helps ensure consistency with international good practice and aligns the assessment with the expectations of the World Bank and the PIU.

6.1.4 Cumulative Impact Considerations

The analysis also considers cumulative impacts arising from the interaction of DP interventions with ongoing or planned initiatives in the area, including the Nsumbu Tanganyika Conservation Programme (NTCP), the Lake Tanganyika Development Project (LTDP) and emerging private-sector tourism developments. These cumulative dimensions are particularly relevant for biodiversity, hydrology, fisheries, social services and institutional capacities, where multiple pressures may converge to amplify long-term risks.

6.1.5 Mitigation Hierarchy and Enhancement Measures

Mitigation measures proposed in subsequent sections follow the established mitigation hierarchy. Avoidance is prioritised wherever possible through siting and design choices, followed by minimisation measures to reduce the scale or intensity of impacts. Restoration and rehabilitation strategies are applied where changes are unavoidable, and compensation or offsets are considered only as a last resort. Positive impacts such as job creation, SME development, capacity building and improved governance are strengthened through targeted enhancement measures to ensure that local communities benefit meaningfully from tourism expansion.

6.1.6 Residual Impact Evaluation

After applying mitigation and enhancement measures, impacts are reassessed to determine whether significance has been reduced to acceptable levels and whether further monitoring or adaptive management is required. This residual impact review ensures that the DP's anticipated environmental and social outcomes remain aligned with sustainability objectives and that potential risks are managed effectively throughout implementation.

6.2 Impact Identification

Impact identification links the Destination Plan's proposed interventions to potential changes in biophysical and socio-economic conditions using the impact pathway approach described in Section 6.1. The analysis

draws directly from the baseline sensitivities in Chapter 4 and the characteristics of key DP activities, including infrastructure development, tourism facility upgrades, road improvements, increased mobility, business support initiatives, marketing, and institutional strengthening. Impacts are categorised into social and biophysical themes to reflect the major receptors in the landscape. Each impact is described through its pathway, the receptors affected, and the nature of the anticipated change. Detailed significance ratings follow in Section 6.3.

6.2.1 Social Impacts

A. Population Dynamics and Settlement Pressure

Improved access, tourism activities and construction works are likely to attract migrant workers and traders, increasing local population density in Nsumbu, Kasaba Bay and other lakeshore settlements. This influx could strain existing services, particularly water, health, sanitation and waste management systems, which are already limited. Seasonal in-migration associated with fishing may intensify as new income opportunities emerge. The expansion of informal settlements near the lakeshore may increase environmental pressure and complicate land-use regulation. Women, girls and persons with disabilities may face heightened risks when travelling to access services due to increased mobility and reduced oversight.

B. Livelihoods and Economic Activities

Tourism-related investments are expected to stimulate local enterprise development, diversify income opportunities and create demand for labour, guiding, transport, agricultural produce and crafts. Positive livelihood impacts include improved market access, higher household income and enhanced value-chain participation. However, competition for land, water, fishing grounds and forest resources may intensify, especially in areas where tourism overlaps with existing livelihoods. Households' dependent on fisheries or charcoal production could face displacement from high-use zones or reduced resource access, creating uneven benefit distribution. Without targeted support, remote villages and vulnerable groups may be excluded from new opportunities.

C. Gender, Vulnerability and Social Inclusion

Tourism expansion may widen existing inequalities if women, youth and persons with disabilities face barriers in accessing jobs, training, or enterprise development. Women may experience increased unpaid work burdens linked to visitor service demands. Labour influx and increased mobility can elevate SEA/SH risks, particularly for girls and young women travelling long distances to water points, markets or workplaces. At the same time, community-based tourism models, hospitality training and inclusive procurement could deliver significant benefits for women and youth if intentionally designed. The extent to which vulnerable households benefit

from tourism will depend on targeted support, gender-responsive programming and equitable access to grants and training.

D. Cultural and Natural Heritage

Tourism activities, trails, recreational infrastructure and increased visitor traffic may disturb sacred sites, ritual forests, burial grounds and culturally significant landscapes if not properly mapped and protected. Intangible heritage such as oral traditions and rituals may be eroded by changing social dynamics or commercialisation pressures. Conversely, cultural tourism presents opportunities for communities to showcase heritage assets and generate income through storytelling, guided tours and craft production. The sensitivity of heritage sites requires careful planning consistent with ESS8 and customary governance structures.

E. Social Cohesion and Conflict Risks

Increasing opportunities linked to tourism may create tensions if benefits are perceived as unevenly distributed or if external investors dominate access. Competition over land allocation, fishing grounds and the siting of tourism facilities could lead to disputes, particularly between migrant fishers and host communities. Weak institutional capacity at WDC and district levels may hinder transparent decision-making and exacerbate mistrust. Strengthening governance capacity and inclusive dialogue will be essential to avoid conflict escalation.

F. Community Health, Safety and Security

Increased road traffic, boat transport and construction activities carry risks of accidents, injuries and communicable disease spread. Poorly regulated lake transport already a safety challenge may become more hazardous with increased visitor and goods movement. Pressure on WASH systems in high-use areas may increase exposure to waterborne diseases. Households in remote areas may remain vulnerable due to limited access to emergency services and police presence. Tourism growth may also influence security dynamics if migrant labour inflows or rising economic activity attract opportunistic crime. Integrating community health and safety considerations into planning will be critical.

6.2.2 Environmental Impacts

A. Biodiversity, Wildlife and Ecosystem Function

New or improved access routes, construction of tourism facilities, and increased human presence in sensitive zones could result in vegetation loss, habitat disturbance and wildlife displacement, particularly around Nsumbu National Park and riparian corridors. Enhanced access may increase risks of poaching or illegal resource extraction unless managed effectively. Biodiversity-rich habitats may be sensitive to trampling, erosion and noise disturbance associated with tourism activity. Ecosystem services such as fish breeding, forest products and watershed protection may also be affected.

B. Water Resources and Hydrology

Demand for freshwater may rise as tourism grows, placing pressure on boreholes and existing supply systems. Poorly managed construction near streams or the lakeshore could lead to erosion, sedimentation and localised water quality degradation. Wastewater discharge from tourism facilities if untreated could increase nutrient loading in Lake Tanganyika. Unregulated shoreline development may disrupt natural buffers, increasing vulnerability to erosion or fluctuating lake levels.

C. Pollution, Waste and Environmental Quality

Tourism activities can generate additional solid waste, wastewater, noise and air emissions. Weak or informal waste management systems in Nsumbu and surrounding settlements increase risks of open dumping and lake contamination. Boat traffic may contribute to fuel spills or emissions, affecting aquatic habitats. Construction activity may temporarily increase dust, noise and waste production. Without improved waste handling and monitoring systems, environmental quality could decline in high-use zones.

6.2.3 Analysis of significance levels of impacts

Impact Significance Evaluation

The significance of the identified environmental and social impacts has been evaluated using the criteria outlined in Section 6.1. This approach considers the magnitude, extent, duration, reversibility and likelihood of each impact, combined with the sensitivity and vulnerability of the affected receptor. This allows for a consistent and transparent assessment across both social and biophysical themes. Given the diversity of receptors within the Nsumbu–Kasaba Bay landscape ranging from ecologically sensitive habitats to vulnerable human populations impact significance reflects not only the scale of change anticipated but also the ability of the affected system to adapt or recover. Impacts affecting high-sensitivity receptors, such as water-dependent fishing households, sacred heritage sites or critical wildlife habitats, therefore receive higher significance ratings even where the magnitude of change is moderate. A simplified Significance Rating Matrix has been retained to guide the categorisation of impacts. The matrix integrates magnitude and sensitivity to classify each impact as low, moderate or high in significance. Detailed supporting tables from the earlier draft have been consolidated into this streamlined framework for clarity and ease of interpretation.

Table 34: Impact Significance Rating Matrix

Sensitivity of Receptor	Magnitude of Impact	Resulting Significance	Interpretation
Low	Low	Low	Minor change; easily absorbed by receptor with no lasting effect.
Low	Medium	Moderate	Localised, short-term or reversible effect; manageable with standard mitigation.

Sensitivity of Receptor	Magnitude of Impact	Resulting Significance	Interpretation
Low	High	Moderate	Significant change, but receptor has strong adaptive capacity.
Medium	Low	Moderate	Low-magnitude impact on a moderately sensitive receptor; requires monitoring.
Medium	Medium	Moderate-High	Notable effect; may require targeted mitigation to reduce risk.
Medium	High	High	Substantial effect on important social or environmental conditions.
High	Low	Moderate-High	Even small changes affect highly sensitive receptors (heritage, vulnerable groups, critical habitats).
High	Medium	High	Significant adverse effect; requires strong mitigation and monitoring.
High	High	High (Critical)	Potentially severe or irreversible impact; avoidance or redesign required.

Using this matrix, impacts have been assessed in the following section.

6.3 Impact Significance

6.3.1 Social Impact Significance

Population Dynamics and Settlement Pressure

Tourism growth and labour influx are expected to increase demand for already limited services. Because households in Nsumbu, Kasaba Bay and lakeshore communities have limited adaptive capacity, even moderate population increases may produce significant pressure on water, health and sanitation systems. This makes the impact moderate to high in significance before mitigation, particularly in densely settled or rapidly growing villages.

Livelihoods and Economic Activities

The DP will generate substantial positive impacts through job creation, enterprise development and improved market access for local producers. These benefits are considered high in significance. However, competition for fishing areas, forest resources and shoreline access may produce localised negative effects, especially for fishing and charcoal-dependent households. The negative impact is assessed as moderate in significance where livelihood displacement or exclusion risks arise.

Gender, Vulnerability and Social Inclusion

Women, youth, persons with disabilities and remote households show high sensitivity to social and economic shifts associated with tourism. Increased mobility may also elevate SEA/SH risks. As a result, gender-related risks are rated high in significance before mitigation. With inclusive programming, empowerment measures, and safety interventions, these impacts have strong potential to convert into high-significance positive outcomes.

Cultural and Natural Heritage

Heritage sites, especially sacred forests, ritual locations and burial grounds are highly sensitive to physical disturbance and increased visitor traffic. Development activities near culturally significant landscapes may result in irreversible impacts. These risks are therefore rated as moderate to high in significance, consistent with ESS8 requirements.

Social Cohesion and Conflict

Competition for land, employment and resource access may generate tensions between migrant workers and host communities or between villages with differing levels of access to tourism benefits. Weak governance structures heighten this sensitivity. Conflict risks are assessed as moderate to high in significance before mitigation.

Community Health, Safety and Security

Risks associated with increased road and lake traffic, communicable diseases, limited emergency response systems and pressure on WASH infrastructure are considered moderate to high in significance, especially for remote or underserved communities.

6.3.2 Environmental Impact Significance

Biodiversity, Wildlife and Ecosystems

Sensitive ecological receptors, including riparian corridors, forested areas and the national park interface are highly vulnerable to disturbance. Loss of vegetation, habitat fragmentation, wildlife displacement and poaching risks make this impact high in significance, particularly where access is improved without adequate oversight.

Water Resources and Hydrology

Increased water demand, sedimentation from construction, and inadequate wastewater management may impact Lake Tanganyika and local streams. These systems are sensitive, and communities rely heavily on them. Water-related impacts are rated moderate to high in significance.

Pollution, Waste and Environmental Quality

Waste generation, fuel spills, noise and air emissions may degrade environmental quality if not well managed. While impacts are generally localised, lakeshore areas and high-use tourism zones are particularly vulnerable. This impact is rated moderate in significance, with the potential to escalate to high significance without improved waste infrastructure.

6.3.3 Summary of Pre-Mitigation Significance

Before mitigation, the most significant risks are associated with:

- water and sanitation pressure,
- gender-related vulnerability,
- cultural heritage sensitivity,
- biodiversity and wildlife disturbance,
- social cohesion and conflict potential, and
- community health and safety concerns.

At the same time, the DP offers high-significance positive opportunities for livelihoods, enterprise development and tourism-driven income creation. Residual significance, after applying mitigation and enhancement measures, is presented in Section 6.4.

6.4 Mitigation and Enhancement Measures

This section presents mitigation and enhancement measures to address the environmental and social impacts identified in Sections 6.2 and 6.3. Measures follow the mitigation hierarchy avoidance, minimisation, restoration and compensation and are designed for application at the policy, planning and programmatic levels appropriate for a SESA. These measures guide future project-level assessments and provide a framework for integrating environmental and social safeguards into the Destination Plan (DP).

Mitigation focuses on four core areas:

- i. social inclusion and community wellbeing,
- ii. environmental protection,
- iii. governance strengthening, and
- iv. sustainable tourism development.

6.4.1 Social Mitigation Measures

Population Dynamics and Settlement Pressure

Population increases associated with tourism development can strain water, sanitation, waste and health services in Nsumbu, Kasaba Bay and surrounding communities. To manage these pressures, the DP should incorporate inclusive spatial planning that discourages unmanaged settlement expansion, protects shoreline buffers and prioritises service upgrades in growth nodes. Strengthening service delivery partnerships between local authorities, sector ministries and private operators will improve responsiveness to increased demand. Development approvals should incorporate service-capacity checks to ensure tourism investments do not exceed local infrastructure limits.

Livelihoods, Employment and Economic Inclusion

To maximise benefits and reduce exclusion risks, the DP should promote local employment strategies, skills development and enterprise support. Tourism operators should be encouraged to adopt inclusive procurement models that prioritise local suppliers of food, crafts, agricultural products and services. Clear guidelines for benefit-sharing, community-based tourism (CBT) arrangements and labour standards will support equitable access. For resource-dependent households that may face displacement or restricted access, such as fishers in high-use tourism zones alternative livelihood pathways and compensation mechanisms should be considered.

Gender, SEA/SH Risk Management and Vulnerable Groups

Gender-responsive programming is critical given the high sensitivity of women, youth and persons with disabilities. The DP should integrate SEA/SH prevention and response measures across all project components, including codes of conduct for workers, safe grievance channels, community awareness initiatives and close coordination with social welfare and health services. Inclusive training programmes for women and youth in hospitality, guiding, entrepreneurship and value-chain development will enhance access to tourism opportunities. Accessibility standards should be applied in infrastructure design to ensure participation of persons with disabilities.

Cultural and Natural Heritage Protection

Mitigating heritage risks requires early identification, mapping and protection of sacred forests, ritual sites, burial grounds and cultural landscapes. The DP should establish a heritage screening protocol consistent with ESS8 and Zambia's heritage legislation, ensuring that site selection for trails, lodges and recreational infrastructure avoids culturally sensitive areas. Traditional leaders and community custodians should be integrated into planning processes to guide appropriate use, interpretation and safeguarding of heritage resources. Opportunities for cultural tourism should be developed in ways that respect authenticity and community ownership.

Social Cohesion, Conflict Prevention and Governance

To reduce tensions linked to resource competition or unequal distribution of tourism benefits, the DP should strengthen community engagement processes and reinforce coordination between traditional authorities,

WDCs and district institutions. Transparent decision-making frameworks, particularly for land allocation, employment and benefit-sharing will reduce disputes. Community-based conflict-resolution mechanisms should be supported through training, facilitation and improved linkages with formal structures such as local courts and the police. Governance strengthening is essential to ensure fair, inclusive and accountable tourism development.

Community Health, Safety and Security

Measures to address community health and safety should include improved management of lake and road transport, strengthened emergency response systems and enhanced WASH infrastructure in high-use tourism zones. Collaboration with the Ministry of Health is required to ensure adequate staffing, supplies and ambulance support for Nsumbu and surrounding health facilities. Waste management systems should be upgraded to address increased waste volumes associated with tourism. Community safety interventions should include awareness on communicable diseases, water safety, road safety, and the establishment of community-friendly reporting mechanisms for incidents.

6.4.2 Environmental Mitigation Measures

Biodiversity, Wildlife and Ecosystem Protection

The DP should adopt a conservation-sensitive planning approach that avoids habitat fragmentation, protects wildlife corridors and reinforces anti-poaching controls in collaboration with DNPW and NTCP. Infrastructure siting should avoid ecologically sensitive areas such as riparian zones, wetlands and core wildlife habitats. Visitor management systems, including zoning, guided access, and carrying-capacity considerations should minimise disturbance to sensitive areas. Restoration programmes, including reforestation and vegetation rehabilitation, should be implemented where tourism infrastructure or access routes disturb natural habitats.

Water Resources and Hydrology Management

To minimise pressure on water resources, tourism facilities should adopt water-conservation practices, rainwater harvesting systems and technologies that reduce consumption. All new developments should include proper wastewater treatment systems to prevent contamination of Lake Tanganyika and streams. Erosion control and site-stabilisation measures should accompany any construction near watercourses. Riparian buffers should be protected through zoning regulations and community awareness, ensuring that tourism activities do not undermine natural hydrological functions.

Pollution, Waste and Environmental Quality

A coordinated waste-management framework is needed to support tourism growth. The DP should prioritise establishment of waste-collection points, improved transport for waste disposal and partnerships with private operators for waste management services. Tourism facilities should adopt best practices for solid waste

segregation, composting, recycling and safe disposal. Controls on boat maintenance, fuel handling and lake transport operations are essential to minimise pollution risks. Environmental quality monitoring should be integrated into district planning to track water quality, waste accumulation and emission trends.

6.4.3 Enhancement Measures

Enhancement measures focus on maximising the positive impacts of tourism. This includes promoting vocational training centres for hospitality and guiding; establishing SME incubators and grant windows for youth and women; supporting community-led tourism enterprises; and marketing the Nsumbu–Kasaba Bay landscape as a unified destination. Strengthened governance, improved infrastructure, cultural heritage promotion and environmental stewardship all contribute to sustainable and inclusive tourism development.

6.4.4 Residual Impacts

Residual impacts will depend on the effectiveness of mitigation and enhancement measures. With the recommended interventions, most social and environmental risks can be reduced from high or moderate-high to moderate or low, while positive impacts, especially livelihoods, enterprise development and cultural tourism can be further strengthened. Persistent risks may remain in areas with limited institutional capacity or high ecological or cultural sensitivity, and these will require continued monitoring, adaptive management and targeted support through the ESMMP.

6.5 Cumulative impacts

Cumulative impacts arise when the effects of the Destination Plan (DP) interact with other ongoing or planned activities within the Nsumbu–Kasaba Bay landscape. These interactions may amplify pressures on environmental and social systems or, alternatively, enhance positive outcomes where interventions are mutually reinforcing. Cumulative considerations are essential in a landscape such as Nsumbu, where conservation initiatives, tourism investments, fisheries management reforms and infrastructure programmes converge within a relatively small ecological and socio-economic setting.

6.5.1 Overview of Relevant Concurrent Initiatives

Several programmes and investments overlap spatially or functionally with the DP, including the Nsumbu Tanganyika Conservation Programme (NTCP), the Lake Tanganyika Development Project (LTDP), community fisheries management activities, district planning initiatives and emerging private tourism developments. Each introduces its own pressures and opportunities. Convergence occurs particularly in areas such as wildlife conservation, shoreline development, fisheries management, infrastructure upgrades and

community livelihoods. The cumulative assessment therefore focuses on how DP-driven changes may compound or interact with these broader dynamics.

6.5.2 Cumulative Environmental Impacts

Environmental pressures are most evident where multiple actors influence sensitive landscapes. Improved access roads, private tourism development and conservation patrols all increase movement into ecologically sensitive areas, potentially intensifying habitat fragmentation, wildlife disturbance or human–wildlife conflict if not managed in a coordinated manner. Tourism expansion may elevate waste generation and pressure on Lake Tanganyika, particularly when combined with population growth and existing weaknesses in district waste management systems. At the same time, conservation-focused initiatives under NTCP and community natural-resource governance programmes may counterbalance these pressures by enhancing habitat protection, strengthening enforcement and restoring degraded areas. The net cumulative effect depends on the extent to which tourism development is aligned with protection measures and environmental performance standards.

6.5.3 Cumulative Social Impacts

Social cumulative impacts emerge from the combined influence of tourism development, fisheries reforms, infrastructure improvements and population movements. Increased connectivity and economic activity can deepen local inequalities if benefits are unevenly distributed or if migrant workers outcompete local labour. Labour influx from several overlapping projects may heighten pressure on health facilities, water points and sanitation systems, reinforcing baseline vulnerabilities. Similarly, multiple investments may create parallel consultation and community demands that overstretch existing governance structures. Conversely, cumulative benefits may arise where skills development, SME support and inclusive tourism initiatives reinforce each other, improving local economic resilience and reducing reliance on extractive livelihoods. Coordinated benefit-sharing frameworks and harmonised community engagement processes are therefore essential.

6.5.4 Cumulative Heritage and Cultural Impacts

As tourism interest grows across different investors and programmes, cultural sites, such as sacred forests, ritual grounds and historic locations face cumulative pressure from increased visitation, trail development and commercialisation. Multiple developments may inadvertently encroach on cultural landscapes if heritage screening is fragmented or inconsistently applied. However, coordinated cultural mapping, community custodianship and cultural tourism initiatives can strengthen cultural preservation and enhance respectful visitor experiences. The cumulative outcome will depend on early identification of heritage-sensitive zones and consistent application of ESS8.

6.5.5 Cumulative Governance and Institutional Effects

Cumulative governance impacts arise where district institutions, WDCs and traditional leaders are simultaneously expected to regulate tourism development, manage fisheries, coordinate conservation partners and deliver public services. Limited staffing and financial resources may strain institutional capacity, reducing oversight of environmental compliance, labour standards or land allocation. If not addressed, this may exacerbate conflict risks or weaken enforcement of natural-resource regulations. On the positive side, the DP provides an opportunity to harmonise governance approaches by strengthening coordination mechanisms, clarifying roles among institutions and improving community participation frameworks.

6.5.6 Summary of Cumulative Impact Outlook

The cumulative impact profile of the DP is mixed: there are clear risks of intensified environmental pressure, social service strain, cultural disturbance and governance overload. However, there is also significant potential for positive cumulative impacts through enhanced livelihood diversification, strengthened conservation outcomes and improved institutional coordination. The extent to which positive outcomes prevail will depend on integration of cumulative considerations into implementation, particularly through coordinated planning, shared monitoring frameworks, harmonised community engagement and sustainable land-use management. These elements inform the Sustainability Appraisal in Chapter 7 and the ESMMP in the Annex.

7. SUSTAINABILITY APPRAISAL AND FRAMEWORK FOR IMPLEMENTATION

7.1 Introduction

This chapter presents the Sustainability Appraisal (SA) for the Destination Plan (DP) for the Nsumbu–Kasaba Bay landscape. The appraisal evaluates the extent to which proposed tourism development pathways contribute to long-term environmental protection, social inclusion, cultural heritage preservation and institutional strengthening. It synthesises the key findings from:

- ❖ the biophysical and social baseline assessment (Chapter 4),
- ❖ the policy and institutional analysis (Chapter 5),
- ❖ and the environmental and social impact assessment (Chapter 6),
- ❖ to determine whether the DP aligns with the principles of sustainable and inclusive development.

The SA provides a high-level evaluation of risks, opportunities and trade-offs associated with the DP's seven strategic directions. It identifies the strategic mitigation, enhancement and governance measures required to ensure that the DP can be implemented responsibly, equitably and in a manner consistent with the World Bank Environmental and Social Standards (ESS1–ESS10). Rather than repeating earlier analysis, this chapter consolidates the critical sustainability considerations and presents:

- ❖ a Strategic Mitigation and Enhancement Framework,
- ❖ an Institutional Responsibilities Framework,
- ❖ a Strategic Environmental and Social Monitoring Framework, and
- ❖ a High-Level Implementation and Resource Framework,
- ❖ which together form the core of the SESA's guidance for DP implementation.

7.2 Sustainability Appraisal of the Destination Plan

The Sustainability Appraisal evaluates how the Destination Plan (DP) performs across five sustainability dimensions: environmental, social, cultural, economic and institutional. It assesses whether the DP's proposed interventions and strategic directions promote long-term sustainability and identifies the conditions under which these benefits can be realised. The appraisal draws on the updated baseline and impact findings and focuses on systemic issues rather than project-level impacts or operational risks.

7.2.1 Environmental Sustainability

The DP has strong potential to enhance environmental stewardship in the Nsumbu–Kasaba Bay landscape by promoting conservation-compatible tourism, supporting protected area management and guiding infrastructure development away from ecologically sensitive areas. Key sustainability strengths include:

- the use of designated tourism development nodes to reduce unplanned sprawl;
- potential for improved conservation financing through tourism revenues;
- opportunities to strengthen biodiversity monitoring and habitat protection in partnership with DNPW and NTCP.

However, the appraisal identifies critical risks that require strategic attention:

- pressures on wildlife corridors from improved access routes;
- degradation of riparian zones and lake shorelines if siting controls are not enforced;
- cumulative pressures from population growth, tourism inflow and existing resource extraction (fishing, charcoal);
- increased waste generation and wastewater discharges affecting Lake Tanganyika.

Environmental sustainability therefore depends on:

- enforcing land-use zoning and applying environmental screening for all DP-supported investments;
- integrating carrying-capacity thresholds for NNP and high-sensitivity zones;
- strengthening district-wide waste and wastewater management systems;
- maintaining robust partnerships between government, NTCP and communities for ecological monitoring.

Detailed Environmental and Social Management and Monitoring matrices for physical, biological, and socio-economic components, together with institutional responsibilities and grievance pathways, are provided in Annex 5. Chapter 7 focuses on strategic outcomes and institutional responsibilities rather than operational scheduling.

Table 35: Strategic Mitigation & Enhancement Framework

Thematic Area	Key Sustainability Issues / Risks	High-Level Strategic Mitigation & Enhancement Measures	Relevant ESS	Destination Plan Link
1. Land Use, Planning & Settlement Growth	Unplanned settlement expansion along Nsumbu–Kasaba Bay corridor; encroachment into NNP buffers; pressure on shorelines	Integrate land-use zoning into DP Protect riparian buffers & wildlife corridors Require environmental & cultural screening for all tourism nodes Strengthen coordination between district planning & traditional authorities	ESS1, ESS5, ESS6	DP Directions 1, 3, 6

Thematic Area	Key Sustainability Issues / Risks	High-Level Strategic Mitigation & Enhancement Measures	Relevant ESS	Destination Plan Link
2. Livelihoods & Economic Inclusion	Unequal local access to tourism jobs; potential displacement of fishers; low benefit capture by communities	Local employment & procurement guidelines Community-based tourism models Livelihood diversification (eco-enterprises, crafts, agro-value chains) Compensation/alternative livelihoods where access restrictions occur	ESS2, ESS5, ESS10	DP Directions 2, 4
3. Gender, SEA/SH & Vulnerability	High SEA/SH risk with tourism influx; women excluded from economic gains; vulnerable groups underserved	SEA/SH action plan & safe reporting mechanisms Gender-responsive training & enterprise support Accessibility standards for persons with disabilities Targeted youth skills programmes	ESS1, ESS2, ESS4, ESS10	All DP Directions
4. Cultural Heritage Protection	Risk of disturbance to sacred sites, burial grounds, cultural landscapes	Heritage screening procedure (ESS8-aligned) Community cultural mapping with custodians Visitor management guidelines for cultural sites	ESS8	DP Directions 2, 5
5. Biodiversity & Ecosystems	Habitat disturbance from roads/trails; wildlife stress; forest degradation	Avoidance of sensitive habitats in siting Strengthen DNPW-NTCP conservation patrols Visitor carrying-capacity measures Ecological restoration of disturbed areas	ESS1, ESS6	DP Directions 1, 3, 5
6. Water Resources & WASH	Increased water demand from tourism; risk of wastewater discharge into Lake Tanganyika	Water-efficient infrastructure Mandatory wastewater treatment for facilities District-wide waste-management strategy Fuel & boat maintenance controls for lake safety	ESS3, ESS4	DP Directions 1, 7
7. Community Health, Safety & Security	Health facility overload; lake transport risks; road safety hazards	Strengthen Nsumbu health centre; operationalise new hospital Safe boat standards & emergency systems Road safety signage & community awareness	ESS4	DP Directions 6, 7
8. Governance & Institutional Capacity	Weak WDC capacity; fragmented community engagement; inconsistent enforcement	Capacity-building for WDCs, district staff, traditional leaders Harmonised community engagement framework Transparent land allocation protocols Establish multi-stakeholder coordination platform	ESS1, ESS10	All DP Directions

7.2.2 Social Sustainability

The DP provides significant opportunities for local development, particularly through employment, enterprise linkages, skills training and the diversification of livelihoods beyond fishing and subsistence agriculture. If well implemented, the DP can reduce poverty, enhance youth employment and increase women's economic participation.

However, the appraisal identifies several social sustainability challenges that must be addressed:

- limited local skills and low educational attainment restrict participation in tourism employment;
- gender inequalities and SEA/SH vulnerabilities could worsen with increased visitor numbers and labour influx;
- existing strains on health, water and sanitation services may intensify as tourism grows;
- livelihood transitions may create pressure for fishers if access restrictions or zoning are introduced without support.

To ensure social sustainability, the DP must integrate:

- structured local hiring and procurement guidelines;
- targeted youth and women's skills development and enterprise support;
- SEA/SH prevention and response systems aligned with ESS2, ESS4 and ESS10;
- investment in WASH, health and social services in key growth centres;
- mechanisms that ensure communities especially vulnerable groups share in tourism benefits.

7.2.3 Cultural Sustainability

The Nsumbu–Kasaba Bay area contains sacred forests, ancestral sites, ritual grounds and living cultural traditions. Cultural sustainability depends on ensuring that tourism growth does not erode cultural identity, spirituality or custodial authority.

The DP contributes positively by:

- recognising the cultural assets as part of the destination's value;
- creating potential for community-led cultural tourism;
- strengthening traditional leadership roles in heritage stewardship.

Key risks include:

- disturbance to sacred sites due to poorly planned access routes or visitor behaviour;

- commodification of cultural practices without community control;
- unregulated development encroaching on spiritual landscapes.

Cultural sustainability requires:

- formal heritage screening (ESS8) for all DP-supported investments;
- participatory mapping of cultural sites with custodians;
- culturally sensitive visitor guidelines;
- opportunities for communities to lead and benefit from cultural tourism initiatives.

7.2.4 Economic Sustainability

The DP offers a pathway to long-term economic transformation by establishing Nsumbu–Kasaba Bay as a high-value tourism destination. The plan can catalyse infrastructure upgrades, stimulate private investment, strengthen value chains and expand local markets for agriculture, crafts and small enterprises.

The appraisal notes several economic sustainability enablers:

- availability of natural attractions that can support diversified tourism products;
- opportunities for MSME development and community-based tourism models;
- potential to attract investors through improved access and destination branding.

However, economic sustainability may be undermined if:

- local communities remain unprepared to participate in tourism value chains;
- external investors capture disproportionate benefits;
- market linkages and supply chains remain weak;
- tourism revenues do not translate into improved public services.
- Ensuring economic sustainability requires:
 - business development support for local MSMEs;
 - structured supplier development programs;
 - improved market access for local producers;
 - investment in skill-building to improve workforce readiness;
 - mechanisms to ensure reinvestment of tourism benefits into community services.

7.2.5 Institutional Sustainability

Strong institutions are essential for delivering the DP sustainably. The appraisal finds that institutional sustainability will depend on addressing existing governance gaps, including:

- limited capacity in Nsama Town Council and Ward Development Committees;
- fragmented community engagement processes and weak community–government communication;
- overlapping responsibilities among ministries and agencies;
- limited resources for monitoring, enforcement and reporting;
- inadequate SEA/SH and social protection systems.

The DP strengthens institutional sustainability through opportunities to:

- formalise coordination structures;
- improve planning and regulatory systems;
- provide long-term support for district governance;
- integrate traditional authorities into decision-making;
- strengthen accountability and transparency mechanisms.

Table 36: Institutional Responsibilities Framework for SESA Implementation

This table replaces all previous institutional tables in Chapter 7 and fixes the exact gaps highlighted by PIU (missing ministries, fragmented roles, poor DP linkage).

Institution / Actor	Strategic Role in SESA & DP Implementation	Key Responsibilities	Relevant ESS	DP Strategic Directions Link	Institution / Actor
Ministry of Tourism (Lead Agency)	Overall coordination of DP implementation and policy oversight	Integrate SESA findings into DP rollout• Lead environmental & social compliance oversight• Coordinate cross-sectoral planning	ESS1, ESS10	All Directions	Ministry of Tourism (Lead Agency)
Department of National Parks & Wildlife (DNPW)	Wildlife, biodiversity, ecosystem protection	Enforce protection in NNP and GMAs• Manage wildlife corridors• Implement visitor-use controls and carrying capacity	ESS6	Directions 1, 3, 5	Department of National Parks & Wildlife (DNPW)
Nsumbu Tanganyika Conservation Programme (NTCP)	Co-management of protected areas and community conservation	Anti-poaching & ecological monitoring• Community conservation engagement• Landscape-level biodiversity monitoring	ESS6, ESS10	Directions 1, 5	Nsumbu Tanganyika Conservation Programme (NTCP)
Nsama Town Council	District planning, land-use, infrastructure, WASH services	Apply SESA/DP zoning guidance• Coordinate waste, sanitation & water systems• Issue development approvals consistent with SESA recommendations	ESS1, ESS3, ESS4	Directions 1, 6, 7	Nsama Town Council
Traditional Authorities (Chief Nsama, Chief Mukupa Kaoma, Senior Chief Kaputa)	Customary land governance & cultural heritage protection	Community mobilisation• Allocate customary land consistent with DP• Safeguard cultural sites and heritage landscapes	ESS5, ESS8, ESS10	All Directions	Traditional Authorities (Chief Nsama, Chief Mukupa Kaoma, Senior Chief Kaputa)
Ministry of Gender	Gender mainstreaming & SEA/SH prevention	Implement gender-responsive programs• Oversee SEA/SH mitigation & reporting mechanisms• Support women's enterprise development	ESS1, ESS2, ESS4, ESS10	All Directions	Ministry of Gender
Ministry of Health	Public health and community safety	Strengthen Nsumbu health services• Disease surveillance (malaria, diarrhoea, cholera)• Lead emergency preparedness for tourism zones	ESS4	Directions 6, 7	Ministry of Health
Ministry of Community Development & Social Services	Social protection & vulnerable groups support	Youth skills initiatives• Support disability inclusion• Social welfare services in tourism-affected communities	ESS1, ESS10	Directions 2, 4	Ministry of Community Development & Social Services

Institution / Actor	Strategic Role in SESA & DP Implementation	Key Responsibilities	Relevant ESS	DP Strategic Directions Link	Institution / Actor
National AIDS Council (NAC)	HIV/AIDS, STIs, SEA/SH & behaviour-change programming	Community awareness campaigns• Stakeholder coordination on SEA/SH prevention• Integrate HIV prevention into tourism development	ESS4, ESS10	All Directions	National AIDS Council (NAC)
Ministry of Transport & Logistics	Transport safety & infrastructure regulation	Improve lake & road transport safety• Enforce vessel standards• Coordinate safety inspections for tourism routes	ESS4	Directions 6, 7	Ministry of Transport & Logistics
Ministry of Transport & Logistics	Transport safety & infrastructure regulation	Improve lake & road transport safety• Enforce vessel standards• Coordinate safety inspections for tourism routes	ESS4	Directions 6, 7	Ministry of Transport & Logistics
Tourism Operators / Private Sector	Responsible investment & environmental compliance	Apply SESA screening• Local hiring & procurement• Manage waste, water & energy sustainably	ESS2, ESS3, ESS4, ESS10	Directions 2, 4, 7	Tourism Operators / Private Sector
NGOs & CSOs	Community engagement & social accountability	Facilitate participatory processes• Support vulnerable groups & CBOs• Provide independent monitoring support	ESS10	All Directions	NGOs & CSOs

7.3 Strategic Environmental and Social Monitoring Framework

A robust and coordinated monitoring system is essential to ensure that the Destination Plan (DP) delivers its intended environmental, social and economic benefits while avoiding or minimising adverse impacts. Monitoring at the strategic level focuses on outcomes and trends, rather than project-specific performance, and is designed to provide decision-makers with early warning signals, guide adaptive management and support transparent accountability to communities.

The Strategic Environmental and Social Monitoring Framework presented in this section provides a consolidated set of high-level indicators aligned to key sustainability themes identified in Chapters 4 and 6. These indicators reflect the most sensitive environmental and social receptors in the Nsumbu–Kasaba Bay landscape, including biodiversity corridors, cultural heritage sites, vulnerable groups, public health systems, water and sanitation services, and institutional performance.

Unlike operational-level ESMP monitoring, which will be developed later during project-level assessments, the SESA monitoring framework:

- tracks systemic changes associated with DP implementation;
- integrates responsibilities across district, national and community institutions;
- supports compliance with ESS1–ESS10;
- enables cumulative monitoring across multiple DP interventions;
- supports evidence-based planning and adaptive management;
- promotes transparency and community participation in monitoring outcomes.

The framework emphasises collaborative monitoring, drawing on the complementary roles of Nsama Town Council, traditional authorities, DNPW/NTCP, line ministries, private tourism operators, community organisations and NGOs. It also supports structured reporting to ensure that monitoring results inform annual planning processes and enable timely corrective action where needed.

The indicators are grouped into ten strategic themes that reflect the DP's sustainability priorities, including land-use control, biodiversity protection, livelihoods and economic inclusion, gender and SEA/SH prevention, WASH and waste management, community health and safety, cultural heritage protection, governance performance and grievance resolution.

Table 37: Strategic Environmental and Social Monitoring Framework

These indicators will serve as the foundation for monitoring and evaluation during DP implementation. As project-level investments advance, more detailed monitoring plans including site-based ESMPs and contractor obligations will be developed to complement the strategic oversight framework provided by the SESA.

Monitoring Theme	Strategic Indicator	Purpose of Indicator	Lead Institutions	Monitoring Frequency	DP Link
1. Land Use & Development Control	% of tourism developments screened using SESA criteria• Number of land disputes related to tourism reduced	Ensure development follows zoning, avoids sensitive habitats, and reduces conflict	Nsama TC, Ministry of Tourism, Traditional Authorities	Semi-annual	SD 1, 3, 6
2. Biodiversity & Ecosystems	Trends in wildlife sightings and incidents• Area of forest/vegetation cover maintained or restored	Track ecological integrity and impacts of tourism access	DNPW, NTCP	Annual	SD 1, 3, 5
3. Community Livelihoods & Inclusion	% of tourism jobs filled by locals• Number of community enterprises supported	Measure local economic benefits and inclusivity	Ministry of Tourism, Community Dev., Private Sector	Annual	SD 2, 4
4. Gender Equality & SEA/SH Prevention	Number of SEA/SH cases reported & resolved• % women participating in training/enterprise programs	Track gender equity and SEA/SH mitigation effectiveness	Ministry of Gender, NAC, WDCs, NGOs	Quarterly	All Directions
5. Water, Sanitation & Waste Management	Number of functional waste collection points• % tourism facilities with compliant wastewater systems	Ensure WASH systems scale with tourism growth	Nsama TC, Ministry of Water, Private Sector	Semi-annual	SD 1, 7
6. Community Health & Safety	Morbidity trends (malaria, cholera, diarrhoea)• Number of lake/road transport accidents	Monitor health system stress & safety risks	Ministry of Health, Transport, NAC	Quarterly/Annual	SD 6, 7
7. Cultural Heritage Protection	Number of heritage sites mapped & protected• Number of incidents of cultural site disturbance	Protect sacred sites, burial grounds, cultural landscapes	Traditional Authorities, NHCC, Tourism	Annual	SD 2, 5
8. Institutional Capacity & Governance	Number of functional WDC meetings• % recommendations acted upon by district/TA structures	Strengthen local governance, reduce fragmentation	Nsama TC, Traditional Leaders, MoT	Semi-annual	All Directions
9. Stakeholder Engagement & Grievance Management	Number of grievances received & resolved• Participation levels in consultations	Ensure inclusive engagement & resolve conflicts early	MoT, Nsama TC, WDCs	Quarterly	All Directions

Monitoring Theme	Strategic Indicator	Purpose of Indicator	Lead Institutions	Monitoring Frequency	DP Link
10. Private Sector Compliance	% of operating tourism facilities adhering to environmental standards• Number of operators submitting annual compliance reports	Enforce responsible investment and E&S performance	Ministry of Tourism, ZEMA, Private Sector	Annual	SD 2, 7

7.4 High-Level Implementation and Resource Framework

Effective implementation of the SESA recommendations depends on the capacity of responsible institutions, the availability of financial and technical resources, and the strength of coordination mechanisms across government, communities, conservation partners and the private sector. The Destination Plan (DP) introduces multiple interventions ranging from infrastructure upgrades and tourism investments to conservation support and community development which require a coherent and adequately resourced implementation framework to ensure their sustainability.

The High-Level Implementation and Resource Framework presented in this section translates the SESA's strategic recommendations into a set of priority action areas. It highlights the institutional responsibilities, indicative resource needs and potential funding sources required to support sustainable tourism development in the Nsumbu–Kasaba Bay landscape. This framework does not provide detailed line-item budgets or project-level costing. Instead, it identifies the categories of support and investment needed at the policy and programme level, consistent with the broad scale of the DP.

The framework is designed to:

- support institutional strengthening at district, traditional authority and community levels;
- ensure that biodiversity protection and ecosystem management receive sustained resourcing;
- guide equitable livelihood and enterprise development initiatives;
- reinforce gender, SEA/SH prevention and social protection systems;
- improve WASH and waste management infrastructure in key growth centres;
- enhance community health and safety, particularly in high-use tourism corridors;
- protect cultural heritage assets through community-led custodianship;
- facilitate coordination across ministries, agencies and development partners.

The resource categories presented in Table X4 reflect the types of investments required rather than operational details. Funding sources may include government budget allocations, Destination Plan financing, development partner grants, public–private partnerships and support from NGOs or conservation organisations. The intention is to provide a scalable, flexible structure that supports adaptive management as the DP evolves and project-level investments are defined.

Table 38: High-Level Implementation and Resource Framework

This framework is intended to guide the DP's governance structures, financial planning and stakeholder engagement processes. It provides a practical roadmap to ensure that SESA recommendations are not only technically sound but also realistic, resourced and capable of supporting long-term sustainable development in the Nsumbu–Kasaba Bay landscape.

SESA Priority Area	Key Actions for Implementation	Lead & Supporting Institutions	Indicative Resource Needs	Potential Funding Sources	DP Strategic Directions Link
1. Land Use Planning & Development Control	Integrate SESA zoning & screening into district land-use plans• Strengthen enforcement capacity for shoreline, buffer zones & wildlife corridors	Nsama TC (Lead); Ministry of Tourism; Traditional Authorities	Medium (technical planning, GIS, training)	Government; DP budget; donor TA	SD 1, 3, 6
2. Biodiversity & Ecosystem Protection	Support DNPW–NTCP patrols• Implement ecological monitoring• Restore degraded habitats	DNPW (Lead); NTCP; Ministry of Green Economy	High (vehicles, patrol logistics, monitoring systems)	Donors; Conservation partners; PPP	SD 1, 3, 5
3. Livelihoods, Inclusion & Community-Based Tourism	Youth and women training• Enterprise development grants• Alternative livelihoods for affected fishers	Ministry of Tourism (Lead); Community Dev.; MoG; NGOs	Medium–High (skills training, grants, SME support)	DP Livelihood Fund; NGOs; private sector CSR	SD 2, 4
4. Gender, SEA/SH Prevention & Social Protection	Establish SEA/SH reporting channels• Community awareness & prevention programs• Gender-responsive enterprise support	Ministry of Gender (Lead); NAC; WDCs; NGOs	Medium (training, awareness, GRM strengthening)	Government; NAC; NGOs; development partners	All SDs
5. WASH, Waste & Water Resources Management	District waste management plan• Waste collection points in tourism hubs• Compliance monitoring for wastewater systems	Nsama TC (Lead); Ministry of Water; Private operators	High (infrastructure + capacity building)	DP infrastructure budget; PPP; Govt	SD 1, 7
6. Community Health & Safety	Support Nsumbu health centre & new hospital operationalisation• Emergency response systems for lake & road safety	Ministry of Health (Lead); Ministry of Transport; Local Clinics	Medium (equipment, training, coordination)	Govt budget; DP health support; NGOs	SD 6, 7
7. Cultural Heritage Protection	Cultural site mapping• Visitor management systems• Heritage-sensitive investment screening	Traditional Authorities (Lead); NHCC; Ministry of Tourism	Low–Medium (mapping, signage, community facilitation)	Govt heritage budget; NGOs; DP	SD 2, 5
8. Institutional Strengthening & Governance	Capacity-building for WDCs & district planners• Multi-stakeholder coordination platform• Accountability & monitoring systems	Ministry of Tourism (Lead); Nsama TC; TAs	Medium (training, facilitation, coordination)	Government; DP governance budget; donors	All SDs

9. Stakeholder Engagement & Grievance Redress	Harmonized engagement framework• Strengthen GRM including SEA/SH pathways•	Ministry of Tourism (Lead); Nsama TC; NGOs	Low-Medium (training, outreach, reporting)	Govt; DP; NGOs; WB TA	All SDs
	Regular reporting & community feedback				

7.5 Overall Sustainability Outlook

The Sustainability Appraisal concludes that the Destination Plan (DP) offers a significant opportunity to promote inclusive, environmentally responsible and culturally grounded tourism development in the Nsumbu–Kasaba Bay landscape. If effectively implemented, the DP can support conservation outcomes, expand economic opportunities, strengthen community resilience and enhance public services in an area where baseline vulnerabilities are high and institutional capacity remains limited.

The DP demonstrates strong alignment with sustainability principles, particularly in its emphasis on conservation-compatible tourism, community participation, cultural heritage promotion, and improved connectivity. The strategic directions provide a clear foundation for balancing development and environmental protection. However, realising these benefits will depend on targeted action to address risks identified in the SESA, including pressures on sensitive ecosystems, social service constraints, gender inequality, SEA/SH vulnerabilities, livelihood transitions and governance gaps.

The strategic mitigation, institutional responsibilities, monitoring framework and resource requirements presented in this chapter provide the mechanisms needed to integrate sustainability into DP implementation. Collectively, these measures create a coherent framework for:

- protecting and restoring critical biodiversity assets;
- ensuring equitable access to tourism benefits;
- strengthening cultural custodianship and social accountability;
- enhancing district-level planning, coordination and enforcement;
- supporting adaptive management based on transparent monitoring results.

With sustained commitment, adequate resourcing and effective coordination across government, traditional authorities, communities, conservation partners and the private sector, the DP can serve as a model for sustainable tourism in Northern Province and contribute meaningfully to national conservation and development goals. Ongoing engagement with stakeholders and attention to emerging risks including cumulative and climate-related pressures will be essential to maintain long-term sustainability as the DP evolves.

8. CONCLUSION AND RECOMMENDATIONS

8.1 Conclusions

The Strategic Environmental and Social Assessment (SESA) for the Nsumbu–Kasaba Bay Destination Plan (DP) concludes that the DP has strong potential to catalyse sustainable tourism development, strengthen biodiversity conservation, enhance local livelihoods and improve socio-economic resilience in the landscape. The DP aligns well with national development priorities and offers an opportunity to transform one of Zambia’s least developed districts into a model for nature-based tourism, provided that sustainability considerations are mainstreamed across all phases of implementation.

The baseline assessment (Chapter 4) revealed a landscape characterised by high ecological value, deep cultural heritage, significant socio-economic vulnerabilities and constrained public service delivery. The impact assessment (Chapter 6) identified both the positive opportunities and the potential risks arising from tourism growth, infrastructure expansion and increased human movement. The Sustainability Appraisal (Chapter 7) confirmed that many of these risks are manageable through strategic planning, strong governance, targeted social inclusion measures and effective monitoring.

Key conclusions from the SESA include:

- Environmental integrity can be maintained if development is guided by zoning, environmental screening, protection of riparian zones and strengthened enforcement capacity for wildlife and habitat management.
- Community benefits can be significant, particularly in employment, MSME development and diversified livelihoods, but only with proactive inclusion of youth, women, fishers and other vulnerable groups.
- Social and gender risks require structured mitigation, notably SEA/SH prevention, improved safety systems and support for social services that will face increased pressure through tourism expansion.
- Cultural heritage assets are vulnerable to disturbance and require deliberate safeguarding measures involving custodians and traditional authorities.
- Institutional capacity remains a major constraint and must be reinforced through coordinated governance, clear role allocations and investment in district- and community-level structures.
- Monitoring and adaptive management will determine long-term success, as cumulative and climate-related pressures will evolve during DP implementation.
- Overall, the SESA concludes that the DP is environmentally and socially feasible and can deliver transformational benefits if accompanied by the strategic measures outlined in Chapter 7, including mitigation, institutional strengthening, monitoring and resourcing frameworks.

8.2 Recommendations

The following recommendations are provided to support sustainable implementation of the Destination Plan. They reflect the key sustainability risks, opportunities and governance needs identified through the SESA.

8.2.1 Environmental Recommendations

- Integrate SESA screening criteria into all DP-supported investments to ensure early identification of environmentally sensitive sites.
- Apply zoning and carrying-capacity guidance to protect shoreline habitats, wildlife corridors and high-sensitivity ecological areas.
- Strengthen biodiversity monitoring and ecological enforcement through coordinated support to DNPW and NTCP.
- Develop a district-wide waste and wastewater management system, prioritising Nsumbu town, Kasaba Bay and major tourism nodes.
- Build climate resilience into infrastructure design, water systems and community livelihoods.

8.2.2 Social Recommendations

- Institutionalise local hiring and procurement guidelines to ensure inclusive benefit-sharing.
- Invest in youth and women's skills programmes linked directly to tourism professions and enterprise opportunities.
- Support vulnerable households and fishers through livelihood diversification, market linkages and adaptive social protection.
- Strengthen health, water and sanitation systems in anticipation of increased service demand.
- Enhance safety systems for lake transport, roads and tourism sites.

8.2.3 Gender, SEA/SH and Protection Recommendations

- Operationalise SEA/SH reporting and referral systems across tourism hubs and communities.
- Implement gender-sensitive engagement processes for planning, benefit-sharing and grievance redress.
- Promote women's enterprise and market access, including in fisheries value chains, crafts, hospitality and community tourism.

8.2.4 Cultural Heritage Recommendations

- Undertake participatory cultural mapping to identify sacred sites, burial grounds and heritage landscapes.
- Apply ESS8-aligned heritage screening to all DP-supported investments.

- Develop culturally sensitive visitor guidelines in partnership with traditional authorities and custodians.

8.2.5 Institutional and Governance Recommendations

- Formalise and resource multi-stakeholder coordination structures at district and traditional authority levels.
- Strengthen the capacity of Nsama Town Council, WDCs and community structures in planning, monitoring and grievance handling.
- Integrate SESA mitigation and monitoring requirements into district planning and sectoral workplans.
- Strengthen transparency and accountability mechanisms, including annual reporting on DP progress.

8.2.6 Monitoring, Reporting and Adaptive Management

- Adopt the Strategic Monitoring Framework Table 3as the basis for annual DP performance reporting.
- Ensure cross-sectoral data sharing and joint reporting, particularly between tourism, conservation, health, water, gender and community development sectors.
- Review and update monitoring indicators every 3–5 years to reflect evolving conditions, emerging risks and cumulative impacts.
- Embed adaptive management mechanisms into DP governance, enabling timely response to environmental, social or institutional changes.

8.3 Final remark

If implemented with clear commitment, adequate resourcing, and strong coordination, the Destination Plan can deliver transformative and sustainable outcomes for the Nsumbu–Kasaba Bay landscape. The SESA provides the strategic guidance required to ensure that development proceeds responsibly, inclusively and in alignment with national priorities and the World Bank Environmental and Social Standards. Its recommendations, when integrated into planning and decision-making, will help secure long-term environmental integrity, social well-being, cultural preservation and economic prosperity for the region.

9. REFERENCES AND BIBLIOGRAPHY

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C. Socio-Economic and Cultural Reference

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D. Project-Specific Studies and Primary Data Sources

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E. Online and Data Portals

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- ❖ Climate Change Knowledge Portal (World Bank), <https://climateknowledgeportal.worldbank.org/>.
- ❖ Global Biodiversity Information Facility (GBIF), <https://www.gbif.org/>.

ANNEXES

ANNEX 1: SCOPING MEETINGS/STAKEHOLDER CONSULTATIONS

Introduction

As a legal requirement as well as part of the SEA process, scoping meetings were arranged and held in project areas.

Composition and Expertise of the Consultancy Team

1. Team Leader/Destination Planner
2. Spatial Planner
3. Civil Engineer
4. Ecologist/Environmental Specialist
5. Stakeholder Engagement
6. The contents of meetings are presented in the attached folder below.

MINUTES OF THE SCOPING MEETINGS HELD

Location	Venue	Date	Minutes
Kasama	Provincial Administration Conference Room	18th Feb 2025	 Consultation report_14 March 202
Nsama	Nsama District Commissioner’s Office	19th Feb 2025	
	Nsama District Council Chamber		
	Kampinda Village	20th Feb 2025	
	Nsumbu Jolusi Lodge		
	Frankfurt Zoological Society Project Office	21st Feb 2025	
	Chomba Village	24th Feb 2025	
	Chishela Village (Bulaya VAG 5 Office)		

ANNEX 2: ATTENDANCE LISTS FROM THE SCOPING MEETINGS/STAKEHOLDER CONSULTATIONS

 Republic of Zambia MINISTRY OF TOURISM						
ATTENDANCE LIST- STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT (SESA) & DESTINATION PLANNING (DP) STAKEHOLDER ENGAGEMENT MEETING – KAMPINDA STAKEHOLDERS						
Date: _____						
SN	NAME	SEX		ORGANISATION	SRC	PHONE
		M	F			
01	Simpundu Mwenje	✓		TURN - OFF KAMPINDA COMMUNITY	152112/14/11	0995445799
02	CHIMBISA SUGESA	✓		KAMPINDA COMMUNITY TURN - OFF	092338/14/11	07735-24778
03	NILIDE LASTONE	✓		Kampinda Community, TURN OFF	130622/40/11	0772174433
04	MATHEKA MUMUKA	✓		Kampinda Community	23 2613/14/11	0771066292
05	CHITAMBALA MARRIS	✓		Kampinda Community	03004/14/11	0992320831
06	VALLINDA EVERSON	✓		Kampinda Community	03004/14/11	0992320831
07	CHIRILO KIMAS	✓		Kampinda Community	03004/14/11	0992320831
08	CHIRILO KIMAS	✓		Kampinda Community	03004/14/11	0992320831
09	CHIRILO KIMAS	✓		Kampinda Community	03004/14/11	0992320831

09	CHITAMBALA MARRIS	✓		TURN - OFF KAMPINDA COMMUNITY	103931/14/11	099208842	Chim
10	NGONDA LEMALU	✓		TURN - OFF KAMPINDA COMMUNITY	156482/14/11	0774515273	Chim
11	CHIRILO KIMAS	✓		TURN - OFF KAMPINDA COMMUNITY	109469/14/11	0777	S. C
12	VALLINDA EVERSON	✓		TURN - OFF KAMPINDA COMMUNITY	—	0776983611	M. C
13	CHIRILO KIMAS	✓		TURN - OFF KAMPINDA COMMUNITY	103339/14/11	099208842	Chim
14	CHIRILO KIMAS	✓		TURN - OFF KAMPINDA COMMUNITY	152001/14/11	099531551	Chim
15	CHIRILO KIMAS	✓		TURN - OFF KAMPINDA COMMUNITY	157651/14/11	0992546536	Chim
16	CHIRILO KIMAS	✓		TURN - OFF KAMPINDA COMMUNITY	156457/14/11	0976326099	Chim
17	CHIRILO KIMAS	✓		TURN - OFF KAMPINDA COMMUNITY	—	—	RIFA
18	CHIRILO KIMAS	✓		TURN - OFF KAMPINDA COMMUNITY	138321/14/11	0995445799	B. CHIRILO
19	CHIRILO KIMAS	✓		TURN - OFF KAMPINDA COMMUNITY	127160/14/11	099163096	Chim
20	CHIRILO KIMAS	✓		TURN - OFF KAMPINDA COMMUNITY	165007/14/11	0993-135181	Chim
21	Jacob Chirilo	✓		Metropolitan	127475/14/11	097715291	Chim
22	Kambole Steat	✓		Ministry of Tourism	220365/14/11	097778129	Chim

NSAMA DISTRICT

19/02/2025



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 - STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
1	KINGFORD B. MWESU	Team Planner	N.T.C	0979212079	mwesukingford@gmail.com
2	NORRA MUKWILA	Co-ordinator LORDS ASSISTANT	N.T.C	097533175	norrasmukwila@hotmail.com
3	Isma Zulu	Socio-Economic Planner	Northern Town Council	09794916888	ismazulu@outlook.com
4	GERTRUDE NKONDE	DISTRICT ADMINISTRATIVE OFFICER	DISTRICT ADMINISTRATION	0976725234	gertrudenkonde@gmail.com
5	Grace Mutele	District Planning Officer (Ag. DPO)	HEALTH	0978866101	gracemutele99@yahoo.com
6	BORNISE KALONDE	ESD	EDUCATION	0972549881	bornise0082@gmail.com
7	JOSHUA LUNGU	HEALTH INSPECTOR	N.T.C	0979018211	joshualungu@gmail.com
8	SAKUBUKA GIFT	DMDO	AGRIC	0975651265	kingitozakubuka@gmail.com

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Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 - STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
9	MATIPA TEMBO	SAD	MOA	0979069075	shiray2maps@gmail.com
10	MUMBWAJAI ACKIMSON	Asst. Dir. BWS WORKS	WORKS	0970942357	mumbwajaiackimson@gmail.com
11	Benjamin Muleya	DWRD	DWRD	0977236886	benjaminmuleya7@gmail.com
12	KHIFER SIANKUKU	AG. CDO	SME	0974427467	khiffersiankuku@gmail.com
13	KABILA ELIAS	COOKS CLERK	JUDICIARY	0977566030	kabilaelias399@gmail.com
14	CHARLES TEMBO	OFF. COA INCUBATOR	Z.P	0977351977	
15	ELVIS MUSHANDA	SWR	D.N.P.W	0979394016	elvismushanda2050@gmail.com
16	FRED MUMBA	FORESTRY TECHNICIAN	FORESTRY	0970001012	fredmumba577@yahoo.com

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REPUBLIC OF ZAMBIA

Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
17	Juma Sanny Mumba	District Registrar	HOME AFFAIRS NAT. REGISTRATION	0975036984	Sannyjuma17@gmail.com
18	JEPHAI NGLOBEWA	DIRECTOR OF BUSINESS/INDUSTRY	COUNCIL	0972311561	ngelobella@gmail.com
19	CHIROJA PETROCELLA	ASSISTANT SOCIAL VESSEL OFFICER	SOCIAL VESSEL	0979725636	mukungochiroja@gmail.com
20	AMINZA MUTHAISE	DISTRICT DISASTER MANAGEMENT COORDINATOR	DICAMU	0972568469	maurazam18@gmail.com
21	MWANJI CHELLU	DISTRICT AGRICULTURAL COORDINATOR	AGRICULTURE	0978752064	meshaika@yahoo.com
22	CHISANGA DAVIES	DISTRICT COMM. DEV. OFFICER	COMMUNITY DEVELOPMENT	0979721965	dalechisanga@gmail.com
23	MUSA MUMENA	TECHNICAL MANAGER	N.T.C.	097539199	mumena18@btinternet.com
23	DAVID SUMNE	FC	UTC	0973062	
24	JACOB CHISANGA Mbedu	Consultant		0977758591	johushaka@gmail.com



REPUBLIC OF ZAMBIA

Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
01	CHISHA MUTHIENS	WDC CHIEF	Nsumbu Ward	0970535369	chishamuthiens@gmail.com
02	KOMBE BRIAN	COUNSELLOR	CIVIC LEADER NSUMBU	0977418788	brimmb8@gmail.com
03	CHANGA DAVIES	HEAD MAN	CHANDWEE VILLAGE	0970386647	
04	KWANJA LIMBUNDA	DIO - EOPUS	EOP(SD)	0974472856	limbulenda3@gmail.com
05	MEVIS KALIMBA	BUSINESS MAN	NSUMBU MARKET	0971476778	
06	EVANS MUPPA	S/M ZESCO	ZESCO	0977354138	emuppa@zesco.co.zm
07	CHHOONSO ALFRE	ZAMBIA POLICE	Z-P	0978061975	choongyale@gmail.com
08	CHILEKWA EVANS	D.F.I.C.F. N-CHARC	Immigration	0972000888	chilekwaevans@gmail.com



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S/N	Name	Designation	Organization	Phone No.	Email Address
09	SINYAMA CHIPD	Aquaculture Assistant Department of Fisheries	MFL	0976687254	inyamaschipd@gmail.com
10	CHIKUSHE M. MATHEB	MAGISTRATE MORTGAGE	JUDICIAL	097271707	mathebm@gmail.com
11	Chidambor Paul	Chairperson	CAB	097395756	chidambor@gmail.com
12	RENNINGTON NEOMA	DATA	GREAT-TDP	0978395412	renningtonneoma@gmail.com
13	MAKULIKU DAVIES	headman	CHUSILU	0976695110	DAVIESmakulu
14	JARSEN KELVIN	SINICRA HEADMAN	HEADMAN	0978459737	JARSEN KELVIN
15	Sangwe Albert	Lupili A	H/Man	0977104056	AS
16	CHIBULO FRIDAY	BARTENDER	ZAMBIA RESOURCES SOCIETY	0976719539	

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S/N	Name	Designation	Organization	Phone No.	Email Address
17	BARONI CHIRALI	V/SECRET T/ MANAGER	SECRETARY TORS	097973422	
18	KATONG'LO MIRIAM	ILCS RECTOR HEADMAN	RADIO STATION	0771829830	miriamkatong'lo@gmail.com
19	AMOS CHIPCHO	CHANDWE	CHANDWE	0973311159	
20	DR. HANSON BUNDA	MANAGER	NSUMBUVINGA	0977476932	
21	Josephine Lukwesa	-	youth REPRESENTATIVE	0975963016	J. LUKWESA
22	Mcbbey KAFWIMBI	-	WOMEN (FARMER) REPRESENTATIVE	0770356200	M. KAFWIMBI
23	MUSONDA M. CHIPCHA	A/A	GREAT-TDP	0968413467	
24	MARY NACHUMBA	CHIEF LADY TAILOR (MUSE)	CHIEF LADY	0972157499	M. NACHUMBA



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S/N	Name	Designation	Organization	Phone No.	Email Address
24	MUNJOT J. LOMANGWA	AC BEO	MOA	0976218234	Lomungwa.munbot2024@gmail.com

23



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S/N	Name	Designation	Organization	Phone No.	Email Address
24	CHIBAKE HILDAH	community member	SHIKA PROMPT	097764437359	C. HILDAH
25	Idhiss Mulangwa	Islamic leader	Shilebina	0970822565	Idhiss Mulangwa 032@gmail.com
26	Thomais Bwalya	A w	Widlife	0977178034	thomaisbwalya@gmail.com
27	KANGWA ALEX	MEMBER	EDUCATION YOUTH EMPLOYMENT DEV. ORG	0976086170	alex.kangwa@gmail.com
28	CHISEKA LANGELELO	D/HODG TO	KASABA BAY BOUQUINE SEC.	0977599777	langhelelochiseka@gmail.com
29	Pst Noah Chibwe	Pastor	NSAMA PASTORS FELLOWSHIP	0976-175251	noahchibwe@gmail.com
30	NSAMA PILATE	STATION MANAGER	TANGANYIKA COM. RADIO STATION	09779157717	nsamapilate@gmail.com
31	Bwalya Chibwe	Member	Member	0977571456	chibwebwalya@gmail.com
32	Jacob Chishuba	Member	Member	0977152591	jacobchishuba@gmail.com

Nsumbu / KASABA BAY
TOUR OPERATORS / DNPW / CAB
20/2/2025 9:30



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 - STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
1	CRIG HAY	WATER MANAGER	TANZANIA CONSERVATION LTD	0772725223	craig.hay@tanzaniacconservation.org
2	ZANE LABUSKHAENE	PROJECT MANAGER	NTCP	0962374467	zane.labushkane@fz.org
3	ALESSANDRA VALEZZA	MANAGER	NEAHBA EAST	0962744504	andrea@uscargo.com
4	ELISE BRADY	MANAGER	MOOLE BAY	0962581838	info@moolebay/edge.com
5	Craig Zylke	PRM	FZS	098126917	craig.zylke@fzs.org
6	Chishimba Paul	Chairperson	CAB	0972583468	paulchishimba@gmail.com
7	Thomson Brady	FW REGULATOR	Wildlife	0979178034	thomsonbrady@qshw.com
8	KAMBOLE DIKATE	TOURISM COORDINATOR	MOI	077781209	gkambole@gmail.com

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- National Level

STATE ACTORS - NATIONAL
17/02/2025



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
11:00 2	Priscilla Zombanya	Principal, Aviation	MTL	0977941935	Gillahb11@gmail.com
13:00	MATONGO MATAMWANDI	CEO	ZTA	0966771046	matongo.matamwandi@zta.org.zm
	ROBERT SIMWIJI JR	HEAD Policy, Planning	RTA	096182729	robert.simwiji@zta.org.zm
14:50	GEORGE CHISALA	MANAGER, AERODROME	ZACL	09747522	george.chis-g@zacl.gov
16:10	NATHAN KALUBA	DIRECTOR AERODROME	CAA	0976358017	nathan.kaluba@caa.co.zm
5 09:00	Norbert Bwanga	MANAGER COMMERCIAL	ZAMBIA AIRWAYS	0974770888	Norbert.Bwanga@zambiaairways.co
35 14:30	PAUL MULOLO	ASSISTANT DIRECTOR - AVIATION	MTL	0974475475	Paulmulo12@gmail.com

FUNCTIONAL STATE / NON-STATE
ACTORS



REPUBLIC OF ZAMBIA

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
1	Dr Stephen Xhuvansa	CONSULTANT	TCZ	0977809939	stephenwansa.sb@gmail.com
2	Inonge Kasiji	Investment Promotion Officer	ZDA	0972548808	Inonge.Kasiji@zda.org.zm

- Provincial Administration

PROVINCIAL ADMIN.

18/02/2025

11:30



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
01	Mwiza Muzumara	Catchment Manager	WARMA	0977405352 0962418209	mmuzumara@warmar.org.zm mwizaso@gmail.com
02	Sharon N. Kaunda	P. Forestry Officer	Forestry	0978448392	namonjeron@yahoo.com
03	TEDDY MALUSO	As. Provincial works officer	ZANIS	0979596408	mytongote@gmail.com
04	BENNY KASHIMOTO	PRE	ROA-NORTHERN	0977898693	bkashimoto@roads.gov.zm
05	KAMBUSE MWAMBAZI	SESO - RS	PEO: OFFICE	0977143602	kambusemwambazi68@gmail.com
06	CONRAD MUZETA	PAIO	MOA	0977330162	muzetaconrad@yahoo.com
07	WALLACE MOONGA	SCAO	LOCAL GOVT.	0955812821	Wallacemoonga@gmail.com
08	Facel chishika	Consultant		0977-755591	jchishika@gmail.com

PROVINCIAL ADMIN
5/02/2025



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
9	Edward Phiri	Planner - Planning & Budgeting	Ministry of Health	0979443353	edwardphiri3@yahoo.co.uk
10	GIVEN MBOZOTA	ENVIRONMENTAL HEALTH OFFICER	MINISTRY OF HEALTH	0971903204	givenmbot@yahoo.com
11	Alfred Nyambose	P.O.	M.L.G.A.D	0978880047	nyambosedaan@gmail.com
12	SHATA ZUBINDA WAMUNYIMBA	P.O.	MITUD/DP1	0979690390	shatazubindawamunyimba@gmail.com
13	CHISHA ROCH MPUNDU	V. President	KASAMA CHAMBER OF COMMERCE	0966-250182	crmpundu@yahoo.com
14	Kampango Lemani	DIRECTOR TECHNICAL SERVICES / IAT	CITAMBOCHI WATER	0979577941	KL.kampango@gmail.com
15	BANGWE Zulu	ICT officer	SZI	0977887426	bangwe-zulu@grz.gov.zm
16	INONGE MWANANGOMBE	PLANNER	P.P.O.	0971654066	mwanangombenonge6@gmail.com



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
17	Lashings Sichangwa	Principal ICT Officer	PANP-ICT (Smart Zambia)	09751496055	Lashings.Sichangwa@sz.gov.zm
18	Zangose Chansongo	Snr State Advocate	Attorney General	0976974836	zangose.chansongo@moj.gov.zm
19	KAMBULE ZIKATE	REGIONAL TOURISM COORDINATOR	MOT	0977781201	gkambule@gmail.com
20	KUNDA KABANGWE	Sr PLANNER	P.P.O.	0977649127	kundakabangwe@gmail.com
21	NAMUKOKO Rhoda	SEO	PANP	0978236260	Rhodanamukoko@gmail.com

NSAMA DISTRICT

19/02/2025



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
1.	KINGFORD. B. MWESD	Town Planner	N.T.C	0979212079	mwesekingford@gmail.com
2	NSAMA MULENGA	SENIOR LEADER APPROPRIATE	N.T.C	0977533175	nsama1984@hotmail.com
3	Iyan Zulu	Socio-Economic Planner	Nsama Town Council	0974916888	lyanzulu@outlook.com
4.	GETRUDE NKONDE	DISTRICT ADMINISTRATIVE OFFICER	DISTRICT ADMINISTRATION	0976725234	getrudenkonde@gmail.com
5	Grace Mntale	District Nursing Officer (Ag DPS)	HEALTH	0978866101	gracemntale091@yahoo.com
6	BORNFACE KALUNDE	ESD	EDUCATION	0972549881	bornface0082@gmail.com
7	JOSHUA LUNGU	HEALTH INSPECTOR	N.T.C	0979015211	joshualungus@gmail.com
8	SAKUHUKA GIFT	DMDO	AGRIC	097551265	kengifesakuhuka@gmail.com



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
9	MAPOPA TEMBO	SAO	MOA	0979063075	Shijoy2maps@gmail.com
10	MUMBWATIASAI ACKIMSON	AGSIS WORKS	WORKS	0770942357	mumbwatisai ackimson@gmail.com
11	Benjamin Mulega	DWRDO	DWRD	0977271086	benjaminmulega76@gmail.com
12	WHIPPER SIANKUKU	AG CDO	SME	09774409467	Whipperscankuku@gmail.com
13	KABILA ELIAS	COURT CLERK	JUDICIARY	0977566030	KabilaElias397@gmail.com
14	CHARLES TEMBO	OFFICER IN CHARGE	Z P	0977341977	
15	ELVIS MUSONDA	SWR	DNPW	0979394016	elvismusonda2050@gmail.com
16	FRED MUMBA	FORESTRY TECHNICIAN	FORESTRY	0770001012	fredmumba77@yahoo.com



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Attendance Register

REAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

N	Name	Designation	Organization	Phone No.	Email Address
1	Juma Sanny Mumba	DISTRICT REGISTRAR	HOME AFFAIRS NAT. REGISTRATION	0975036934	Sannyjuma17@gmail.com
2	JEPTAN NGOLOBWA	DIRECTOR PROPERTIES/LIVESTOCK	COUNCIL	0974341541	ngolobwa.jeptan@gmail.com
3	CHIPOJA PETROCHUA	ASSISTANT SOCIAL WELFARE OFFICER	SOCIAL WELFARE	0979725636	mubangachipoja@gmail.com
4	MAINZA MESHASHA	DISTRICT DISASTER MANAGEMENT	DATAU	0972568469	mainzami18@gmail.com
5	MWANTI CHELLAH	DISTRICT AGRICULTURAL COORDINATOR	AGRICULTURE	0978752066	meshasha@yahoo.com
6	CHISANGA DAVIES	DISTRICT COM. DEV. OFFICER	COMMUNITY DEVELOPMENT	0979721965	davieschisanga@gmail.com
7	NSAMA MUKENSA	SEKOLA LEAD ASSISTANT	N.T.C.	0971533175	nsama1984@hotmail.com
8	DAVID SIMBE	WTC	WTC	0977536252	

Sub-District Level

Kampinda Turn-Off Community

KAMPINDA TURN-OFF - COMMUNITY

19/02/2025 14:45



Republic of Zambia

MINISTRY OF TOURISM

ATTENDANCE LIST- STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT (SESA) & DESTINATION PLANNING (DP) STAKEHOLDER ENGAGEMENT MEETING – KAMPINDA STAKEHOLDERS

Date:

S/N	NAME	SEX		ORGANISATION	NRC	PHONE	SIGNATURE
		M	F				
01	SIMPUNGWE EDRICK	✓		TURN - OFF KAMPINDA COMMUNITY	152718/4811	0975485799	<i>Simpungwe</i>
02	CHIRESA GIDEBA	✓		KAMPINDA COMMUNITY	248234/1411	07775-24798	<i>Chiresa</i>
03	NONDE LASTONE	✓		TURN - OFF KAMPINDA COMMUNITY	130623/4811	0772174485	<i>Nonde</i>
04	NATASHA MUKUKA		✓	TURN OFF KAMPINDA COMMUNITY	232613/4111	0771066292	<i>N. Mukuka</i>
05	CHITAMBALA MORRIS	✓		TURN OFF KAMPINDA COMMUNITY	232804/4811	0972866989	<i>M. Chitambala</i>
06	KALIMBA EVERETT		✓	TURN OFF KAMPINDA COMMUNITY	248234/1411	077212055	<i>K. Kalimba</i>
07	CHONGO KENAS	✓		TURN OFF KAMPINDA COMMUNITY	240255/4111	0772099307	<i>K. Chongo</i>
08	KASABA SHEIRA		✓	TURN OFF KAMPINDA COMMUNITY	263839/6411	0972358739	<i>K. Kasaba</i>

09	CHITAMBALA MOSES	✓	TURN-OFF KAMPINDA COMMUNITY	103931/48/1	0977208897	Comm.
10	NG'ONGA LENARD	✓	TURN-OFF KAMPINDA COMMUNITY	156482/4/1	0974515273	Handwritten signature
11	SIPOTA CARSTONE	✓	TURN-OFF KAMPINDA C/SIPOTA	109449/4/1	078	S. C
12	MALUKE FIDES	✓	TURN-OFF KAMPINDA	—	0776955611	M. F
13	UWALE MOSES	✓	TURN-OFF KAMPINDA	103339/48/1	0975811893	BU
14	SONGWE BRIAN	✓	TURN-OFF KAMPINDA	133021/93/1	0979531551	Handwritten signature
15	PHISHIMBA RANDICK	✓	TURN-OFF KAMPINDA	157654/4/1	0972546836	Phishimba
16	SELA WINNY	✓	TURN-OFF KAMPINDA	156457/4/1	0976326099	
17	CHIMAMBI JIFFER	✓	TURN-OFF "	—	—	RIFA
18	CHIMMBYE ISABRAH	✓	TURN-OFF KAMPINDA	138721/48/1	0970440898	B. CHIMMBYE
19	CHIMBA JATHERI	✓	TURN-OFF KAMPINDA	171160/4/1	0971163046	Handwritten signature
20	ANDERD CHITAMBALA	✓	TURN-OFF KAMPINDA	165007/48/1	0973-135181	Handwritten signature

Nsumbu Community
01/02/2025 11:30



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
01	CHRISTOPHER MATTHEWS	WDC CHAIRPERSON	Nsumbu Ward	0770535369	christophermatthews85@gmail.com
02	KOMBE BRIAN	COUNCILLOR	CIVIC LEADER NSUMBU	0977418788	brian88@gmail.com
03	CHAMBA DAVIES	HEADMAN	CHANDWEE VILLAGE	0770386647	
04	KWANGA LINDUNDA	DIO - OOP(SD)	OOP(SD)	0979492856	linalinduz@gmail.com
05	MENES KALIMBA	BUSINESS MAN	NSUMBU MARKET	0971476778	
06	EVANS MUPPA	B/M ZESCO	ZESCO	097735438	emuppa@zesco.co.zm
07	CHHOONSO ALFRED	ZAMBIA POLICE ADMIN	Z-P	0978061775	choongyalfred@gmail.com
08	CHILEKWA EVARISTO	DEPUTY CHAIRMAN - Immigration	Immigration	0972000888	chilekwaev@gmail.com



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
09	SINYAMA CHIPD	Aquaculture Assistant Department of Fisheries	MFL	0976687254	sinyamachipd@gmail.com
10	CHIKESHA M. MATHEA	MAGISTRATE LOCAL CHARGE	JUDICIARY	097271787	Mattewschilehe@gmail.com
11	CHRISTOPHER PAM	Chairperson	CRB	097385488	pamchrisambette@gmail.com
12	REMMINGTON NGOMA	DATA	GREAT-TDP	0978395412	remmingtonngoma@gmail.com
13	MAKUTUQU DAVIES	headman	CHISALU	0976695110	DAVIESmumup
14	KARISEN KELVIN	SENIOR CH	HEADMAN	0978453737	KARISEN KELVIN
15	Songwe Albert	Lupili A	H/man	0977104056	A
16	CHSULO FRIDAY	BR President	ZAMBIA RED CROSS SOCIETY	0976919539	



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
17	BARON CHABALU	V/SECRETARY T. MWALIDO	SECRETARY TCRS	097973423	
18	KATONGO MIRIAM	TCRS REPORTER HEADMAN	RADIO STATION	0771829830	mirriamkatongo98@gmail.com
19	AMOS CHIPCPO	CHANDWE	CHANDWE	0973314159	
20	DASHINGO BUNDA	MANAGER	NSUMBUYNKA	0977476932	
21	Josephine Lukwesa	-	YOUTH REPRESENTATIVE	0975 963016	J. Lukwesa
22	Mcbbey Kafwimbi	-	WOMEN (MACHEI) REPRESENTATIVE	0770356200	M. Kafwimbi
23	MUSONDA M. CHIPYIA	A/A	GREAT-TDP	0963413467	
24	MARY NACHUMBA	CHAIR LADY TAILORING (SEP)	CHAIR LADY	0972-159499	M. NACHUMBA



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
24	CHIBAKE HILDAH	community member	SHIKA PAMPA	09784437387	C. HILDAH
25	Idriss Mulenga.	Islamic leader	Shilobina.	0970822565	Idriss Mulenga.032@gmail.com
26	Thomas Bwalya	AW	Widhite	0979178034	thomassbwalya@yahoo.com
27	KANGWA ALEX	MEMBER	EDUCATIONAL YOUTH EMPLOYMENT DEV. ORG	0976086170	alex.kangwa@gmail.com
28	CHISENDA LANGFIELD	D/HEAD TA	KASABA BAY BOARDING SEC.	0979599839	langfieldchiseng6@gmail.com
29	Pst Noah Chahwe	Pastors Fellowship	NSAMA PASTORS FELLOWSHIP	0976-175251	noahchahwe7@gmail.com
30	NSAMA PLATE	STATION MANAGER	TANCANYIKA COM. RADIO STATION	0979157717	nsamaplate@gmail.com
31	BEXBAO CHISUMBWA	MEMBER	MEMBER	0971574561	chisumbwa



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
32	FELIX MAZIMBA	MUNSETA	NT FMC	0957972308	
33	MULETA THOMAS	KAPISHA COUNCIL	COUNCILLOR	0965612425	A
34	CHISEMBA KELVIN	REPRESENTATIVE	NSA MA TOWN COUNCIL	0973395556	@Chisemba
35	DARLINGTON CHABAKA	Agricultural Supervisor	AGRICULTURE	0774638865	MD
36	Mulenga Richard	Forest officer	Forestry Dept	0970698070	Rulenga
37	MUSOWA DAVID	Constitutionary Office PA	NAZ	0989684878	Chisemba
38	CHIFUNDA MILTON	HEADTEACHER	KASABA BAY PRIM	0976921225	Chifunda
39	PASUWA DIMAS	COMMUNITY MEMBER	LUPILI	0973636185	P.D



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
40	MWITWA J. LINDAGWA	AG BEO	MOA	0976818284	Lvwngzfmwita2022@gmail.com

CHOMBA WA KASABA COMMUNITY

21/02/2025 16:00



REPUBLIC OF ZAMBIA

Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
1	DONALD.	v/chomba		0750070209	
2	Kedrick mazimba	v/chomba		0954599138	
3	Rebest mazimba	v/chomba		0956006119	
4	Kedrick mazimba	v/chomba		0953689906	
5	EMANUEL MAZIMBA	v/chomba			
6	Kedrick mazimba	v/chomba		0950957565	
7	KELVIN KALANSA	v/Lukwesha			
8	Riverston mazimba	v/Lukwesha		09556102	



REPUBLIC OF ZAMBIA
Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

S/N	Name	Designation	Organization	Phone No.	Email Address
9	Isak Mazimba	V/Lukwesa			
10	BANABUS Chibwe	V/Lukwesa		0958820950	
11	Petro Sichelewe	V/Lukwesa		0958820947	
12	Sam Simeu	V/Lukwesa			
13	Joseph Chibwe	V/Lukwesa			
14	James Mazimba	V/Chomba		0950172574	
15	ALLY Chipili	V/Chomba		0953475617	
16	Ever Rigto Chansa	V/Chomba			



Republic of Zambia

MINISTRY OF TOURISM

ATTENDANCE LIST- STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT (SESA) & DESTINATION PLANNING (DP) STAKEHOLDER ENGAGEMENT MEETING – CHOMBAWAKASABA STAKEHOLDERS

Date:

S/N	NAME	SEX		ORGANISATION	NRC	PHONE	SIGNATURE
		M	F				
17	Fliza Kamukhin		✓	v/chomba	156089/1/1		E. Qum
18	Juliet namukombe		✓	v/chomba	112335/4/3/1		
19	Kethrin chishimba		✓	v/chomba			
20	Daghtis namukombe		✓	v/chomba			
21	ASDriden namukombe		✓	v/chomba			
22	Froance namukombe		✓	v/chomba			
23	Edith namukombe		✓	v/chomba			
24	Esnet namukombe		✓	v/chomba			

		M	F		2027		
25	ReSmarey Kachumba	M	F		202735/48/1		
26	IReen nes'ander		F				
27	maChie masimba		F				



Republic of Zambia

MINISTRY OF TOURISM

CHISHELA

ATTENDANCE LIST- STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT (SESA) & DESTINATION
PLANNING (DP) STAKEHOLDER ENGAGEMENT MEETING – NSAMIA STAKEHOLDERS

Date:

S/N	NAME	SEX		ORGANISATION	NRC	PHONE	SIGNATURE
		M	F				
01	MAURICE CHIKESHE	✓		KDC championson	152070/48/1	0979220380	
02	KALENGA BUNCAN	✓		V. SECRETARY	127513/48/1	0973233396	
03	Goodson Chomba	✓		top secretary	198601/28/1	0972524601	
04	Rodah ng'anga Kapindale		✓	Church women	148021/21/1	0977932411	
05	Mary mbila		✓	Treasure	128269/28/1	0979622607	m.m
06	Willy Chabandwa	✓		Choir	103191/48/1	0975950032	
07	Kalenga Boya	✓		Councillor	27620/48/1	0978080526	
08	Everine Katali		✓	Vice Chairman	114611/48/1	0974086324	

Nsumbu / KASABA BAY
TOUR OPERATORS / DNPW / CRB



20/2/2025 9:30

REPUBLIC OF ZAMBIA

Attendance Register

GREAT-TDP: KASABA BAY SESA AND DP FIELD TRIP 1 – STAKEHOLDER CONSULTATIONS (February 18- 24, 2025)

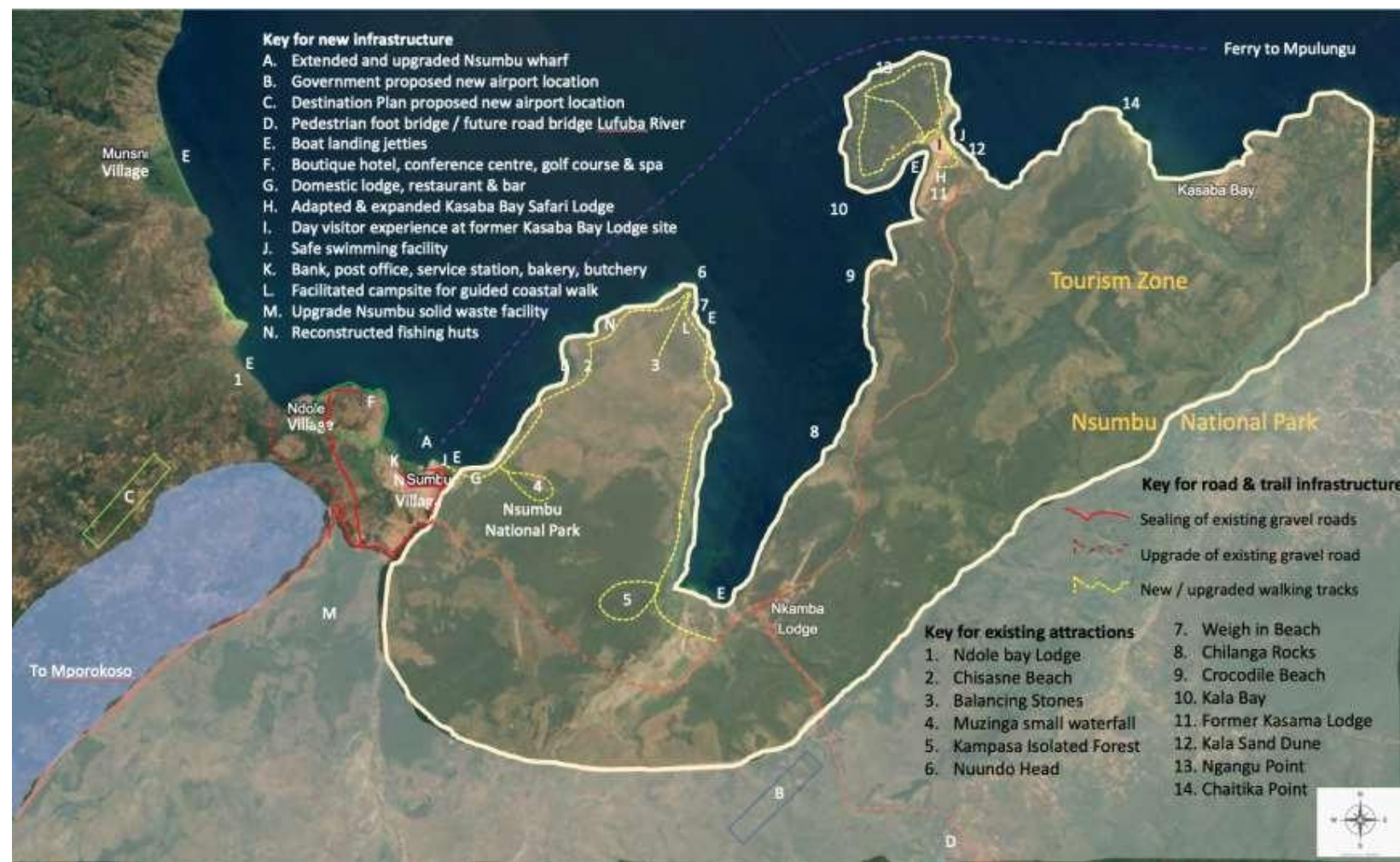
S/N	Name	Designation	Organization	Phone No.	Email Address
1	CRAIG HAY	PROJECT MANAGER	TONDWA CONSERVATION LTD	0772923223	craig.hay@tonduaconsevation.org
2	ZANNE LABUSCHAGNE	PROJECT MANAGER	NTCP	0962379969	zanne.labuschagne@fzs.org
3	ALESSANDRA VALENZA	MANAGER	NKAMBA BAY	0967999501	sandra@uscargo.com
4	ELISE BRAZIER	MANAGER	NDOLE BAY	0962981838	info@ndolebaylodge.com
5	Craig Zytka	PM	FZS	096126917	craig.zytka@fzs.org
6	Cheshumba Paul	Chairperson	CRB	0973583438	paulcheshumba@gmail.com
7	Thomaz Brazier	AW	Wildlife	0929178034	thomazbrazier@yahoo.com
8	KAMBOLE SIKATE	REGIONAL TOURISM COORDINATOR	MOT	0977781209	kambola@gmail.com

ANNEX 3: GEOMATIC MAPS FROM DESTINATION PLAN

Figure 10: Strategic investments proposed in Level 2 of the study area
(Source: SMA Tourism & Metro Consult Ltd)



Figure 11: Strategic infrastructure investments proposed in Level 1 of the study area (Source: SMA Tourism & Metro Consult Ltd)



Official Use Only

Figure 12: Concept Plan for Wharf, Marina and safe swimming area
(Source: SMA Tourism & Metro Consult Ltd)



Figure 13: Concept Plan for Nsumbu Eco Tented Camp (Source: SMA Tourism & Metro Consult Ltd)



Figure 14: Concept Plan for Kasaba Bay Ecolodge
(Source: SMA Tourism & Metro Consult Ltd)

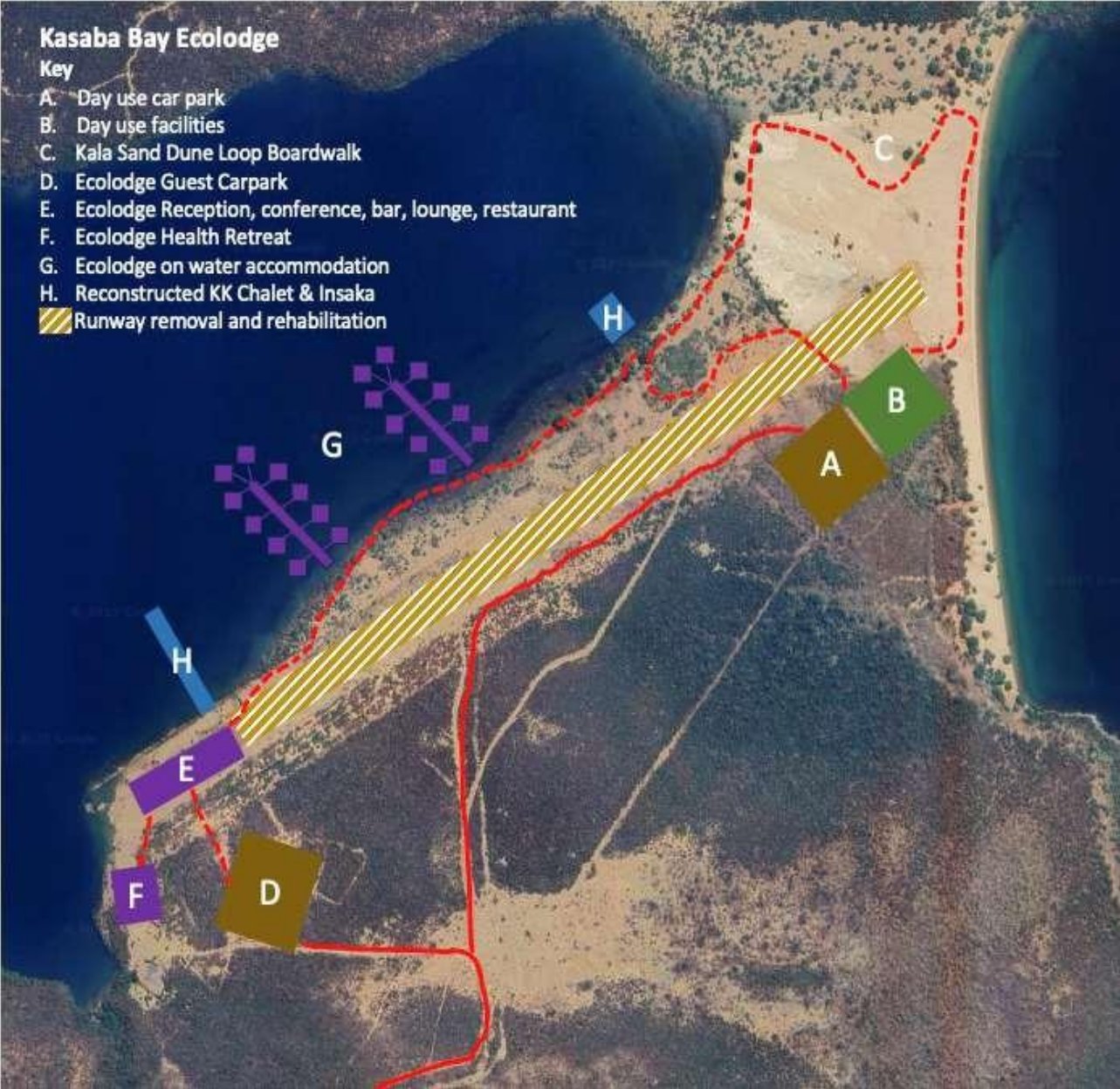


Figure 15: Concept Plan for Kasaba Bay Resort (Source: SMA Tourism & Metro Consult Ltd)

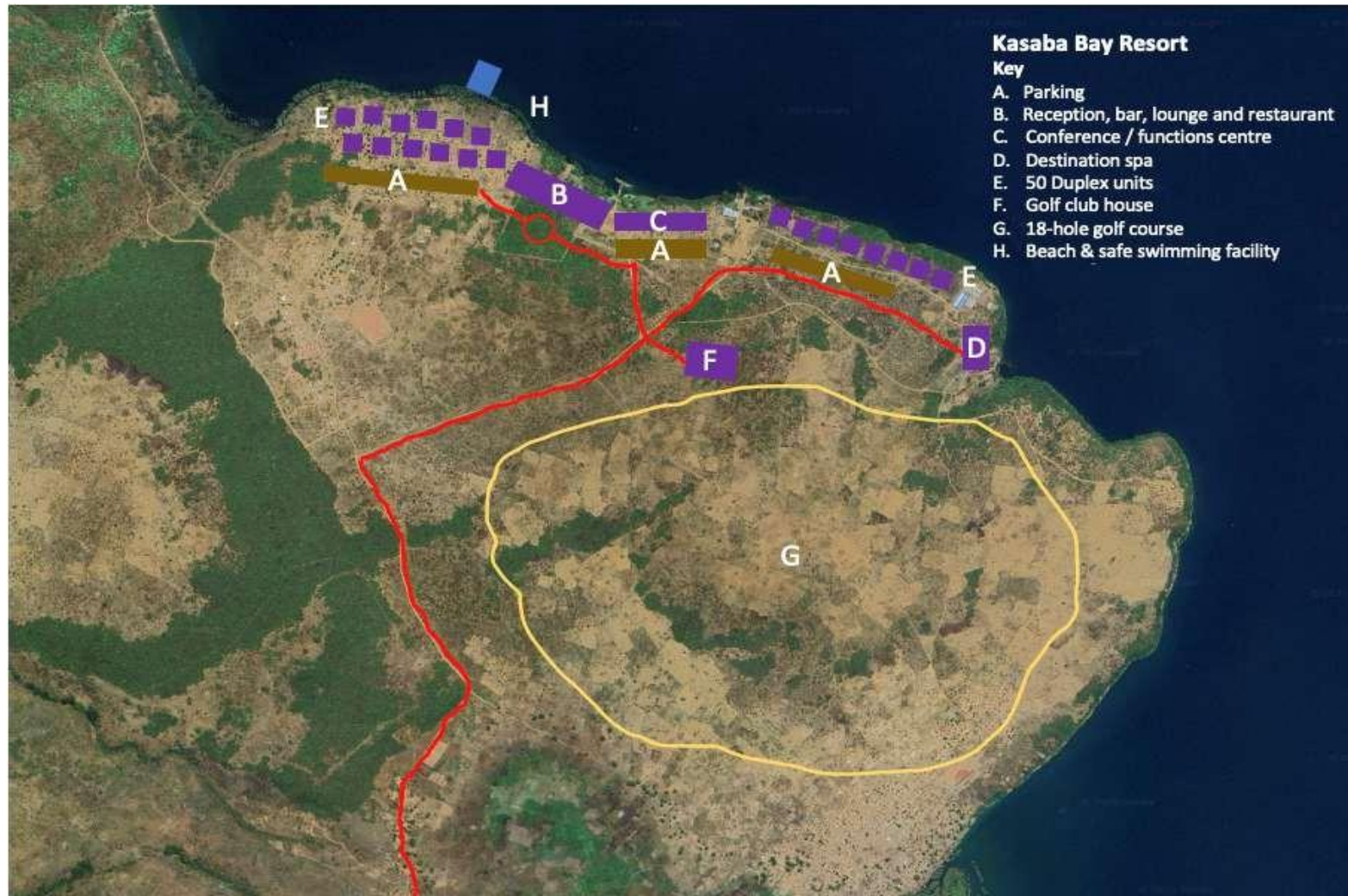
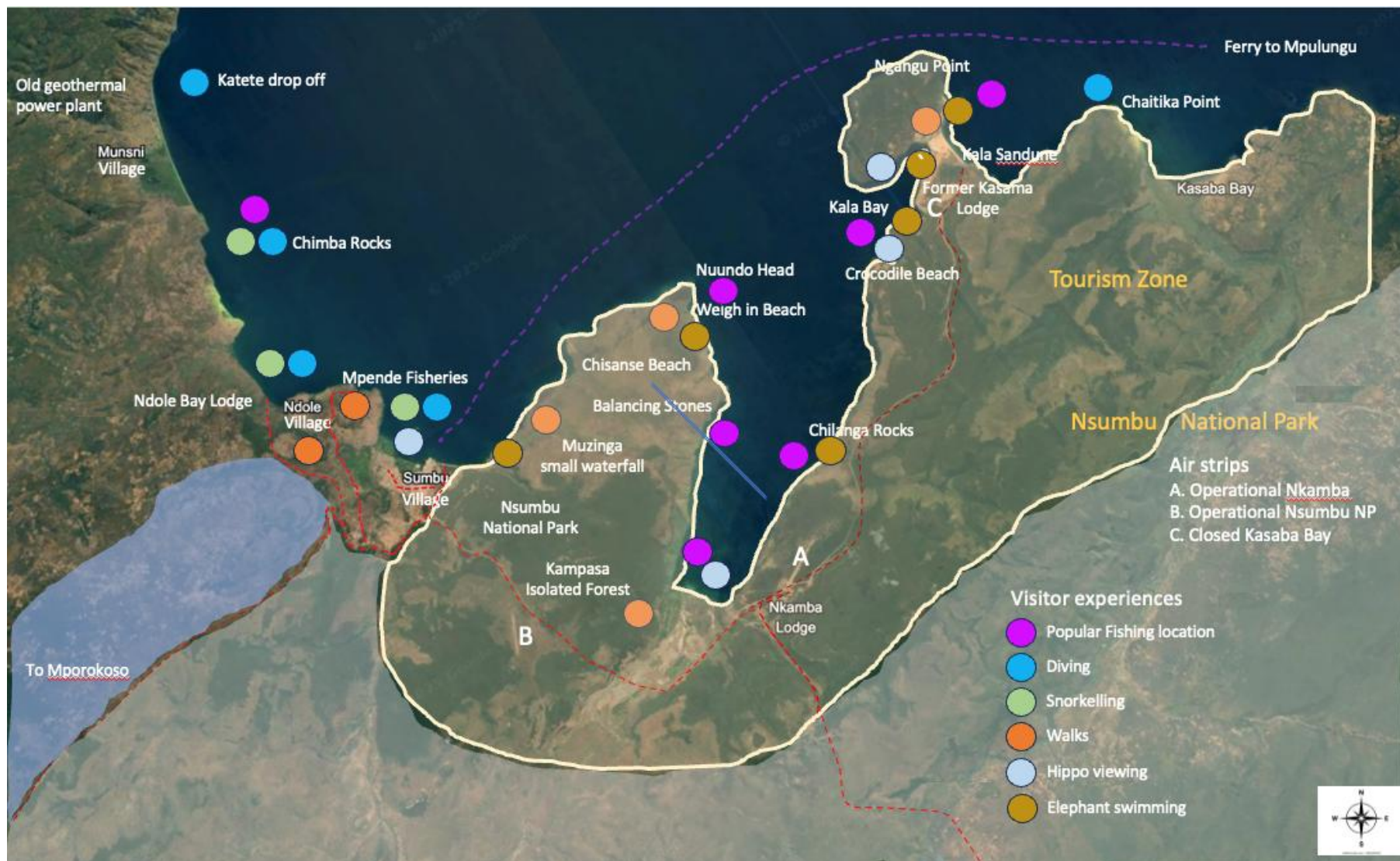


Figure 16: Distribution of airstrips and activity focal areas across Lake Tanganyika, Nsumbu coastline and the coastline of the Nsumbu National Park Tourism Development Zone (Source: SMA Tourism & Metro Consult Ltd)



ANNEX 4: GRIEVANCE REDRESS MECHANISM (GRM)

A4.1 Introduction and Purpose

A functional, accessible, gender-sensitive and culturally appropriate Grievance Redress Mechanism (GRM) is essential for the effective implementation of the Destination Plan (DP). The GRM provides a structured process for individuals, communities, workers, vulnerable groups, and other stakeholders to raise concerns related to environmental, social, cultural or governance impacts arising from DP activities.

This GRM complies with the World Bank Environmental and Social Framework (ESS10, ESS2, ESS4, ESS7 and ESS8) and aligns with national grievance handling practices at district and community levels. It is non-judicial, transparent, free of charge, non-retaliatory and accessible to all stakeholders, including vulnerable and high-risk groups such as women, youth, persons with disabilities, the elderly, fishers, seasonal migrants and people living in remote areas.

A4.2 Principles of the GRM

The mechanism is guided by the following principles:

- ❖ Accessibility – Multiple entry points at community, traditional, district and project levels.
- ❖ Inclusiveness – Open to all, including remote, vulnerable and marginalised groups.
- ❖ Transparency – Grievance handling procedures and timelines are clear and publicly disclosed.
- ❖ Confidentiality – Ensured for all sensitive cases, especially SEA/SH.
- ❖ Safety and Non-Retaliation – Complainants are protected from intimidation or retaliation.
- ❖ Cultural Sensitivity – Engagement through structures respected by communities (TAs, WDCs).
- ❖ Timeliness – Clear response and resolution timeframes.
- ❖ Fairness – All grievances treated with impartiality.
- ❖ Continuous Learning – Feedback informs DP implementation and monitoring.

A4.3 Scope of the GRM

The GRM accepts complaints relating to:

- Environmental issues
- Pollution (waste, wastewater, noise)
- Degradation of riparian areas
- Destruction of wildlife habitats
- Disturbance of cultural landscapes
- Social issues
- Access restrictions
- Livelihood impacts (fishing, farming, forest use)
- Labor issues (unfair hiring, delayed wages, unsafe working conditions)
- Community safety risks (transport, boating, road works)
- Cultural heritage issues
- Damage or disturbance to sacred sites, burial grounds, ritual areas

- Infringement on traditional authority roles or cultural norms
- Gender, SEA/SH and protection issues
- Sexual exploitation and abuse
- Sexual harassment
- Gender discrimination
- Safety concerns for women and girls
- Abuse of power or coercion
- (Handled through a dedicated, confidential SEA/SH pathway described in A4.4.)
- Governance and institutional issues
- Lack of consultation
- Misuse of authority
- Corruption or financial irregularities
- Inconsistent land allocation processes
- Failure to comply with DP guidelines or zoning

A4.4 SEA/SH-Sensitive Grievance Handling Pathway

SEA/SH cases require strict confidentiality, immediate attention, and special handling procedures. SEA/SH grievances will NOT be reviewed through the general GRM.

They will follow a survivor-centred referral pathway:

- SEA/SH Reporting Entry Points
- Local women's groups
- Trusted female focal persons
- Health clinics (for medical and psychosocial support)
- NGOs trained in GBV/SEA/SH
- The District GBV Committee
- Anonymous reporting mechanisms (phone, SMS, WhatsApp)
- SEA/SH Response Protocol
- Receive complaint confidentially – no written record unless survivor agrees.
- Ensure survivor safety – immediate referral to safe shelter, if needed.
- Provide medical, psychosocial and legal support via district GBV services.
- Inform survivor of options – reporting to authorities is voluntary.
- No investigation by GRM – GRM only facilitates referral.
- No confrontation or mediation between survivor and perpetrator.
- Document case only in anonymised form for SESA monitoring.

This approach meets WB good practice and national GBV guidelines.

A4.5 GRM Pathways and Entry Points

The GRM includes four levels:

Level 1: Community-Level Resolution

Complaints may be submitted to:

- Ward Development Committees (WDCs)
- Village headpersons
- Traditional leaders

- Community liaison assistants
- Suggestion boxes placed at public points
- Mobile/WhatsApp number for anonymous reporting
- Timeframe for response: 5–7 days

Level 2: District-Level Grievance Committee

Handled by:

- Nsama Town Council (Planning, Health, Community Development)
- District Social Welfare
- Gender Office
- DNPW (where relevant)
- Timeframe for response: 10–14 days

Level 3: Project Implementation Unit (PIU) / Tourism Dept.

If unresolved at district level, the grievance is escalated to the PIU for:

- review
- investigation
- corrective action
- contractor engagement (if linked to private actor)
- Timeframe: 14–21 days

Level 4: National Resolution / Appeals

If unsatisfied, complainants may escalate to:

- Ministry of Tourism
- Ministry of Local Government
- ZEMA
- Office of the Ombudsman
- Courts of Zambia
- Timeframe: dependent on institution

A4.6 GRM Submission Channels

- Grievances can be submitted through:
 - Written form (Annex A4.7a)
 - Verbal submission to WDC or TA

- Phone/SMS/WhatsApp hotline
- Email (DP focal point email)
- Suggestion boxes in Nsumbu, Chituta, Iyendwe, Chishela, Chomba, Kampinda
- District GRM office at Nsama Town Council
- Anonymous submissions allowed
- All complaints must be acknowledged within 48 hours.

A4.7 GRM Forms and Templates

A4.7a: Grievance Submission Form

- ❖ (includes: name/anonymous option, nature of complaint, date, preferred resolution)

A4.7b: Grievance Log/Register

- Tracks:
 - complaint number
 - date received
 - category
 - status
 - actions taken
 - resolution
 - feedback to complainant

A4.7c: SEA/SH Anonymised Incident Register

- Contains no personal details, only case type and referral outcome.

A4.8 Roles and Responsibilities

- Community Structures (WDCs, headpersons):
 - Receive complaints
 - Log and forward unresolved cases
 - Keep meetings confidential
 - Support vulnerable complainants
- District Authorities:
 - Investigate environmental, social and service delivery grievances
 - Coordinate with PIU
 - Keep official records
- PIU / DP Management Team:
 - Oversight of entire GRM
 - Ensure timely resolution
 - Commission investigations
 - Strengthen GRM capacity
 - Maintain grievance database
 - Report quarterly to the WB
- Gender, Health & Social Welfare Offices:
 - Manage SEA/SH cases
 - Provide survivor support
 - Liaise with police and health services

A4.9 Monitoring, Reporting and Learning

- Quarterly GRM reports will summarise trends, categories, response times, unresolved cases and SEA/SH referrals.
- Grievance data feeds into the Strategic Monitoring Framework (Chapter 7).
- Lessons learned will inform adaptive management of the Destination Plan.
- GRM performance indicators include:
 - number of grievances received/resolved
 - resolution times
 - complainant satisfaction
 - number of SEA/SH referrals
 - recurrence of issues

A4.10 Disclosure

The GRM will be disclosed through:

- community meetings
- posters in public places
- radio announcements
- district notice boards
- DP project websites
- women's groups & youth networks

ANNEX 5: IMPLEMENTATION MATRICES FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT

Table 39: A) Physical environment ESMMP Matrix (construction & operation)

Impact / Risk	Phase	Location	Mitigation / Enhancement Measures (Mitigation Hierarchy)	Performance Indicators (with Targets)	Means of Verification	Frequency	Responsibility (Impl. / Supervision)	Indicative Budget (USD)
Soil erosion, gullying & sedimentation to streams/lake	Construction	Road works, airstrip, lodge sites, laydown areas	Avoid steep alignments; install diversion drains, silt fences, sediment traps; contour ripping & re-vegetation within 14 days of works; no earthworks in peak rains	≤10 NTU increase above upstream baseline during works; >80% disturbed areas re-vegetated within 60 days	Site diaries; photos; turbidity logs; revegetation checklist	Weekly during works; after major storms	Contractor / District Council, ZEMA	25,000–60,000 per site
Altered drainage & flooding	Construction & Operation	Road culverts, platforms	Hydrology-sensitive design (1:25yr for access, 1:50yr critical assets); culvert inlet/outlet protection; keep natural drainage lines open	Culvert freeboard ≥0.3 m; no ponding >24 h post-storm	As-built drawings; storm inspection forms	Pre- & post-storm; quarterly	Design Eng., Contractor / Council, ZEMA	15,000–40,000 per km (included in civils)
Dust & air emissions	Construction	Haul roads, borrow areas	Water bowsters; cover trucks; speed ≤30 km/h; fit emissions-compliant plant; no idling >3 min	PM10 ≤150 µg/m ³ (24h avg) at nearest receptor; complaints resolved ≤72 h	Air spot checks; complaints log	2×/week; ad hoc	Contractor / ZEMA	8,000–20,000 per site
Noise & vibration	Construction	Villages near works, sensitive fauna zones	Work 07:00–18:00; silencers; temporary acoustic screens near receptors; no blasting near park core	Daytime ≤55 dB(A) at receptor; 0 validated complaints	Noise meter logs; GRM register	Weekly	Contractor / ZEMA, DNPW	5,000–12,000
Solid & hazardous waste	Construction & Operation	All sites	Segregate; secure skips; licensed disposal; spill kits; oil separators for workshops; ban open burning	100% waste manifests; 0 uncontrolled dumps; 0 major spills	Manifests; spill register; site audits	Monthly	Contractor/Operators / Council, ZEMA	12,000–30,000 per annum per facility

Impact / Risk	Phase	Location	Mitigation / Enhancement Measures (Mitigation Hierarchy)	Performance Indicators (with Targets)	Means of Verification	Frequency	Responsibility (Impl. / Supervision)	Indicative Budget (USD)
Water abstraction pressure	Operation	Lodges, camps	Water-efficient fixtures; rainwater harvesting; meter & audit; abstraction permits	≤10% variance from permitted volumes; water use ≤150 L/guest-day (eco-lodges)	Meter logs; WARMA permits; water audits	Monthly	Operators / WARMA, Council	10,000–25,000 setup + 3,000/yr
Wastewater & greywater	Operation	Lodges, kitchens	Grease traps; sealed septic/DEWATS systems sized for peak; no discharge <100 m of lake; reuse treated greywater for landscaping	Effluent meets ZEMA/WHO: BOD ≤30 mg/L, TSS ≤30 mg/L; no odour/nuisance	Effluent lab tests; maintenance logs	Quarterly testing	Operators / ZEMA, Council	20,000–80,000 capex; 5,000/yr O&M
Energy & GHG	Operation	Lodges, utilities	Solar PV–battery hybrids; LED; efficient appliances; genset only as backup; energy metering	≥60% annual energy from RE; kWh/guest-night tracked; diesel ≤2 L/guest-night	Energy logs; receipts	Monthly	Operators / MoT, MGEE	60,000–250,000 per lodge

Table 40: B) Biological environment ESMMP Matrix

Impact / Risk	Phase	Location	Mitigation / Enhancement Measures	Performance Indicators	Means of Verification	Frequency	Responsibility (Impl. / Supervision)	Indicative Budget (USD)
Habitat loss/fragmentation	Construction	Park edge, GMAs, lakeshore	Micro-siting to avoid sensitive habitats; 50–100 m buffers to wetlands; no clearing outside demarcated footprints; ecological clerk-of-works	0 ha clearing in critical habitat; buffers demarcated & respected	GPS clearing limits; ECO reports	Weekly during clearing	Contractor / DNPW, ZEMA	10,000–25,000
Wildlife disturbance & HWC	Construction & Operation	Park interface, corridors	Speed calming; wildlife crossings; dark-sky compliant lighting; staff awareness; HWC response protocol	≤20 km/h signposted; 0 wildlife mortality incidents linked to works; 100% staff trained	Patrol logs; incident register	Monthly	Contractor/Operators / DNPW	8,000–30,000
Poaching facilitation by access	Operation	New access routes	Controlled access gates; joint patrols; visitor caps; concession compliance audits	Patrol effort (ranger-days) ≥baseline+20%; 0 non-compliance findings persisting >30 days	DNPW reports; audit checklists	Monthly; quarterly audits	DNPW, Operators / MoT	40,000–120,000/yr (patrol support)
Invasive alien species	Construction & Operation	Landscaped areas, deliveries	Clean-down stations; native species landscaping; IAS watchlist and rapid response	0 new IAS established on sites; 100% supplier compliance	Inspection forms; nursery lists	Quarterly	Contractor/Operators / DNPW	5,000–15,000
Fisheries pressure & lake ecology	Operation	Lake Tanganyika near settlements	Support co-management; enforce gear rules; seasonal closures; landing sanitation; fish habitat signage	Illegal gear seizures trending ↓; compliance >90%; E. coli at landings <200 CFU/100 ml	Fisheries & CRB records; water tests	Monthly; quarterly	Fisheries Dept., CRBs / WARMA, ZEMA	25,000–80,000/yr (enforcement & WASH)

Impact / Risk	Phase	Location	Mitigation / Enhancement Measures	Performance Indicators	Means of Verification	Frequency	Responsibility (Impl. / Supervision)	Indicative Budget (USD)
Vegetation & shoreline restoration	Post-works & Operation	Disturbed sites, eroded banks	Assisted natural regeneration, native planting; erosion control; community woodlots	≥80% plant survival year 1; vegetation cover restored ≥70% by 18 months	Transects; photo-points	Bi-monthly year 1; quarterly	Contractor/CRBs / DNPW, Council	15,000–60,000 per site

Table 41: C) Socio-economic & cultural ESMMP Matrix

Impact / Risk	Phase	Location	Mitigation / Enhancement Measures	Performance Indicators	Means of Verification	Frequency	Responsibility (Impl. / Supervision)	Indicative Budget (USD)
Land use conflict & tenure insecurity	Planning & Construction	Villages, expansion areas	Participatory land-use planning; mapped zones (conservation/tourism/settlement/ agriculture); FPIC for community land	Approved zoning maps; 100% affected HH consulted; 0 unresolved land grievances >30 days	Maps; meeting minutes; GRM log	Milestone-based	District Council, MoLNR / ZEMA	20,000–70,000
Livelihood displacement / exclusion	Construction & Operation	Fishing camps, markets	Local hiring plan (≥60% unskilled from ward); supplier development; livelihood restoration if impacts occur	% local labour ≥60%; # SMEs onboarded; 100% eligible PAPs compensated pre-impact	HR records; contracts; RAP/LRP files	Monthly	Operators / MoT, Council	10,000–150,000 (as needed)
Community health & safety (water, disease, traffic)	Construction & Operation	Settlements, worksites	CHS plan; safe water points; sanitation upgrades; traffic management; boat safety	Incidence of WASH-related disease ↓ vs baseline; 100% boats with PPE; road incidents trending ↓	MoH stats; site audits; incident logs	Monthly; quarterly	Contractor/Operators, MoH / Council	30,000–120,000
Labour & working conditions (ESS2)	Construction & Operation	All sites	Written contracts; OHS plan; PPE; toolbox talks; WCFCB coverage; workers' GRM	100% staff with contracts/PPE; LTIFR ↓ over time; 100% grievances closed ≤30 days	HR files; training logs; GRM	Monthly	Contractor/Operators / ZEMA, MoLSS	15,000–40,000
GBV/SEA/SH risk	Construction & Operation	Camps, communities	Codes of Conduct; mandatory GBV training; confidential reporting & referral pathways; vetted security	100% staff trained & signed CoC; # cases resolved with survivor consent; 0 retaliation	Training registers; GRM-GBV (restricted)	Quarterly; ongoing	Contractor/Operators / MoH, VSU	10,000–35,000
Cultural heritage disturbance	Construction & Operation	Heritage zones, sacred sites	Pre-works cultural mapping; chance finds procedure; 50 m buffers; co- management w/ NHCC & chiefs	0 works in protected buffers; all finds reported within 24 h; interpretation signage installed	CF registers; buffer maps; site checks	Weekly during groundworks	Contractor/Operators / NHCC	8,000–25,000

Impact / Risk	Phase	Location	Mitigation / Enhancement Measures	Performance Indicators	Means of Verification	Frequency	Responsibility (Impl. / Supervision)	Indicative Budget (USD)
Visual & acoustic amenity	Operation	Visitor nodes	Design controls (height, colour, materials); signage plan; landscaping; quiet hours	Visitor satisfaction ≥80%; 0 visual non-conformities post-COC	DMO audits; survey cards	Semi-annual	Operators / DMO, MoT	10,000–40,000

Table 42: D) Institutional capacity, SEP/GRM & reporting matrix

System Element	Mitigation / Strengthening Measure	KPI / Indicator	Verification	Frequency	Responsibility	Budget (USD)	System Element	Mitigation / Strengthening Measure
Inter-Agency Coordination	Establish Destination Management Organisation (DMO) & Inter-Agency Coordination Mechanism with ToR	DMO operational; ≥4 coordination meetings/year; joint field missions	Minutes; mission reports	Quarterly	MoT, ZEMA, DNPW, Council	40,000–100,000/yr	Inter-Agency Coordination	Establish Destination Management Organisation (DMO) & Inter-Agency Coordination Mechanism with ToR
Regulatory enforcement capacity	Training & equipment for District Env. Officers, CRBs, rangers; joint patrol protocols	≥20 staff trained; ≥30% increase in patrol effort; enforcement actions recorded	Training certs; patrol logs	Semi-annual	ZEMA, DNPW, Council	60,000–180,000	Regulatory enforcement capacity	Training & equipment for District Env. Officers, CRBs, rangers; joint patrol protocols
Monitoring & data systems	Unified environmental & social M&E templates; GIS layers; data portal	Dashboard live; 100% indicators reported on time	M&E reports; portal screenshots	Quarterly	MoT (PIU), Council	25,000–80,000	Monitoring & data systems	Unified environmental & social M&E templates; GIS layers; data portal
SEP implementation (Ch.5.6)	Community meetings, radio updates, disclosure materials; stakeholder register	≥1 meeting/ward/quarter; materials in Bemba/English; satisfaction ≥75%	Registers; comms pack	Quarterly	Council, MoT	10,000–30,000/yr	SEP implementation (Ch.5.6)	Community meetings, radio updates, disclosure materials; stakeholder register
GRM operation (Ch.5.7)	Multi-tier GRM; hotline & boxes; GBV-sensitive protocol; reporting	All grievances acknowledged ≤3 days; ≥90% resolved ≤30 days	GRM database; reports	Monthly; quarterly	Council, MoT (PIU)	8,000–20,000/yr	GRM operation (Ch.5.7)	Multi-tier GRM; hotline & boxes; GBV-sensitive protocol; reporting
Audit & adaptive management	Annual E&S audits; management review & corrective action plans	100% corrective actions closed ≤90 days	Audit reports; CAP tracker	Annual	ZEMA, MoT, DMO	20,000–50,000/yr	Audit & adaptive management	Annual E&S audits; management review & corrective action plans

Table 43: Alignment of ESMMP measures with the seven strategic directions

Strategic Direction	Core Intent / Typical Actions	Key ESMMP Focus Areas	Principal Environmental & Social Management Measures	Performance Indicators / Monitoring Parameters	Lead Implementer	Supervisory / Partner Agency
1. Improve Access to and within the Destination	Upgrading roads, jetties, trails, and the airstrip to open internal connectivity.	Soil erosion & sedimentation; dust and air quality; hydrology; traffic & safety; biodiversity.	Integrate erosion and storm-water control (ESCP). Restrict works within demarcated corridors; rehabilitate borrow pits. Install wildlife and pedestrian signage; limit speeds ≤ 30 km/h. Apply dust suppression and emission controls. Enforce Traffic Management Plan (TMP) and safety training.	Silt traps functional $> 90\%$. $PM_{10} \leq 50 \mu g/m^3$ at nearest receptors. 0 wildlife/traffic fatalities. • $\geq 90\%$ rehabilitated borrow areas.	Road/Marine Contractors	PIU E&S Unit / RDA / WARMA / ZAWA
2. Develop Tourism Products that Attract Visitors	Construction and operation of eco-lodges, marinas, boardwalks, and viewing sites.	Habitat conservation; waste & wastewater; noise; local employment; cultural integrity.	Conduct biodiversity and heritage screening before site clearance. Apply 50 m shoreline buffers; maintain native vegetation. Install eco-design features – non-reflective glass, shaded lights, raised walkways. • Treat and monitor effluent per ZEMA limits; manage solid waste through IWMS. • Employ $\geq 30\%$ locals; incorporate local materials and culture in design.	Effluent meets ZEMA standards quarterly. Avifauna collisions ≤ 2 / year. $\geq 30\%$ local employment maintained. 0 heritage-site infringements.	Developers / Lodge Operators	PIU / ZEMA / ZAWA / Council
3. Develop Nature-Based Enterprises	Support community eco-ventures, guiding, crafts, fisheries, agro-tourism.	Livelihoods; gender inclusion; GBV/SEA; capacity-building.	Establish community tourism cooperatives and SME grants. Provide business and environmental-management training.	$\geq 40\%$ female / youth participation. $\geq 80\%$ grievances closed ≤ 30 days.	PIU Social Unit / Local CSOs / District Council	PIU / Min. of Tourism / Gender Dept

Strategic Direction	Core Intent / Typical Actions	Key ESMMP Focus Areas	Principal Environmental & Social Management Measures	Performance Indicators / Monitoring Parameters	Lead Implementer	Supervisory / Partner Agency
			Enforce workforce Code of Conduct and GBV Action Plan. Operate local grievance mechanism (GM) and monitor resolution times.	Household income trend ↑ year-on-year.		
4. Upgrade Enabling Services for Community and Visitors	Renewable energy, potable water, waste, health, ICT infrastructure.	Water quality; waste; energy; public health.	Install renewable-energy systems (solar PV, biogas). Operate wastewater and solid-waste facilities with licensed disposal. Implement hygiene, vector-control, and occupational-health programmes. Monitor noise/emission compliance.	Effluent BOD ≤ 50 mg/L; PM₁₀ ≤ 50 µg/m³. 100 % waste disposed via licensed routes. ≥ 4 health campaigns / year.	Utility Contractors / Facility Managers	PIU / ZEMA / WARMA / Local Council
5. Build Capacity of Local Communities	Skills training, environmental education, leadership development.	Community empowerment; awareness; inclusion.	Conduct quarterly E&S and hospitality trainings. Establish environmental committees at village level. Hold bi-annual stakeholder review forums. Promote youth and women's entrepreneurship.	≥ 4 trainings / year. ≥ 80 % participant satisfaction. ≥ 2 community forums / year.	PIU / District Council / NGOs	Ministry of Tourism / Council

Strategic Direction	Core Intent / Typical Actions	Key ESMMP Focus Areas	Principal Environmental & Social Management Measures	Performance Indicators / Monitoring Parameters	Lead Implementer	Supervisory / Partner Agency
6. Gradually Expand and Refresh Destination Marketing	Branding, digital promotion, signage, visitor information systems.	Cultural heritage; visitor ethics; aesthetics.	Integrate conservation and culture in marketing. Display visitor code of conduct at all entry points. Engage local artists and cultural troupes. Monitor visitor satisfaction and feedback.	≥ 85 % visitor satisfaction. ≥ 10 % annual increase in responsible-tourism messaging. 0 cultural-offence complaints.	PIU / Tourism Board / Private Sector	Ministry of Tourism / Council
7. Support Sustainable, Climate-Resilient Infrastructure & Practices	Green design, renewable energy, flood and carbon management.	Climate adaptation; low-carbon development; ecosystem restoration.	Apply green-building codes and climate-risk screening to all investments. Implement solar power, rainwater harvesting, permeable pavements. Reforest degraded slopes and shoreline buffers (≥ 5 ha by Yr 3). Track and report GHG emissions annually.	CO₂ emissions ↓ ≥ 20 % from baseline. • ≥ 5 ha restored or planted. 0 flood incidents recorded. Annual sustainability report produced.	PIU / Developers / Energy Engineer	ZEMA / WARMA / Min. of Green Economy / Council

ANNEX 6: SPATIAL ANALYSIS

Spatial Analysis and Recommendations for Spatial Growth and Development

Nsumbu and Kasaba Bay, including Surrounding Areas

(Mwila Chabala)

PREAMBLE

This section presents the situational context of the study area from a spatial perspective. It highlights the current spatial settlement patterns in the study area, including location of key services and infrastructure. It further highlights how these can impact tourism growth and development and proposes some key interventions to ensure creation of a more attractive tourism destination by increasing investment in infrastructure such as upgrading of roads, social services, upgrading of Nsumbu settlement, and enhancement of urban planning and development control in the area.

METHODOLOGY.

In order to get a grasp of the spatial form, direct and indirect forms of data acquisition were used;

DIRECT ACQUISITION

The study area has very limited data in form of layout plans, site plans, base maps, etc., owing to the fact that very little land use planning has occurred in Nsumbu – confirmed by The Department of Physical Planning and Housing. Therefore, a lot of spatial development occurring in and around Nsumbu settlement and along D38 is to a greater extent unplanned. The result of unplanned spatial growth is seen the poor aesthetic and uncoordinated manner the settlement has developed.

INDIRECT ACQUISITION

Indirect spatial data acquisition involved the following;

- Remote sensing and use of satellite imagery
- Global Position System (GPS) Mapping
- Map Digitization using GIS software
- Digital Elevation Models to analyze elevation data.

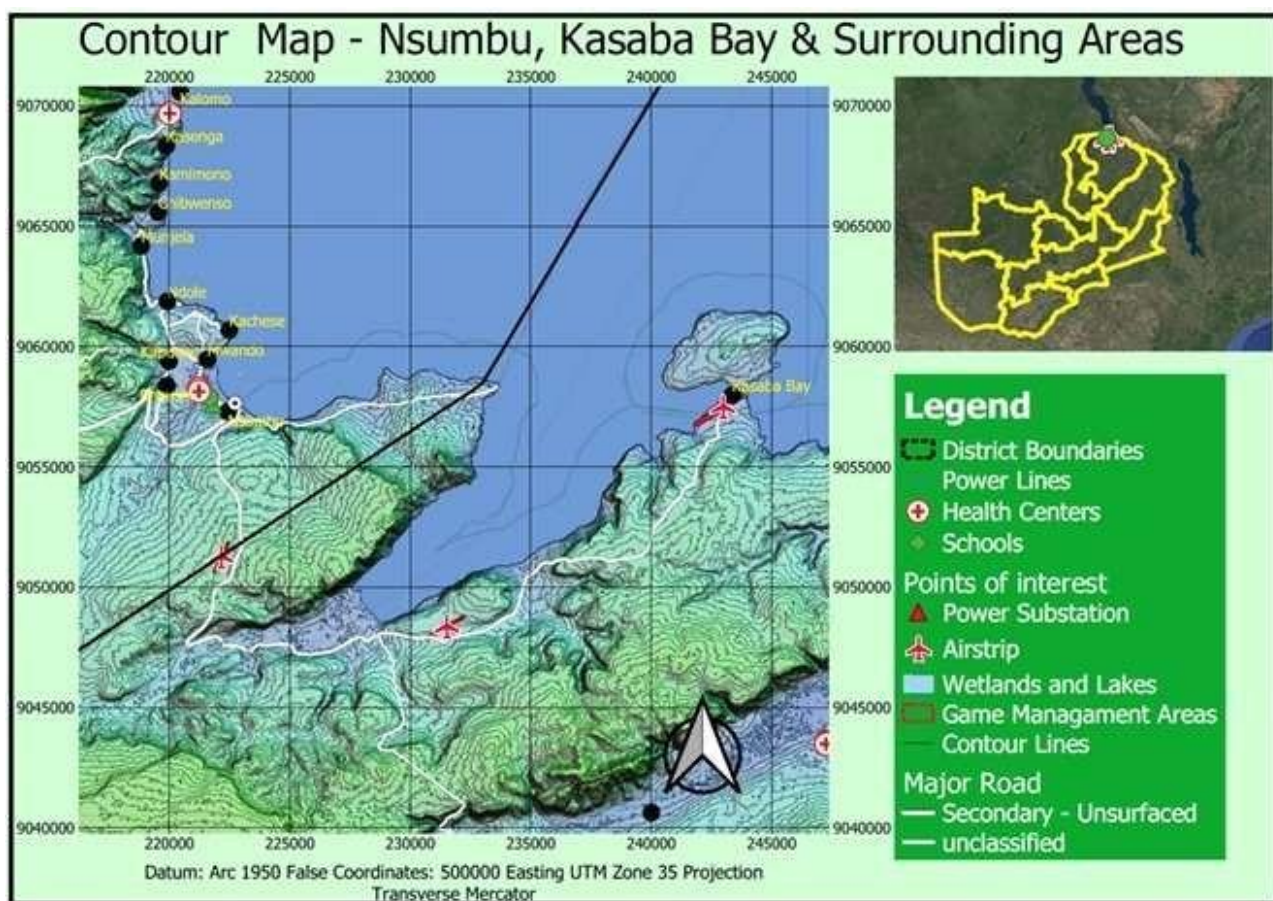
The above referenced sources provided a good base for spatial reference as attribute information and satellite information for the area is relatively new (2023-2024). The spatial data and statistics collected is presented in form of maps and figures and mapped as vector points, polygons & lines or raster data (elevation models and satellite imagery) using Geographic Information Systems (GIS).

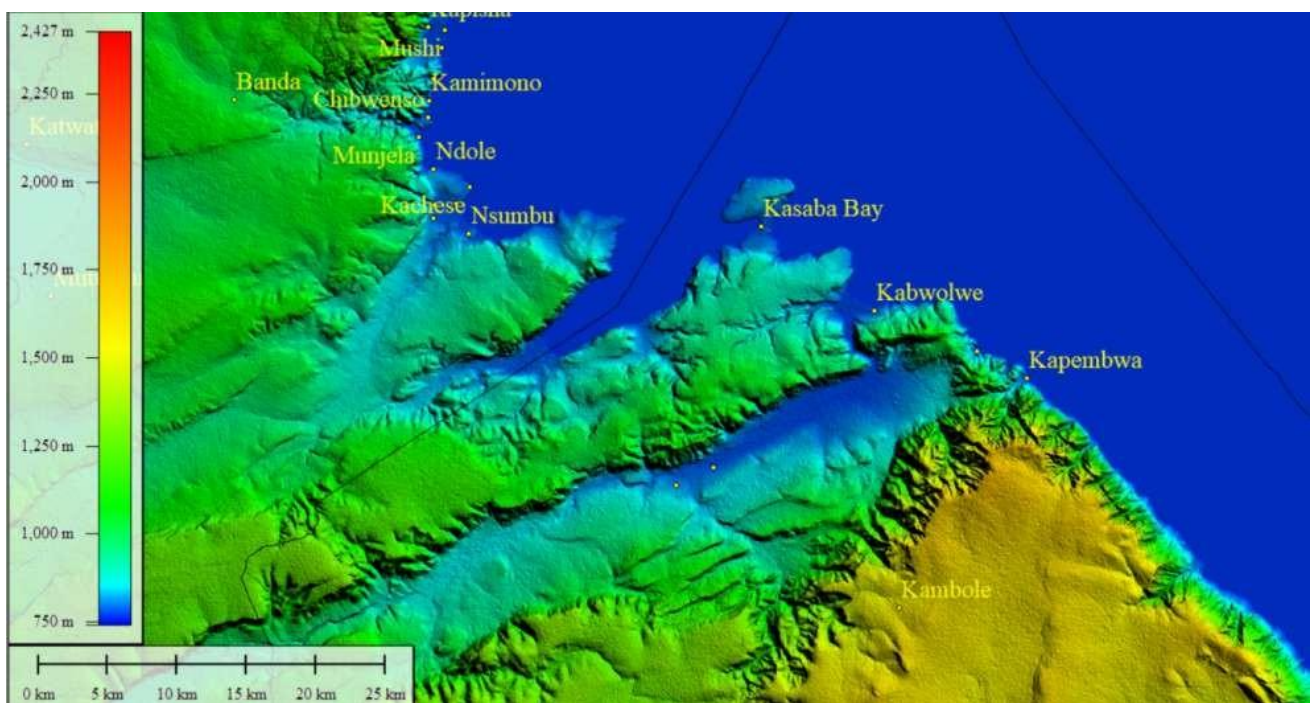
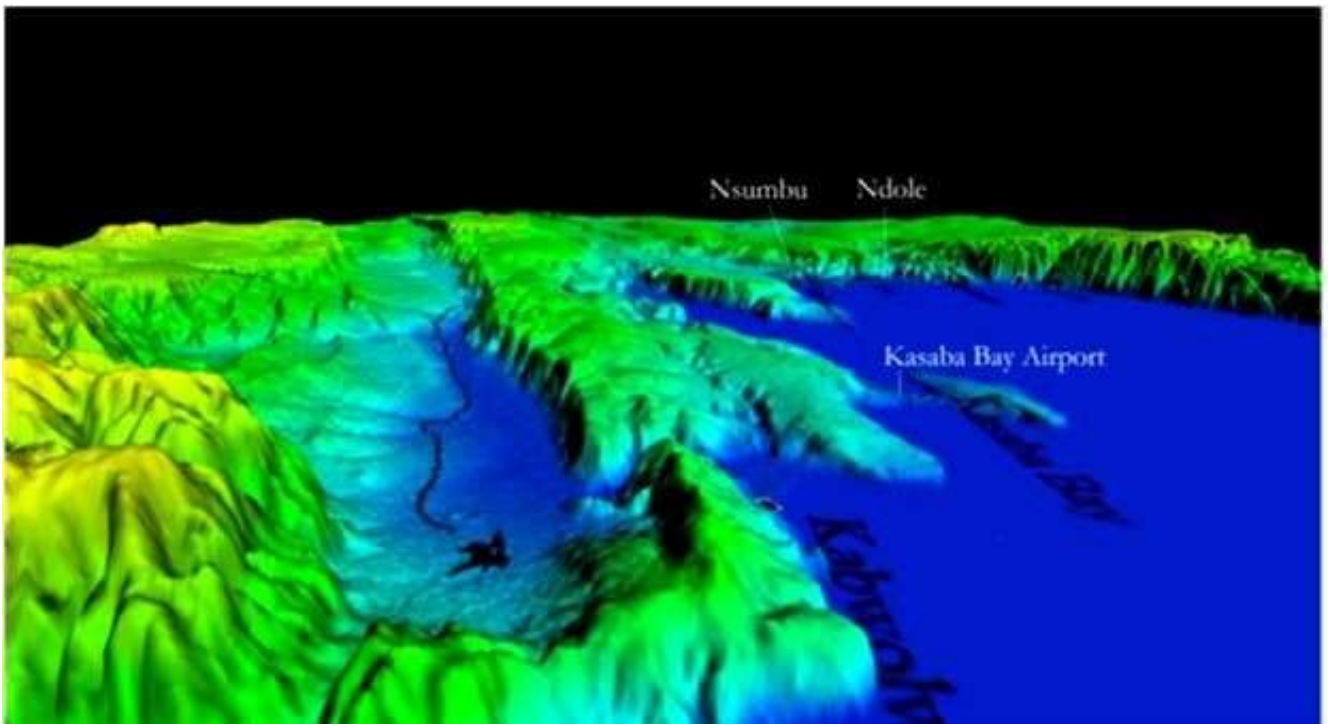
Identifying spatial elements within the study area that influence spatial growth is important. This is because spatial data is used to determine appropriate spatial planning interventions that are needed to manage spatial growth. More importantly, spatial development that is co-ordinated would be key to achieving the objectives set out in the District Integrated Development Plan of 2025 and other Government Policy documents that are formulated to promote tourism in Nsumbu, Kasaba Bay and surrounding areas.

DIGITAL ELEVATION MODEL (DEM): ELEVATION ANALYSIS

A digital elevation model of the study area was used to analyze the terrain, with particular interest paid to areas along the shores of Lake Tanganyika. This is because this is the most active area in terms of human activity and general settlement development and one of the key locations for any visitor to Nsumbu and bay areas. The analysis established the following;

- The terrain is rugged along the shoreline mostly, but becomes even with increasing distance from the lake front. The rugged terrain has implication on location of facilities, building and construction costs, site usability, etc.,
- Areas that have developed as human settlements are low lying and developed along the shore line with very little settlement on higher elevations close to Nsumbu. The settlements range from 750m above sea level to about 1000m above sea level. This makes settlements susceptible to flooding and property damage, and the lake shore vulnerable to pollution, as well as, other environmental insensitive activities.



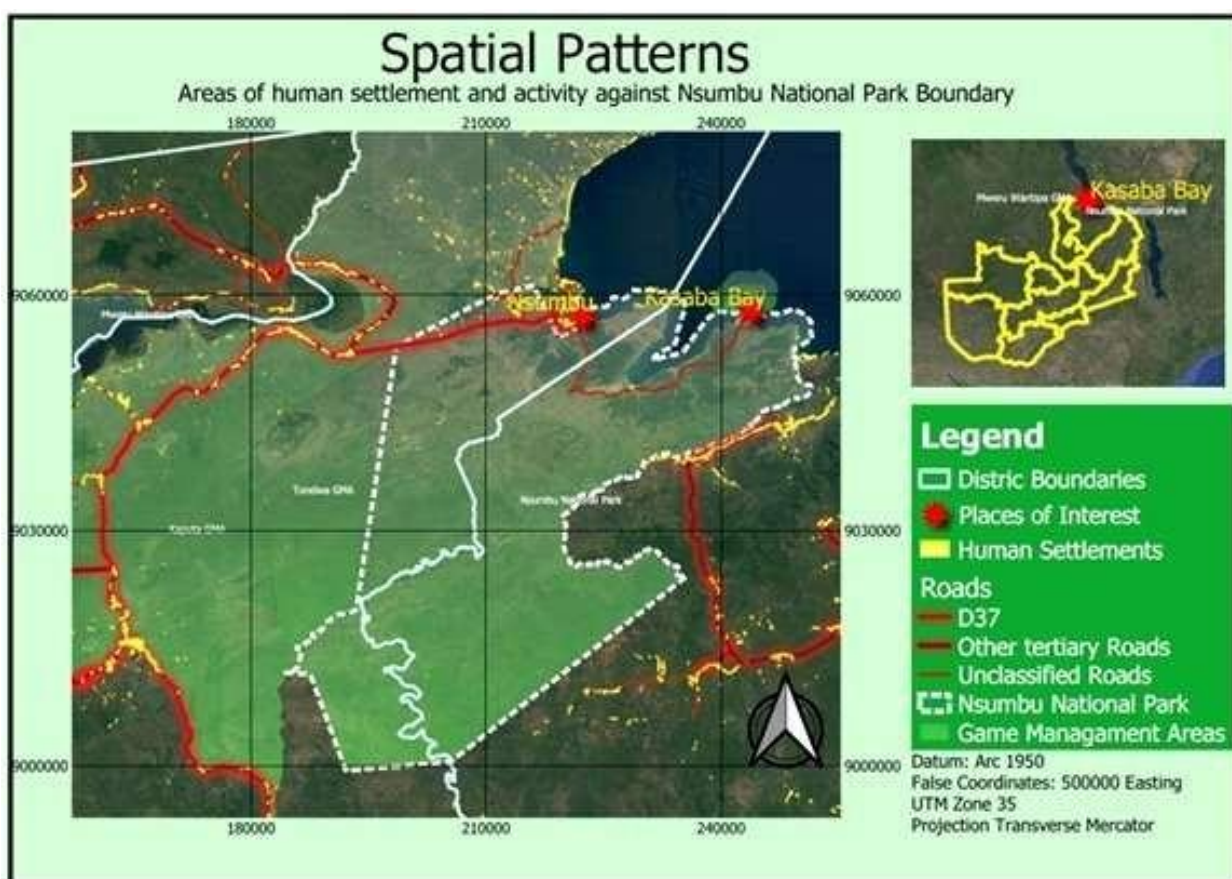




SPATIAL GROWTH PATTERN

HUMAN SETTLEMENTS

Human settlements in the area of study follow a linear pattern; located along major roads, lakes and rivers. As can be seen from the map below, there is a high concentration of human activity and settlements along the shores of Lake Tanganyika and major roads in and around the study area. As most of the areas are unplanned and grow organically, it is expected that future population growth will occur around these areas with devastating consequences on spatial appeal and general health and wellbeing. More importantly, if left unguided, spatial growth poses a threat on the tourism sector owing to increased encroachment on National Parks and GMAs, pollution, disturbance of ecologically sensitive areas, wildlife poaching, as well as unsustainable use of local natural resources.



Unplanned settlements are also an inefficient use of land regardless of where they occur. Therefore, it is essential to prescribe land uses and activities in order to balance economic, social and environmental needs and enhance sustainability, as well as, create a better urban aesthetic and orderly disposition of land resources. For this reason, the following recommendations are made;

PREPARATION OF COMPREHENSIVE LANDUSE PLAN

A comprehensive land use plan is needed for the following reasons;

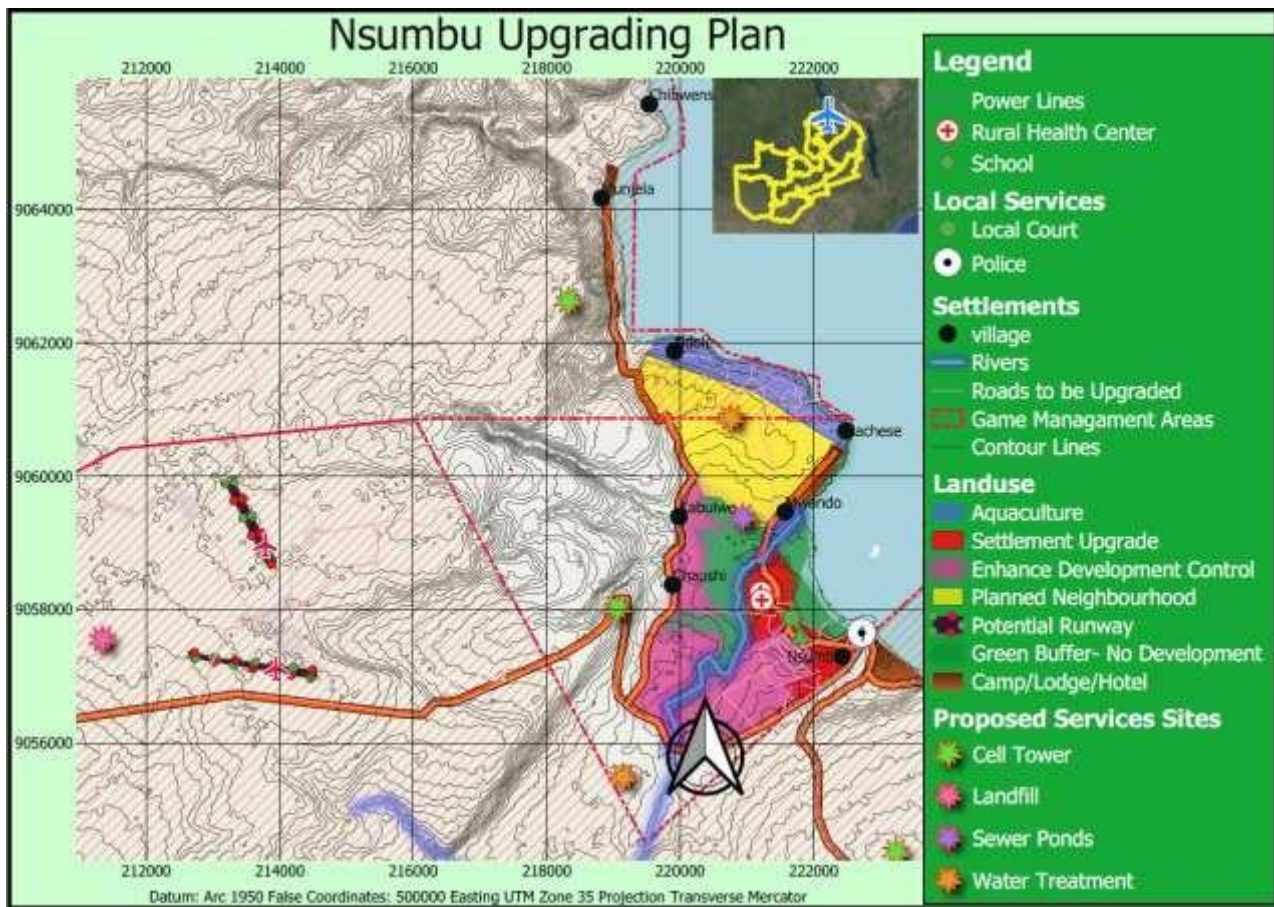
- To guide orderly, coordinated and predictable development;
- To protect forestry and environmental resources;
- To manages growth and protect wildlife, water resources and Nsumbu National Park from encroachment;
- To guide future developers and investors.

NSUMBU SETTLEMENT UPGRADE

As alluded to above, Nsumbu is mostly unplanned and this affects the manner infrastructure and is developed. Consequently, the general outlook of the area is aesthetically unpleasing and great a dent on local tourism and development. Therefore, it is cardinal to upgrade the settlement if any actions targeted at improving tourism and sustainability is going to better much fruit.

The objective of the upgrade is to;

1. Improve access by upgrading selected district connectors, as well as internal roads.
2. Improve quality of live by ensuring access to clean water, sanitation, and waste management services.
3. Promote investment by ensuring legal ownership of land
4. Improve settlement aesthetics by upgrading and constructing safe and durable living shelter





CONVERSION OF TRADITIONAL LAND TO STATE LAND

Areas around the Nsumbu National Park, Kabasa bay and surrounding areas are unplanned. A check with the Department of Physical Planning and Housing revealed that apart from isolated pieces of land on title, the larger part of the area is unplanned. Recently, the Department formulated a layout plan for a section of the study area to manage spatial growth although this plan is yet to be approved. A more comprehensive land use plan would require conversion of traditional land to state land before any meaningful planning can occur.

DEVELOPMENT CONTROL AREA (PURPLE)

The implication of lack of land use planning in Nsumbu is the failure by the local authority to enforce planning standards. This is evidenced by the uncoordinated manner infrastructure is developed. It is proposed that development in the area marked purple is carefully controlled because of its location along key tourist access routes. This would be the best time because the area sparsely developed compared to other areas.

PLANNED NEIGHBORHOOD (YELLOW)

This area would be ideal for development of better neighbourhood that would have access to clean water and sewer facilities owing to its location and terrain. Currently, Nsumbu does not have a well-planned neighbourhood.

GREEN BUFFER (GREEN)

This is proposed as a no development zone (except for access roads and walkways) in order to protect the water bodies, as well as to offer clear sight of water bodies for residents and tourists taking nature walks, trails, hiking, lake shore drives etc. This planning principle is similar to Samfya beach (see image below) and other beach hot spots in Africa such as Blue Waters, Monwabisi and Sunrise beaches in Cape Town and Swakopmund beach in Namibia. It is hoped that the District Council adopts this type of planning around water bodies for equity of access of the public and general environmental sustainability.



NON POLLUTING WATER BASED ECONOMIC ACTIVITIES (SKY BLUE)

Economic activities that lead to effluent disposal and have potential to pollute water resources should not be allowed in this zone. It is recommended that such activities are located far away from water bodies.

SIX TIER LAND USE SYSTEM FOR PLANNING AROUND WATER BODIES

A 6 tier planning system is proposed for development around water bodies, with 6 being the furthest development from water bodies, and 1, the closest. This places preservation and conservation of natural resources at the top - followed by tourist accommodation and services before commercial developments as shown below. This is in recognition of the role that water bodies' play in nature based economies.

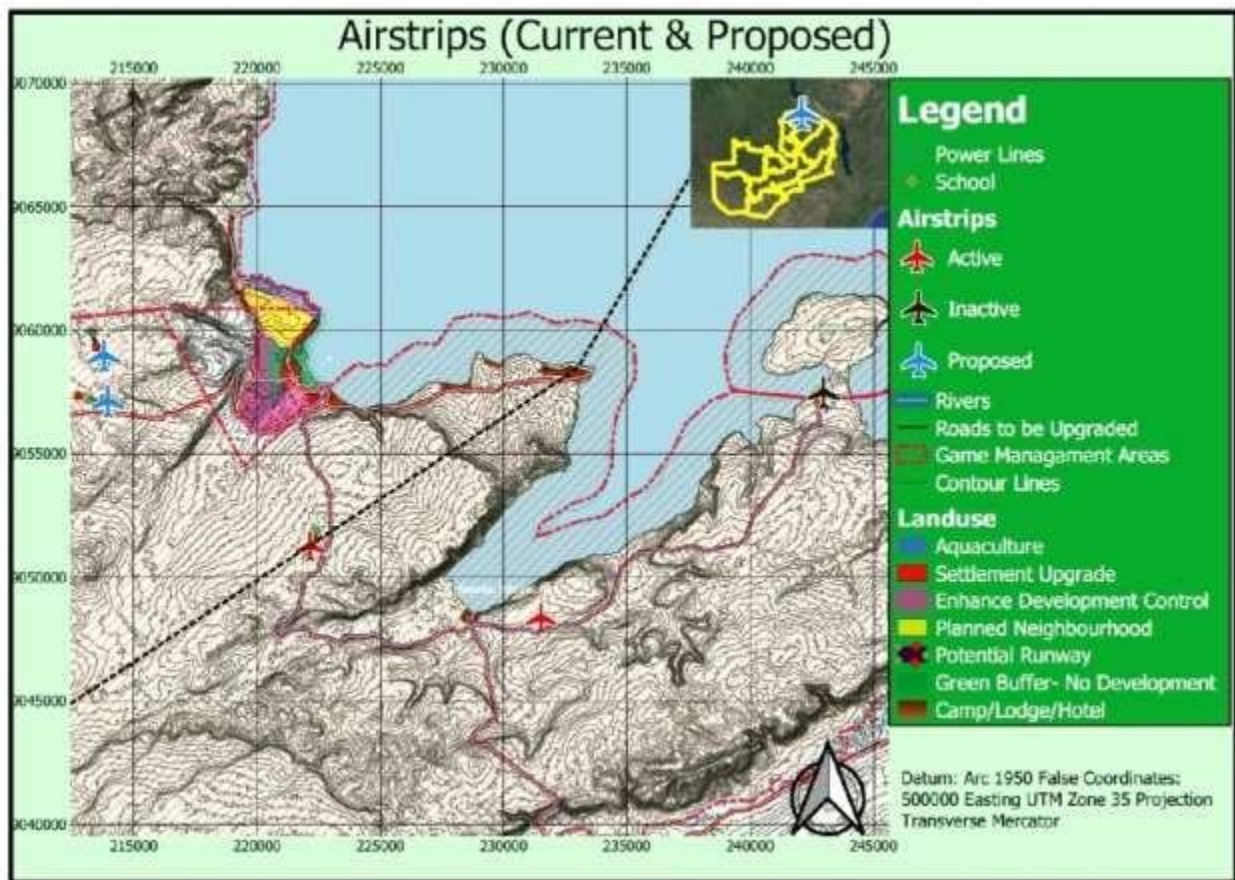
Spatial Planning Guide Along Water bodies

No.	Land Use Type	Main Activities
1	Lake & River Front	No Development Zone; unhindered beach front access, free public access, walking trails, road access, - minimum 60 meters
2	Tourism Zone	Development zone; infrastructure is built, lodges, resorts, camps sites, curio shops, hotels, play parks, sports fields, green open spaces
3	Services Zone	Central business area – shops, malls, offices markets and general services, banks, fuel stations etc
4	Residential Zone	Mostly residential with a mix of social services and infrastructure.
5	Green Buffer	Trees, open spaces, playing fields, playing courses
6	Light/Heavy Industrial Zone	Industrial zone and manufacturing zone. Kept away from water

CONNECTIVITY AND TOURIST SITE ACCESS

AIR TRANSPORT

The study area has three airstrips that are not in excellent condition and are not long enough to accommodate bigger aircrafts. An analysis of the three sites using elevation data not only highlighted the difficulty of extending runways in such rugged terrain but also the inevitable costs of cut and fill that would be incurred in the event of any extension. The map below shows the contour lines against current and proposed airstrips (Coordinates are provided in appendix ...)



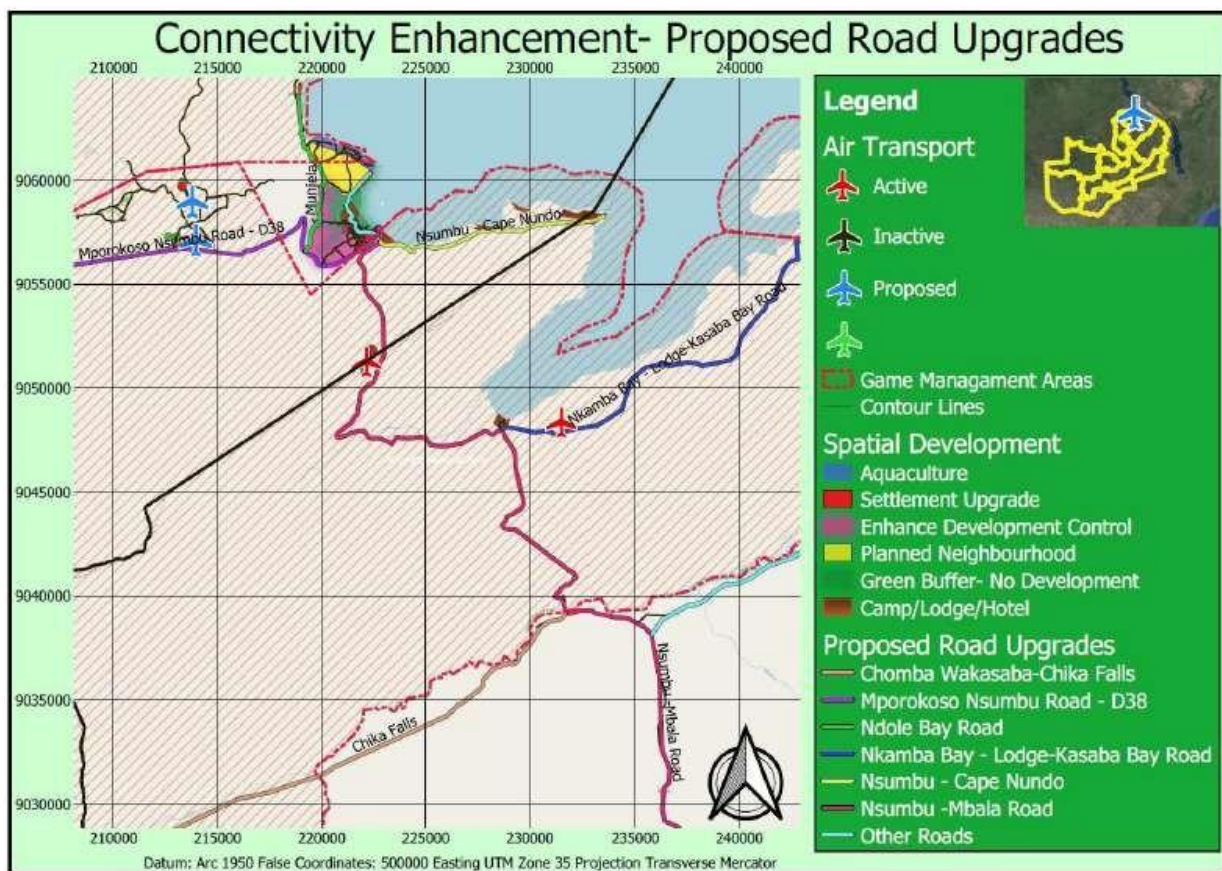
Based on an analysis of elevation data, a new airport with a longer runway is proposed (blue) away from the current locations because the ground is less undulating.

ROAD TRANSPORT

Road connectivity is an important component of tourism development because of its bearing on accessibility of tourist sites. A good road network enhances tourist experience and boosts local economy by broadening the market for local businesses. More importantly, a good road network makes access to tourist sites easier and quicker.

Although the study area is accessible through Kaputa and Mporokoso, the roads are un-surfaced and in a poor condition. There is also potential access from Mbala using the RD436, however, owing to the poor state of the road and a nonexistent crossing over Lufubu River; this is not considered a practical route currently.

Access roads in Nsumbu national Park are also in a deplorable state with a good number of kilometers out of the available 300km overgrown with grass. The Map below shows roads recommended for an upgrade in order to enhancement connectivity and cut travel time.



Lufubu River - Chomba wa Kasaba

The table below presents a summary of the key problems and interventions (infrastructure and planning) needed to improve internal and inter-district access in the study area in order to make it a more attractive tourist destination.

Infrastructure	Spatial/Elevation Analysis /Comment	Recommendation/comment	Coordinates of Proposed Locations in UTM Format
Airport Runway	Runways need lengthy, clear sites of even ground. This is not uncommon in the study area because of the rugged terrain; most sites analyzed showed shorter lengths of less than 1km before incline or decline. The elevation data presented in this document clearly show a lack of proper leveled site for an extended runway without major cut and fill or major earth works generally	Two possible landfill sites recommended About 10km from the skills training center Areas are generally even and closer to the D38 Road Located in Nsumbu National Park. Engineering study and design required.	213732.33, 9057154.68 213552.93, 9059332.67 Check Map No.
Road network	Improve connectivity and easier access to tourism sites by upgrading unsurfaced (un- tarred) roads from Mporokoso to Nsumbu and Mbala to Nsumbu, in addition to some internal roads	Upgrading of the Mbala-Chomba Wa Kasaba - Nkamba Bay road to Bituminous standard Construction of 15km Sumbu-Cape Nundo road (All weather gravel road) Construction of 45km Sumbu-Kasaba Bay road (Bituminous Standard Construction of 55km Mutundu gate-Chika falls road (All weather gravel road) Construction of two bridges across the Lufubu river at Chomba Wa Kasaba & Kabyolwe Construction of 22km Kapisha-Sumbu Road (Bituminous standard) Construction of 45km Chomba Wa Kasaba-Kabyolwe-Kasaba Bay road (Bituminous standard) Construction of 30km Chomba Wa Kasaba - Chika falls road (All weather Gravel road)	As mapped on Map No.
Construct Bridge on Lufubu River	Needed to connect Nsumbu to Mbala	Estimated span of river 55-60m	231711.02, 9039269.24

Infrastructure	Spatial/Elevation Analysis /Comment	Recommendation/comment	Coordinates of Proposed Locations in UTM Format
		Engineering study and design required.	Check Map No.
Sewer Treatment	The study area lacks sewage facilities and this is of concern because most settlements are located along the lake shore - possible pollution of water bodies. The lower elevation makes it difficult to plan for sewerage because wastewater is moved by gravity in most cases. A sufficient slope is crucial. In the absence of natural slopes, pumps can be used at greater cost. Moreover, this type of terrain might require specialized equipment or techniques for maintenance and installation	A location is recommended downstream, where waste-water can flow after treatment into a nearby river before reaching the lake. It is far from already existing settlements and in an area unlikely to be developed It is lower than the proposed neighbourhood thus making it easier for waste water to be transported by gravity. Engineering study and design required.	220974.48, 9059524.67 Check Map No.
Water Reticulation	Like sewer, terrain affects the cost of a centralized water reticulation system. Since most settlements are low lying, a higher location is needed for a water treatment plant that would supply the area with clean water and distributed through gravity.	Raw water would need to be pumped to the site because there is no river nearby, however, the locations offer the best site because of elevation. Engineering study and design required.	A 220448.87, 9061186.49 B 219057.72, 9055420.47 Check Map No.
Landfill	The area lacks landfill site. Solid waste is a challenge in the area. This could affect the aesthetic and general appeal of the area to tourists. It could also pose a health hazard. Final	Area recommended is ideal because it is at a distance from residential development, therefore, people won't into direct contact with the site. The site is far from water bodies and not located in on steep terrain. Reduced risk of pollution and contamination. Access road available to landfill Engineering study and design required.	211425.29, 9057527.65 Check Map No.
Upgrading of Nsumbu settlement and Some villages	Currently, the populated areas have very little physical appeal owing to uncoordinated spatial development.	Strongly recommend development of comprehensive land use plan and conversion of some tradition land into state land so that it development can be monitored and controlled.	As mapped on Map No.
Phone Towers	Elevation data shows some		A 219123.81 , 9058056.41 B 218368.44 , 9062639.01 C 223297.26 , 9054367.67 D 228937.38 , 9042357.22

Infrastructure	Spatial/Elevation Analysis /Comment	Recommendation/comment	Coordinates of Proposed Locations in UTM Format
			Check Map No.
Camping, temporary accommodation, Lodges and hotels	Numerous sites with lake frontage and beaches have been proposed for possible lodges, resorts, camping etc.		A 222082.36, 9060196.64 B 223152.48 , 9057175.14 C 228163.12, 9057823.50 D 218972.74, 9064533.74 Check Map No.

SATELLITE IMAGES

IMAGES SHOWING DECLINING BEACH OR INCREASING WATER LEVEL

An analysis of satellite images from 2009 to 2024 showed changes to the shore due to increasing water levels, location 223172.54, 9057345.49, near ZAWA Offices for example had 85m of beach in 2009, reduced to 80 in 2013, 75m in 2018 and was 56m in 2024. This information is important to alert stakeholders about the need for green buffer zones to avoid flooding in future.



NKAMBA BAY LODGE BEACH 2009, 2016, 2018 AND 2024

