

Sierra Leone National Biodiversity Strategy Action Plan (NBSAP) | 2026 - 2035

MARCH 2026

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FOREWORD

Sierra Leone stands at a defining moment in its environmental and development journey. As a nation richly endowed with forests, wetlands, coastal and marine ecosystems, biodiversity is not merely part of our natural heritage — it is the foundation of our food systems, water security, climate resilience, livelihoods, and cultural identity.

The adoption of the Kunming-Montreal Global Biodiversity Framework at COP15 marked a historic global commitment to halt and reverse biodiversity loss by 2030. This updated National Biodiversity Strategy and Action Plan (NBSAP 2026–2035) represents Sierra Leone's sovereign contribution to that global ambition. It translates the global goals and 23 targets into nationally determined priorities aligned with our development realities and aspirations.

This NBSAP is not a stand-alone environmental document. It is a strategic instrument fully aligned with Sierra Leone's Medium-Term National Development Plan 2024–2030 and its Big Five Game Changers. Biodiversity underpins Feed Salone, strengthens human capital development, supports youth employment, safeguards infrastructure investments, and ensures climate resilience. Protecting and restoring nature is therefore not optional — it is central to achieving inclusive growth, food security, and long-term economic stability.

The Strategy prioritises:

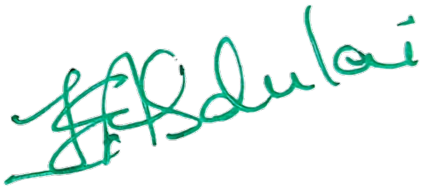
- Biodiversity-inclusive spatial planning and safeguards
- Protected, conserved, and connected ecosystems
- Sustainable production systems across agriculture, fisheries, forestry, and mining
- Pollution reduction and ecosystem restoration
- Inclusive governance that respects the rights of Local Communities and cultural heritage
- Sustainable biodiversity financing, monitoring, and accountability

This updated NBSAP was developed through an inclusive and participatory national process involving government ministries, local councils, traditional authorities, civil society, youth and women's groups, academia, private sector actors, and development partners. I commend the Environmental Protection Agency Sierra Leone (EPA-SL), the CBD Focal Point, technical working groups, and all contributors who dedicated their expertise and time to this national effort.

Implementation will require collective responsibility. Government ministries, departments and agencies must mainstream biodiversity into sector plans and budgets. The private sector must align investments with sustainability standards. Communities must be empowered as custodians of our ecosystems. Development partners must continue to support nationally determined priorities.

Sierra Leone commits to implementing this NBSAP with ambition, transparency, and accountability, contributing meaningfully to the global mission of halting biodiversity loss while advancing our national development agenda.

Together, we will secure nature for present and future generations.



Mr. Jiwoh Emmanuel Abdulai

Minister of Environment and Climate Change

MESSAGE

The successful development of Sierra Leone's updated National Biodiversity Strategy and Action Plan represents a significant institutional and national milestone.

Following the adoption of the Kunming-Montreal Global Biodiversity Framework, Parties were called upon to revise and align their NBSAPs to reflect the new global biodiversity architecture. Sierra Leone has responded with seriousness, technical rigour, and inclusive national engagement.

This document reflects months of intensive analysis, consultations, validation workshops, and inter-ministerial coordination. It is grounded in scientific evidence, aligned with global monitoring frameworks, and fully integrated into Sierra Leone's broader development planning landscape.

I wish to extend special recognition to:

- The CBD National Focal Point and the technical officers of EPA-SL
- The National Technical Working Group
- Line Ministries and sector agencies
- Local councils and traditional leaders
- Civil society organisations, youth, and women's groups
- Development partners, including UNDP, UNEP, and other supporting institutions

Their contributions ensured that this NBSAP is both nationally owned and internationally credible.

EPA-SL remains committed to leading effective coordination of biodiversity policy implementation. This includes strengthening environmental safeguards, enhancing monitoring systems, operationalising biodiversity finance mechanisms, and ensuring transparent reporting to the Convention on Biological Diversity.

The real test now lies in implementation. Biodiversity conservation must move beyond policy documents into land-use decisions, sector investments, enforcement actions, and community-level stewardship.

On behalf of the Agency, I reaffirm our commitment to work collaboratively across government and society to deliver on Sierra Leone's biodiversity commitments.

Nature is our shared inheritance. Its protection is our shared responsibility.

Abu Bakar S Massaquoi

Dr. Abu-Bakar S. Massaquoi
Executive Chairman, EPA

ACKNOWLEDGEMENTS

The development of Sierra Leone's updated National Biodiversity Strategy and Action Plan (NBSAP 2026–2035) represents a collective national effort anchored in scientific rigor, inclusive consultation, and strong institutional coordination.

The Government of Sierra Leone expresses profound gratitude to His Excellency the President and the Honourable Minister of Environment and Climate Change for their leadership and commitment to advancing environmental sustainability and biodiversity conservation as integral pillars of national development.

We extend special appreciation to the Environmental Protection Agency – Sierra Leone (EPA-SL) for providing technical stewardship and coordination throughout the revision process. The dedication of the CBD National Focal Point, the biodiversity technical team, and the inter-ministerial coordination mechanisms ensured that this Strategy aligns fully with the Kunming-Montreal Global Biodiversity Framework and reflects Sierra Leone's national priorities.

The contributions of Ministries, Departments, and Agencies (MDAs) were instrumental in mainstreaming biodiversity considerations across agriculture, fisheries, forestry, water resources, mining, tourism, infrastructure, finance, gender, youth, and local governance sectors. Their sector-specific inputs strengthened the realism, coherence, and implementability of this Strategy.

We sincerely thank members of the National Technical Working Group and the broader stakeholder consultation platforms for their analytical inputs, policy insights, and constructive review comments during the drafting and validation phases.

The Government recognizes and values the participation of:

- Local Councils and District Development Coordination Committees
- Paramount Chiefs and traditional authorities
- Civil society organizations and environmental NGOs
- Women's groups, youth networks, and community-based organizations
- Indigenous Peoples and Local Communities
- Academic and research institutions
- The private sector, including actors in agriculture, fisheries, forestry, mining, and finance

Their engagement ensured that the NBSAP reflects the lived realities, knowledge systems, and development aspirations of the people of Sierra Leone.

We further acknowledge the invaluable support of development partners, particularly the United Nations Development Programme (UNDP), the United Nations Environmental Programme (UNEP), and other bilateral and multilateral partners who provided technical and financial support to the NBSAP Accelerator process and the national validation exercise. Their partnership reinforces Sierra Leone's commitment to implementing global biodiversity commitments within a nationally determined framework.

The drafting team and technical consultants deserve special commendation for synthesizing extensive data, global guidance, and stakeholder inputs into a coherent strategic document that meets both national development needs and international reporting standards.

Finally, we recognize the many individuals — public servants, experts, community representatives, District and regional representatives, and citizens — whose time, expertise, and dedication made this Strategy possible.

This NBSAP is not the product of a single institution. It is a national compact — a shared commitment to safeguarding Sierra Leone's natural capital for present and future generations.

The Government of Sierra Leone expresses its deepest appreciation to all who contributed to this important national milestone.

ACRONYMS AND ABBREVIATIONS

A. International and Regional Frameworks

Acronym	Full Meaning
ABS	Access and Benefit-Sharing
ACP	African, Caribbean and Pacific Group of States
AUC	African Union Commission
AU	African Union
AU-BSAP	African Union Biodiversity Strategy and Action Plan
BBNJ	Biodiversity Beyond National Jurisdiction
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COP	Conference of the Parties
GEF	Global Environment Facility
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IUCN	International Union for Conservation of Nature
KM-GBF	Kunming–Montreal Global Biodiversity Framework
MRU	Mano River Union
SDGs	Sustainable Development Goals
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNESCO	United Nations Educational, Scientific and Cultural Organization

Acronym	Full Meaning
WB	World Bank
WWF	World Wide Fund for Nature

B. National Governance and Institutional Framework

Acronym	Full Meaning
ACC	Anti-Corruption Commission
BSL	Bank of Sierra Leone
CSMC	Conservation Site Management Committee
CTF	Conservation Trust Fund
EPA-SL	Environmental Protection Agency – Sierra Leone
GoSL	Government of Sierra Leone
MAFFS	Ministry of Agriculture and Food Security
MDA	Ministry, Department or Agency
MDAs	Ministries, Departments and Agencies
MFMR	Ministry of Fisheries and Marine Resources
MIA	Ministry of Internal Affairs
MLCPE	Ministry of Lands, Country Planning and the Environment
MLGRD	Ministry of Local Government and Rural Development
MMMR	Ministry of Mines and Mineral Resources
MTNDP	Medium-Term National Development Plan
NAP	National Action Plan
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contribution

Acronym	Full Meaning
NEP	National Environmental Policy
NGO	Non-Governmental Organisation
NPAA	National Protected Area Authority
PFM	Public Financial Management

C. Biodiversity Planning, Safeguards and Spatial Tools

Acronym	Full Meaning
CEPA	Communication, Education and Public Awareness
CHM	Clearing-House Mechanism
EbA	Ecosystem-based Adaptation
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
ES	Ecosystem Services
FPIC	Free, Prior and Informed Consent
GIS	Geographic Information System
GYSI	Gender, Youth and Social Inclusion
IPLCs	Indigenous Peoples and Local Communities
LED	Low Emissions Development
MSP	Marine Spatial Planning
OECM	Other Effective Area-Based Conservation Measure
OECMs	Other Effective Area-Based Conservation Measures
PA	Protected Area
PES	Payment for Ecosystem Services

Acronym	Full Meaning
REDD+	Reducing Emissions from Deforestation and Forest Degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks
ROAM	Restoration Opportunities Assessment Methodology
SEA	Strategic Environmental Assessment
ToC	Theory of Change

D. Monitoring, Reporting, Finance and Implementation Tools

Acronym	Full Meaning
BIOFIN	Biodiversity Finance Initiative
DSA	Daily Subsistence Allowance
GHG	Greenhouse Gas
HDI	Human Development Index
LOE	Level of Effort
MEAL	Monitoring, Evaluation, Accountability and Learning
M&E	Monitoring and Evaluation
PSP	Permanent Sample Plot
QSIP	Quality of Service Improvement Plan
SMART	Spatial Monitoring and Reporting Tool
TSP	Temporary Sample Plot

E. Conservation Status Categories (IUCN Red List)

Acronym	Full Meaning
CE	Critically Endangered

Acronym	Full Meaning
CR	Critically Endangered (IUCN Category)
DD	Data Deficient
EN	Endangered
NT	Near Threatened
VU	Vulnerable

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EXECUTIVE SUMMARY

Purpose and National Context

Sierra Leone's biodiversity underpins national development, food security, livelihoods, climate resilience, and human well-being. The country's Upper Guinea Forest landscapes, coastal and marine ecosystems, mangrove systems, inland waters, and agricultural mosaics provide essential ecosystem services that support fisheries, agriculture, energy generation, disaster risk reduction, water supply, tourism, and rural and urban economies. Yet biodiversity loss continues at a pace that threatens these foundations, driven by land-use change, extractive activities, over-exploitation, pollution, and climate-related pressures.

The National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035 sets out Sierra Leone's roadmap to halt and reverse biodiversity loss while advancing sustainable and inclusive development. It aligns national priorities with the Kunming–Montreal Global Biodiversity Framework (KM-GBF) and embeds biodiversity within Sierra Leone's Medium-Term National Development Plan (MTNDP 2024–2030), Nationally Determined Contribution (NDC 3.0), and public financial management systems.

Particular attention is given to areas where biodiversity loss intersects most directly with national development priorities: forest and mining landscapes, coastal and marine zones vulnerable to erosion and pollution, agricultural frontiers under expansion pressure, and rapidly urbanising districts. Biodiversity is not positioned as a standalone environmental concern but as a strategic enabler of economic diversification, food security, climate resilience, employment, and long-term stability.

This NBSAP was developed through an inclusive, multi-stakeholder process and validated nationally through the Technical Working Group and broader stakeholder consultations, reflecting inputs from government ministries, local authorities, civil society, academia, private-sector actors, and development partners.

What Is New in This NBSAP

This NBSAP represents a significant shift from previous strategy cycles. It moves beyond policy articulation to implementation realism. Key advancements include:

- Alignment with the KM-GBF and integration of nationally defined biodiversity targets;
- Costed Programme Action Tables linking targets to institutional responsibilities;
- A Biodiversity Finance Plan aligned with BIOFIN principles;
- Integration of biodiversity priorities into public financial management and sector planning systems;
- A Safeguards and Risk Management Framework to ensure environmental and social compliance;
- Institutional matrices clarifying roles across ministries, departments, and agencies;

- A Monitoring, Evaluation, Accountability, and Learning (MEAL) framework aligned with KM-GBF monitoring requirements;
- Clear traceability between targets, financing, implementation, and reporting.

This NBSAP therefore strengthens accountability, fiscal credibility, and readiness for implementation.

♦ Regional and Continental Positioning

Sierra Leone's updated NBSAP is designed to be competitive and interoperable with continental and regional biodiversity frameworks. It aligns with the African Union Biodiversity Strategy and Action Plan (AU-BSAP) and reinforces regional cooperation within the Mano River Union and West African biodiversity initiatives.

By positioning itself within Africa-wide priorities on ecosystem integrity, sustainable use, biodiversity finance mobilisation, governance reform, and participation, Sierra Leone enhances its ability to leverage regional learning, attract climate and biodiversity finance, and contribute to collective continental targets while delivering nationally defined outcomes.

♦ NDC 3.0 and the Triple Planetary Crisis

This NBSAP directly supports implementation of Sierra Leone's NDC 3.0 and responds to the triple planetary crisis—biodiversity loss, climate change, and pollution—through integrated action.

Through ecosystem protection and restoration, nature-based solutions, pollution reduction, sustainable production systems, and climate-resilient land- and sea-use planning, the NBSAP contributes to greenhouse gas mitigation, strengthens adaptation to flooding, drought, and coastal erosion, and reduces environmental health risks.

By safeguarding ecosystem services and strengthening monitoring and accountability systems, the NBSAP reinforces Sierra Leone's climate resilience and sustainable development trajectory.

♦ Principal Drivers of Biodiversity Loss

Analysis undertaken for this NBSAP identifies the most critical and interlinked drivers affecting Sierra Leone:

- Land-use change and habitat loss driven by agricultural expansion, mining, infrastructure development, and urban growth;
- Over-exploitation of biological resources, particularly fisheries, forests, and wildlife;
- Pollution, including agricultural runoff, solid waste, plastics, and marine pollution;
- Invasive alien species affecting terrestrial and aquatic ecosystems;
- Climate change is exacerbating ecosystem degradation, flooding, coastal erosion, and drought; and

- Governance, institutional capacity, and financing constraints limit effective enforcement, coordination, and implementation.

These drivers interact across key sectors—mining, agriculture, fisheries, infrastructure, energy, and urban development—creating trade-offs that must be actively managed through improved spatial planning, safeguards, and accountability systems.

♦ National Biodiversity Outcomes (2026–2035)

To address these challenges, Sierra Leone commits to the following national biodiversity outcomes by 2035:

01
Biodiversity-sensitive spatial planning integrated into national and sub-national land- and sea-use decisions.

02
Priority ecosystems protected and conserved, including expanded and effectively managed protected areas and Other Effective Area-Based Conservation Measures (OECMs).

03
Degraded ecosystems restored across terrestrial, freshwater, and coastal systems.

04
Pollution pressures reduced, particularly in freshwater and marine environments.

05
Invasive alien species prevented, controlled, or eradicated in priority ecosystems.

06
Sustainable use of biodiversity strengthened in fisheries, forestry, and agriculture.

07
Biodiversity mainstreamed across government and economic sectors.

08
Ecosystem services maintained and enhanced for climate adaptation, disaster risk reduction, health, and urban resilience.

09
Inclusive governance and equitable benefit-sharing strengthened, with meaningful participation of women, youth, and Local Communities.

10
Adequate and sustainable biodiversity finance mobilised from public, private, and innovative sources.

11
Transparent monitoring, reporting, and accountability systems operational and aligned with KM-GBF requirements.

12
National capacity for implementation, monitoring, and enforcement strengthened.

Detailed targets, indicators, baselines, milestones, institutional responsibilities, and indicative costs are provided in Part III and the annexes.

♦ Theory of Change

The NBSAP is built around a clear theory of change. If Sierra Leone integrates biodiversity into spatial and development planning; secures, restores, and sustainably manages critical ecosystems; strengthens governance, participation, and institutional capacity; mobilises and aligns biodiversity finance; and monitors progress through a robust MEAL system, then biodiversity loss can be halted and reversed, ecosystem services sustained, and development risks reduced.

This logic is operationalised through six Strategic Programmes, each linked to measurable targets and accountable institutions.

♦ Financing and Early Priorities (2026–2028)

Implementation will require scaled-up, better-aligned, and more transparent biodiversity finance. The NBSAP integrates biodiversity priorities into national budgeting processes and public financial management systems, advances the implementation of the BIOFIN framework, promotes the reform of harmful incentives, strengthens the role of the Conservation Trust Fund, and engages private-sector actors in biodiversity risk management and investment.

Early priorities for 2026–2028 include:

- Strengthening institutional coordination and enforcement capacity;
- Operationalising spatial planning and safeguards systems;
- Investing in protected area management and restoration readiness;
- Supporting biodiversity-positive livelihoods and community-based initiatives;
- Establishing robust monitoring, reporting, and communication systems.

♦ Monitoring, Reporting, and Accountability

Progress will be tracked through a national Monitoring, Evaluation, Accountability, and Learning (MEAL) system aligned with KM-GBF monitoring requirements and CBD reporting obligations.

The Environmental Protection Agency – Sierra Leone (EPA-SL) serves as the national coordinating authority for NBSAP implementation, ensuring cross-sector coherence, safeguards compliance, and CBD-aligned reporting, while line ministries and agencies retain responsibility for implementation within their mandates.

This institutional clarity strengthens performance tracking, transparency, and adaptive management across sectors and levels of government.

♦ Conclusion

The NBSAP 2026–2035 provides Sierra Leone with a coherent, implementable, and accountable framework to safeguard biodiversity while advancing national development. By embedding biodiversity within planning, finance, governance, and reporting systems, and by grounding the strategy in nationally validated priorities, Sierra Leone positions itself to deliver measurable results for people, nature, and the economy over the coming decade.

PART I — STRATEGIC CONTEXT AND NBSAP DEVELOPMENT PROCESS

1. INTRODUCTION

1.1. Legal basis and purpose

Sierra Leone's National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035 is developed in accordance with the country's obligations under the Convention on Biological Diversity (CBD), particularly Article 6, which requires Parties to develop, update, and implement national biodiversity strategies and action plans.

This updated NBSAP responds to:

- The adoption of the Kunming–Montreal Global Biodiversity Framework (KM-GBF);
- Lessons from implementation of the NBSAP 2017–2026 (see Annex B4);
- Emerging national development priorities under the Medium-Term National Development Plan (MTNDP 2024–2030);
- Evolving global governance issues, including strengthened attention to Access and Benefit-Sharing (ABS) and marine biodiversity beyond national jurisdiction (BBNJ).

The purpose of this NBSAP is to:

1. Translate global biodiversity commitments into nationally appropriate targets and actions;
2. Provide a coherent framework for biodiversity mainstreaming across sectors;
3. Strengthen institutional clarity and implementation realism;
4. Improve monitoring, accountability, and readiness for national reporting under the CBD (see Annex D2 and Annex D3).

This NBSAP serves as Sierra Leone's primary strategic instrument for biodiversity governance for the period 2026–2035.

1.2. Scope (2026–2035), audiences, and how to use the NBSAP

The NBSAP covers the period 2026–2035 and applies to terrestrial, freshwater, coastal, and marine ecosystems within Sierra Leone's jurisdiction, while recognizing ecological connectivity and regional cooperation dynamics.

The NBSAP is intended for:

- Government ministries, departments, and agencies;
- Local councils and subnational authorities;
- Parliament and policy oversight bodies;
- Civil society and community-based organisations;
- Academic and research institutions;
- The private sector;
- Development partners.

The document is structured to allow different users to engage at appropriate levels:

- The main text (Parts I–V) provides strategic direction, national targets, implementation frameworks, and financing pathways.
- Detailed technical analyses, action tables, costing summaries, institutional matrices, and monitoring frameworks are provided in Annexes A–H.

Readers seeking operational detail (e.g., target indicators, institutional roles, costing assumptions, spatial prioritisation) should consult the relevant annexes referenced throughout the text.

1.3. Relationship to national planning (MTNDP 2024–2030 and sector plans)

This NBSAP is aligned with the Medium-Term National Development Plan (MTNDP 2024–2030) and relevant sector strategies, including those governing agriculture, fisheries, forestry, mining, infrastructure, water resources, energy, tourism, and climate resilience.

Biodiversity considerations are integrated into national planning through:

- Spatial planning and safeguards (see Annex B2);
- Strengthened Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) mechanisms;
- Institutional coordination arrangements (see Annex E3);
- Integration of biodiversity finance within national budgeting processes (see Annex F1 and F2).

The NBSAP does not replace sector strategies. Rather, it provides a cross-cutting framework to guide sectoral mainstreaming, coherence, and performance tracking in relation to biodiversity outcomes.

1.4. Links to National Reporting and CBD monitoring requirements

The NBSAP provides the strategic and operational framework for meeting Sierra Leone's biodiversity-related reporting obligations under the Convention on Biological Diversity, including the preparation of National Reports and reporting against the Kunming–Montreal Global Biodiversity Framework (KM-GBF).

National biodiversity targets (PART III) align with the KM-GBF targets and are explicitly mapped in Annex D2. Monitoring indicators, data sources, and institutional reporting responsibilities are detailed in Annex D3, while the reporting calendar and responsibilities are summarised in Annex H2.

The strengthened Monitoring, Evaluation, Accountability, and Learning (MEAL) framework aims to:

- Improve national data coherence;
- Clarify institutional responsibilities for indicator tracking;
- Reduce reporting burden through systematic data management;

- Enhance transparency and accountability.

2. METHODOLOGY AND PARTICIPATION

2.1. Overall approach and quality assurance

The update of the NBSAP followed a structured, evidence-based, and participatory approach, designed to ensure technical credibility and alignment with CBD guidance.

The process included:

- Review of implementation performance under the 2017–2026 NBSAP (Annex B4);
- Updated biodiversity status, trends, and drivers' analysis (Annex B1);
- Spatial prioritisation and threat overlay analysis (Annex B2);
- Policy, legal, and institutional review (Annex B3);
- Development of revised national targets aligned with the KM-GBF (Annex D2);
- Preparation of a Biodiversity Finance Plan (Annex F1).

Quality assurance measures included technical review by the multi-stakeholder Technical Working Group (TWG), structured consolidation of comments, and cross-checking against the CBD NBSAP guidance.

2.2. Stakeholder engagement process and validation

The NBSAP update process engaged a broad range of stakeholders, including:

- Government ministries and agencies;
- Local councils;
- Academic and research institutions;
- Civil society organisations;
- The private sector;
- The ABS Focal Point and thematic experts;
- Marine and conservation stakeholders contributing to discussions on high seas governance coherence.

Stakeholder inputs were captured through consultations, technical workshops, written submissions, and TWG-level review. Comments were consolidated in a structured matrix and assessed for strategic relevance, feasibility, and alignment with national priorities.

Where stakeholder inputs introduced detailed technical proposals beyond the scope of the strategic narrative, such content has been integrated into relevant annexes (particularly Annexes B, C, D, and E) to preserve clarity and coherence in the main text.

A summary of stakeholder engagement processes and contributors is provided in Annex A2 and Annex A3.

2.3. Evidence base used

The NBSAP update is grounded in a comprehensive, integrated evidence base that draws on:

- National biodiversity assessments and status reports;
- Spatial prioritisation analyses and threat mapping (Annex B2);
- Natural capital and ecosystem services assessments;
- Policy and institutional analyses (Annex B3);
- Sector performance data;
- Academic and research contributions.
- Gender and social inclusion dimensions;
- Biodiversity finance assessments, and
- Reviews of monitoring and reporting systems.

These analyses were complemented by stakeholder knowledge and experiential insights gathered through consultations at national and sub-national levels.

This evidence informed the identification of priority biodiversity issues, the assessment of development pressures, the selection of national targets, and the design of Strategic Programmes.

The evidence base is synthesised in Annex B (B1–B4), which provides detailed documentation of biodiversity status, spatial priorities, institutional context, and lessons from previous implementation cycles.

2.4. Safeguards applied during planning

In recognition of social, environmental, and governance risks, safeguards were applied during the NBSAP planning process to ensure:

- Respect for gender equity and social inclusion (Annex C1);
- Recognition of the rights and knowledge of Local Communities (IPLCs);
- Transparency in stakeholder engagement;
- Alignment with existing environmental and social safeguard frameworks;
- Avoidance of unintended negative impacts arising from proposed biodiversity actions.

Safeguards were integrated from the outset of the process to promote meaningful participation, avoid harm, and manage potential risks associated with biodiversity planning and decision-making.

During planning, safeguards were applied through inclusive stakeholder engagement processes, attention to gender and social inclusion, and consideration of potential impacts on local communities. Principles of transparency, equity, and accountability informed consultations, validation workshops, and decision-making processes, ensuring that diverse perspectives contributed to the identification of priorities and strategic choices.

The safeguards applied during planning are consistent with, and form the foundation for, the Safeguards and Risk Management Framework that guides NBSAP implementation. This framework, presented in Annex C2, sets out procedures for risk screening, mitigation, grievance redress, and monitoring, and is applied across all Strategic Programmes and actions during implementation.

PART II — NATIONAL SITUATION ANALYSIS

3. COUNTRY PROFILE: BIODIVERSITY–ECONOMY–PEOPLE LINKAGES

3.1. Bio-physical overview and ecological context

Sierra Leone is endowed with a rich diversity of terrestrial, freshwater, and coastal and marine ecosystems that underpin national development and human well-being. These ecosystems are distributed across distinct ecological zones, including the forested eastern highlands, the northern forest–savanna transition belt, and extensive mangrove and estuarine systems along the Atlantic coastline. The country lies within the Upper Guinean Forest ecosystem, one of the world's biodiversity hotspots, and includes lowland rainforests, forest–savanna mosaics, mangroves, wetlands, rivers, estuaries, and a productive continental shelf.

These ecosystems provide essential ecological functions, including maintaining soil fertility, regulating water, protecting coastal areas, regulating climate, and providing habitat for a wide range of species. While protected and conserved areas play a critical role in safeguarding biodiversity, a significant proportion of ecosystem services is generated from multi-use landscapes and seascapes, where conservation outcomes are closely linked to land and resource governance, production systems, and community livelihoods.

Figure 1: National biodiversity–development linkage graphic

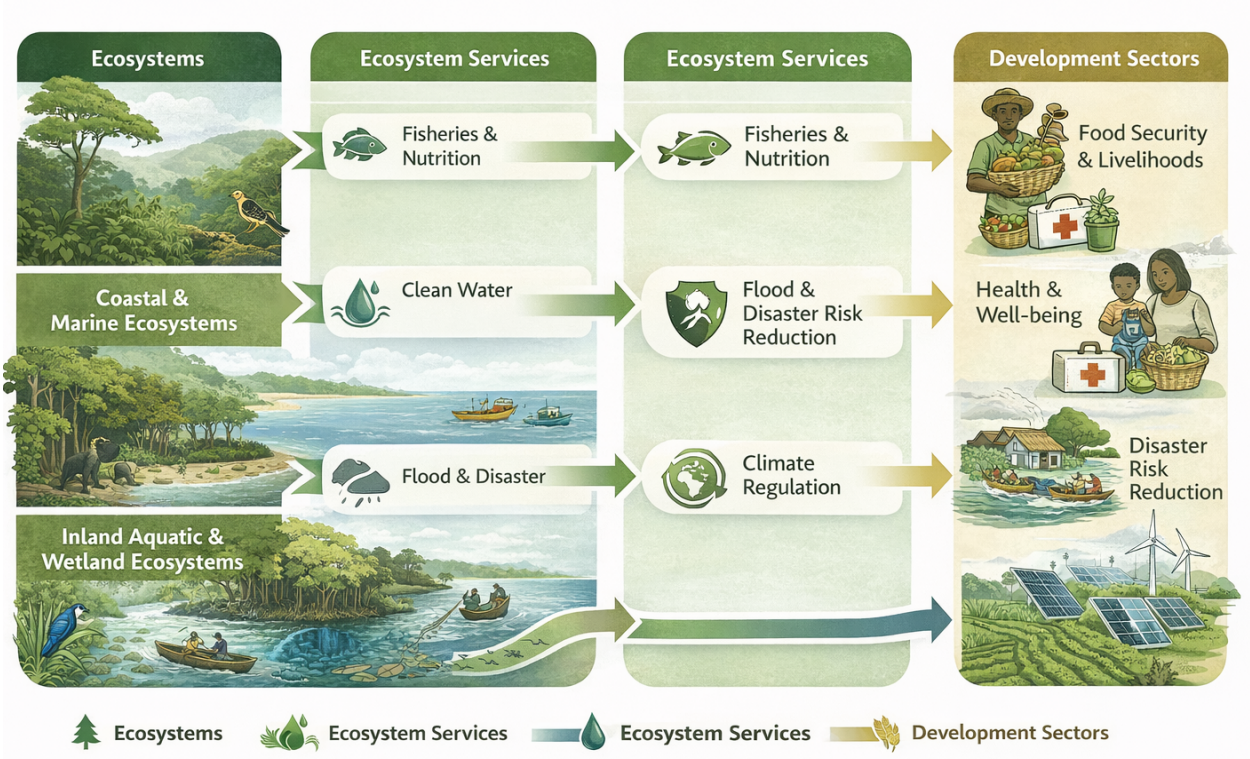


Figure 1 *illustrates how biodiversity and ecosystems provide essential services that support key development sectors in Sierra Leone*

3.2. Biodiversity's contribution to development and economic sectors

Biodiversity and ecosystem services make substantial contributions to Sierra Leone's economy and development priorities. Agriculture, fisheries, forestry, and nature-based tourism are directly dependent on healthy ecosystems. At the same time, sectors such as water supply, energy, health, and disaster risk management rely on regulating and supporting ecosystem services.

- **Food systems** depend on fertile soils, pollination services, genetic diversity of crops and livestock, inland and marine fisheries, and mangrove-supported nursery habitats. A significant proportion of the soil is arable and fertile, capable of supporting a good diversity of crops across the country. There is a rich diversity of insect pollinators, including about 800 butterfly species and many bee species. The domesticated crop, fruit, and vegetable diversity is impressive, with a rich store of genetic materials in wild varieties. Mangroves are important habitats for marine productivity, whilst inland and marine fisheries are vital food and income sources for a significant proportion of the population, especially those living within coastal zones
- **Fisheries and coastal economies** rely on productive marine and estuarine ecosystems, which are increasingly threatened by overexploitation, habitat degradation, and climate-related impacts. Viability of the blue economy depends on fish and shellfish productivity, coastal tourism and recreation, and the sustainable management of mangrove ecosystems, including emerging opportunities for blue carbon initiatives. These coastal and marine ecosystem support systems are susceptible to degradation, increased vulnerability to climate change, and ecological redundancy if the current spate of exploitation is not controlled or prevented.
- **Water security and public health** are closely linked to watershed integrity, wetland ecosystems, and the regulation of water and air quality. The hydrological system is supported by ten major rivers and numerous streams and tributaries crisscrossing the country, with infusion from over six months of rainfall, providing water throughout the year. The forested hills and gallery formations serve as storage systems that ensure perennial flow in streams and rivers and retain water in aquifers.
- **Climate resilience and disaster risk reduction** depend on forests, wetlands, and mangroves that buffer floods, mudslides, storms, and coastal erosion. However, the resilience capacities of these ecosystems are being reduced by indiscriminate exploitation, urban sprawl, and unbridled developments that are inimical to biodiversity and the environment.
- **Livelihoods and employment**, particularly in rural and coastal areas, are closely tied to biodiversity-based activities, including farming, fishing, harvesting forest products, and small-scale enterprises. According to the UNDP Human Development Index, about 60% of Sierra Leone's rural population depends on agriculture as their main source of livelihood. Agriculture remains a central pillar of Sierra Leone's economy, contributing a substantial share of GDP and employing a significant proportion of the labor force. There is vast untapped potential with fertile land and a favorable climate for crops like rice, cocoa, and palm oil, if given the right investment environment, which can boost food provisioning and export.

The degradation of biodiversity therefore poses not only an environmental risk but also a systemic development risk**,** with potential impacts on food security, incomes, infrastructure resilience, and long-term economic stability.

Table 1: Biodiversity contributions to priority development sectors in Sierra Leone

Development sector	Key ecosystems	Contribution to development	Risks if ecosystems are degraded
Food security & nutrition	Forests; coastal & marine ecosystems; inland aquatic & wetland systems	Provision of fish, bushmeat, wild foods, and crop genetic diversity; soil fertility and pollination services supporting agriculture	Declining fisheries yields; loss of protein sources; reduced crop productivity; increased food insecurity and malnutrition
Livelihoods & employment	Forest landscapes; mangroves; rivers and floodplains	Support to fisheries, agriculture, NTFPs, eco-tourism, and informal green enterprises	Income loss for rural and coastal households; increased poverty and reliance on unsustainable resource use
Health & well-being	Forests; wetlands; coastal ecosystems	Regulation of water quality; disease buffering; provision of medicinal plants; reduced exposure to environmental hazards	Increased water-borne and vector-borne diseases; reduced access to traditional medicines; higher public health costs
Disaster risk reduction	Mangroves; wetlands; forests; riparian buffers	Coastal protection from storm surge and erosion; flood regulation; slope stabilisation and erosion control	Increased flood and coastal damage; higher disaster recovery costs; loss of lives and infrastructure
Climate resilience & mitigation	Forests; mangroves; wetlands	Carbon sequestration and storage; micro-climate regulation; ecosystem-based adaptation	Higher greenhouse gas emissions; reduced climate resilience; increased vulnerability of communities
Water security	Watersheds; wetlands; riparian forests	Regulation of water flows; groundwater recharge; water purification for domestic, agricultural, and industrial use	Reduced water availability and quality; conflicts over water resources; increased treatment costs
Urban development & infrastructure	Wetlands; coastal buffers; peri-urban forests	Flood mitigation; heat regulation; green spaces enhancing liveability	Increased urban flooding; heat stress; infrastructure damage and maintenance costs
Energy & extractive sectors	Forests; river systems; coastal zones	Regulation of hydrology for hydropower; ecosystem buffers reducing environmental risks	Reduced hydropower reliability; increased environmental and social conflict; higher mitigation costs

Source: Synthesised from national sector reports and stakeholder consultations (see Annex B1 and Annex B3).

Biodiversity as a foundation for national development

The biodiversity–development linkages in Table 1 show that biodiversity loss in Sierra Leone poses material risks to food security, livelihoods, water security, disaster resilience, and climate adaptation. These interdependencies directly informed the prioritisation of national biodiversity targets, particularly those addressing spatial planning and safeguards, protected and conserved areas and restoration, sustainable production and use, and ecosystem services and climate resilience. To translate these priorities into action, the NBSAP adopts a programme-based approach through Programmes 1–4, integrating biodiversity into development decision-making, securing critical ecosystems, promoting biodiversity-positive livelihoods, and reducing development-related risks, in line with the Kunming–Montreal Global Biodiversity Framework.

3.3. Poverty, livelihoods, and vulnerability linkages

A significant proportion of Sierra Leone's population depends directly on natural resources for subsistence, income generation, and social well-being. Rural communities, coastal populations, women, youth, and Indigenous Peoples and Local Communities (IPLCs) are often the most dependent on biodiversity, while also being the most vulnerable to ecosystem degradation and climate impacts.

Livelihood strategies based on agriculture, artisanal fisheries, fuelwood collection, non-timber forest products, and small-scale mining frequently operate at the interface between survival needs and environmental sustainability. In many regions, limited alternative livelihood options, insecure tenure, weak enforcement, and market pressures contribute to unsustainable resource use.

Vulnerability is spatially differentiated. Certain regions face overlapping pressures from poverty, environmental degradation, climate change, and limited access to services, making them priority areas for integrated biodiversity and development interventions. These overlapping patterns are reflected in Figure 3.2, which highlights areas where livelihood dependence, land-use pressure, and biodiversity vulnerability intersect.

Figure 2: Map of livelihood dependence and vulnerability hotspots

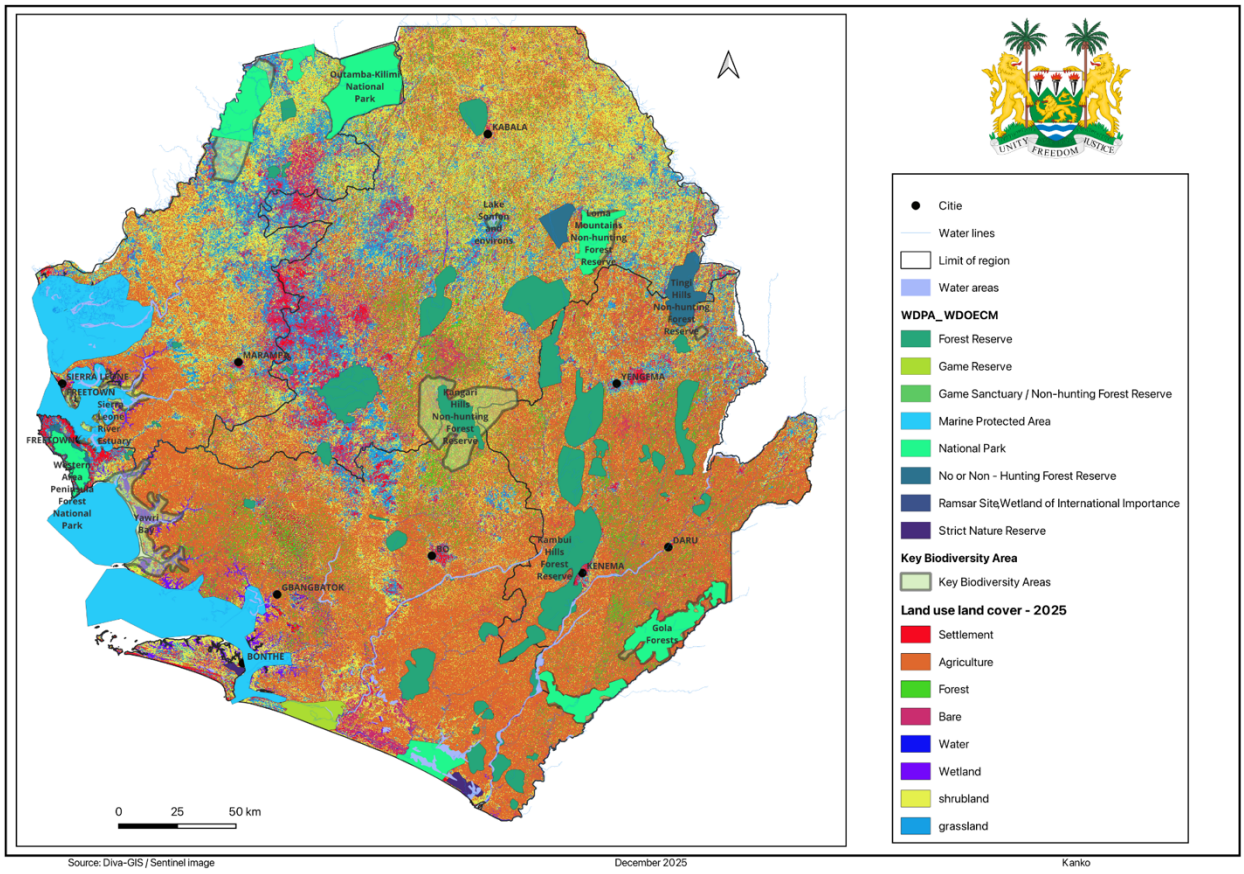


Figure 2: *Map of Livelihood dependence, land-use pressure, and biodiversity vulnerability hotspots*

3.4. Biodiversity, climate resilience, and forests: synergies and trade-offs

Biodiversity conservation, climate change adaptation, and mitigation are closely interconnected in Sierra Leone. Forests, mangroves, wetlands, and coastal ecosystems play a critical role in carbon storage, climate regulation, and resilience to climate shocks, while also supporting livelihoods and biodiversity.

At the same time, poorly planned climate, infrastructure, or extractive investments can undermine biodiversity outcomes if safeguards are weak or trade-offs are not explicitly managed. The integration of biodiversity considerations into climate policies, land-use planning, and investment decisions is therefore essential to maximise synergies and avoid maladaptation.

This NBSAP recognises biodiversity as a foundational element of climate-resilient development and positions ecosystem-based and nature-based approaches as central strategies for addressing climate risks, food insecurity, and ecosystem degradation within Sierra Leone's development context.

This section provides a strategic synthesis of national biodiversity status and trends; detailed datasets, maps, and technical analyses are provided in Annexes B1 and B2, with institutional and governance dimensions further elaborated in Annex B3.

Textbox 3.1: Implications of biodiversity across sectors for the NBSAP

- Biodiversity must be treated as productive natural capital, central to food security, livelihoods, and resilience—not as a standalone environmental concern.
- Priority sectors for biodiversity mainstreaming include agriculture, fisheries, forestry, water, infrastructure, and climate action.
- Spatially targeted interventions are required in regions where high biodiversity value, livelihood dependence, and vulnerability intersect.
- Strengthening ecosystem integrity is an essential development risk management strategy for long-term economic stability and social well-being.

4. BIODIVERSITY STATUS, TRENDS, AND KEY DRIVERS

This section provides a strategic synthesis of biodiversity status and trends in Sierra Leone. Detailed datasets, species inventories, spatial analyses, and technical methodologies are presented in Annex B1 (Biodiversity Status in Sierra Leone) and Annex B2 (Spatial Analysis and Priority Biodiversity Areas).

4.1. Status and trends of ecosystems

Sierra Leone's biodiversity remains globally significant, but overall ecosystem condition shows mixed trends, with declines in several cases. Patterns vary by ecosystem type and geography, reflecting differences in land-use pressures, governance effectiveness, and exposure to climate impacts.

- **Terrestrial ecosystems**, including lowland forests and forest–savanna mosaics, have experienced continued pressure from agricultural expansion, logging (legal and illegal), mining, infrastructure development, and fuelwood demand. While some protected areas retain relatively intact habitats, surrounding multi-use landscapes show progressive fragmentation and degradation. The situation is compounded by declining agricultural fallow periods, which reduce ecosystem recovery time and affect soil fertility and long-term productivity.
- **Freshwater ecosystems**, including rivers, wetlands, and floodplains, face growing pressures from sedimentation, pollution, sand mining, and catchment degradation, affecting water quality, fisheries productivity, and flood regulation. Mining in upstream areas is degrading

riverine and wetland systems, with significant impacts on fish productivity and floodplain agriculture.

- **Coastal and marine ecosystems**, notably mangroves, estuaries, and nearshore fisheries habitats, are under increasing stress from overfishing, habitat conversion, coastal erosion, pollution, and climate-related impacts such as sea-level rise. Coastal ecosystems receive the spoils of degradation in terrestrial areas through the country's natural drainage system and river network, which characterize its geography. In several coastal zones, sediment loads, industrial and domestic waste, and sectoral pollution are contributing to ecosystem degradation. This is having a distressing impact on fisheries productivity and the coastal economy.

Across all ecosystem types, localized conservation successes coexist with broader landscape- and seascape-level decline, underscoring the need for systemic, cross-sector responses rather than isolated site-based interventions.

Detailed supporting data, spatial analyses, and full species lists are provided in Annex B1, with ecosystem condition overlays further elaborated in Annex B2.

Figure 3: Illustration of national biodiversity trends dashboard



***Figure 3** synthesises available national, regional, and global evidence to present a directional overview of biodiversity trends across Sierra Leone's major ecosystem types. **Forest and grassland** ecosystems show an overall declining trend, reflecting continued land-use conversion, extractive pressures, fuelwood dependence, and landscape fragmentation despite localized protection and restoration efforts. **Freshwater and coastal** ecosystems are likewise assessed as declining, driven by overexploitation, sedimentation, pollution, infrastructure development, and increasing climate-related pressures, particularly coastal erosion and sea-level rise. **Wetlands**, including mangroves and inland wetlands, are assessed as relatively stable at the national level, though with localized losses in several regions. Some locations are partially offset by Ramsar site protection, community co-management, and targeted restoration initiatives. In contrast, **marine** ecosystems show an early improving*

trend from a historically degraded baseline, supported by recent investments in marine protected areas, fisheries co-management, and strengthened governance and enforcement. Together, these trends highlight both the urgency of addressing ongoing terrestrial and freshwater biodiversity loss and the potential for recovery where policy, management, and investment are effectively aligned.

4.2. Species and threatened biodiversity

Sierra Leone supports a wide range of species of national, regional, and global conservation importance, including endemic and threatened flora and fauna associated with the Upper Guinean Forest, the Sudan-Guinea Savanna, and coastal ecosystems. Table 2 summarizes biodiversity across well-known taxonomic groups, indicating that the country has a healthy diversity of flora and fauna.

Table 2: The number of species of various taxonomic groups categorized under the IUCN Red List (2025). SC – Species of Conservation Concern; NS – Number of species

Taxonomic group	CR	EN	VU	NT	DD	IUCN 2025	CITES Apdx I	CITES Apdx II	Total NS
Plants	2	9	38	10	1	60	0	2	~2000
Mammals	3	7	6	5	4	25	7	2	170
Birds	2	5	8	11	1	27	2	3	642
Reptiles	4	0	8	3	3	18	6	8	67
Amphibians	0	0	1	2	5	8	0	0	69
Fish	0	0	1	6	0	7	2	3	180
Butterflies	0	0	0	4	1	1	0	0	800
Total number	**11**	**21**	**62**	**41**	**15**	**146**	**15**	**18**	**1914**

However, declines in population and habitat loss, mainly due to anthropogenic factors, have been documented for several priority species groups. For example, the habitats of The Hooded Vulture *Necrosyertes monochas* (CR) are being degraded through tree cutting and pollution of its foraging ground, whilst the breeding colonies of the White-necked Rockfowl *Picathartes gymnocephalus* are declining in the Western Area National Park due to indiscriminate land grabbing and poor land management for housing and other purposes.

Key pressures on species include habitat conversion and fragmentation, overexploitation (including hunting and fishing), human–wildlife conflict, and weak enforcement of wildlife protection measures. Species dependent on intact forests, wetlands, and coastal habitats are particularly vulnerable.

While protected areas provide critical refugia, many species depend on habitats outside formally protected sites, highlighting the importance of connectivity, landscape-level planning, and community-based conservation approaches. At the Gola Rain Forest National Park, more *P gymnocephalus* colonies exist within community forests and the buffer zones than inside the boundaries of the park. This highlights the importance of connectivity, landscape-level planning, and community-based approaches in providing effective conservation for habitats and species.

Detailed supporting data, Red List assessments, and monitoring information, are provided in Annex B1

Table 3: Priority biodiversity elements at risk

Ecosystem or species group	Trend	Key pressures	Strategic relevance
Upper Guinean Forest ecosystems	Declining	Agricultural expansion, logging (legal and illegal), mining, fuelwood and charcoal production, infrastructure development	Core national biodiversity asset; critical carbon sink; supports endemic and threatened species; central to KM-GBF Targets 1, 2, 3, and 8
Forest-dependent threatened mammals (e.g. chimpanzees, pygmy hippopotamus)	Declining	Habitat loss and fragmentation, hunting, human–wildlife conflict	Flagship and globally significant species; high conservation value; strong leverage for international finance and transboundary cooperation
Grassland and savanna mosaics	Declining	Recurrent burning, overgrazing, agricultural conversion, weak tenure and management	Supports rural livelihoods and ecosystem connectivity; important for climate resilience and land-use planning
Inland freshwater ecosystems (rivers, streams, wetlands)	Declining	Overfishing, sedimentation from mining and agriculture, pollution, hydrological alteration	Essential for food security, drinking water, and inland fisheries; directly linked to poverty reduction and climate adaptation
Freshwater fish and aquatic species	Declining	Unsustainable fishing practices, habitat degradation, water pollution	Critical protein source and livelihood base; high socio-economic sensitivity
Coastal and estuarine ecosystems (including mangroves)	Declining	Coastal erosion, infrastructure development, mangrove clearing, climate change	Natural coastal protection; blue carbon potential; supports fisheries and coastal livelihoods
Marine ecosystems and fisheries resources	Improving (early recovery)	Historical overfishing, illegal fishing, weak enforcement (partially addressed)	Emerging opportunity for recovery through MPAs and co-management; supports blue economy objectives
Endemic and range-restricted species	Declining	Habitat loss, small population sizes, limited monitoring	High global responsibility; important for international reporting and biodiversity finance

Table 3: *Trends reflect national-level directional assessments based on a synthesis of spatial analyses, national studies, global datasets, and stakeholder consultations. They are intended to inform strategic prioritisation rather than serve as quantitative population estimates.*

4.3. Genetic diversity and agro-biodiversity

Genetic diversity, particularly within agricultural and fisheries systems, is often under-recognised as a component of biodiversity in Sierra Leone. Traditional crop varieties, estimated at approximately 70 species, with about 16 widely cultivated, constitute key sources of food in the country, together with livestock breeds and locally adapted fish stocks, which contribute to food security, climate resilience, and cultural heritage.

However, genetic diversity is increasingly threatened by:

- the replacement of local varieties with a narrow range of improved or imported strains;
- establishment of large-scale monocultures such as oil palm plantations and exotic species plantations in forestry;
- habitat degradation affecting wild relatives of crops and aquatic species; and
- limited documentation, conservation, and utilisation of genetic resources.

Strengthening the conservation and sustainable use of genetic diversity is essential for resilient food systems and aligns with national priorities related to agriculture, nutrition, and climate adaptation.

4.4. Direct drivers of biodiversity loss

The primary direct drivers of biodiversity loss in Sierra Leone include:

- **Land-use change**, driven by agricultural expansion, mining, infrastructure development, and settlement growth;
- **Overexploitation of biological resources**, including timber, wildlife, and fisheries;
- **Pollution**, particularly from agrochemicals, mining activities, solid waste, and untreated effluents;
- **Invasive alien species**, which affect ecosystems, agriculture, and fisheries, though data remain limited; and
- **Climate change**, which exacerbates existing pressures by altering rainfall patterns, increasing flooding and drought, and affecting coastal areas.

These drivers often operate simultaneously and cumulatively, amplifying their overall impact on ecosystems and species. Spatial patterns of these drivers are analysed in Annex B2.

4.5. Indirect drivers and systemic constraints

Underlying and indirect drivers play a critical role in shaping biodiversity outcomes. These include:

- Governance and institutional weaknesses, such as fragmented mandates, limited coordination, and enforcement challenges;

- Tenure insecurity and unclear resource rights, reducing incentives for sustainable management;
- Economic and market incentives that favour short-term extraction over long-term sustainability;
- Capacity constraints, including limited human, technical, and financial resources for biodiversity management; and
- Data and information gaps, constraining evidence-based decision-making and adaptive management.

The interaction between indirect and direct drivers creates reinforcing feedback loops that accelerate biodiversity loss if not addressed through integrated policy and institutional reforms.

Detailed supporting data and full species lists are provided in Annex B1. Institutional and governance dimensions of these indirect drivers are further analysed in Annex B3.

Figure 4: Illustration of Interaction between indirect and direct drivers of biodiversity loss

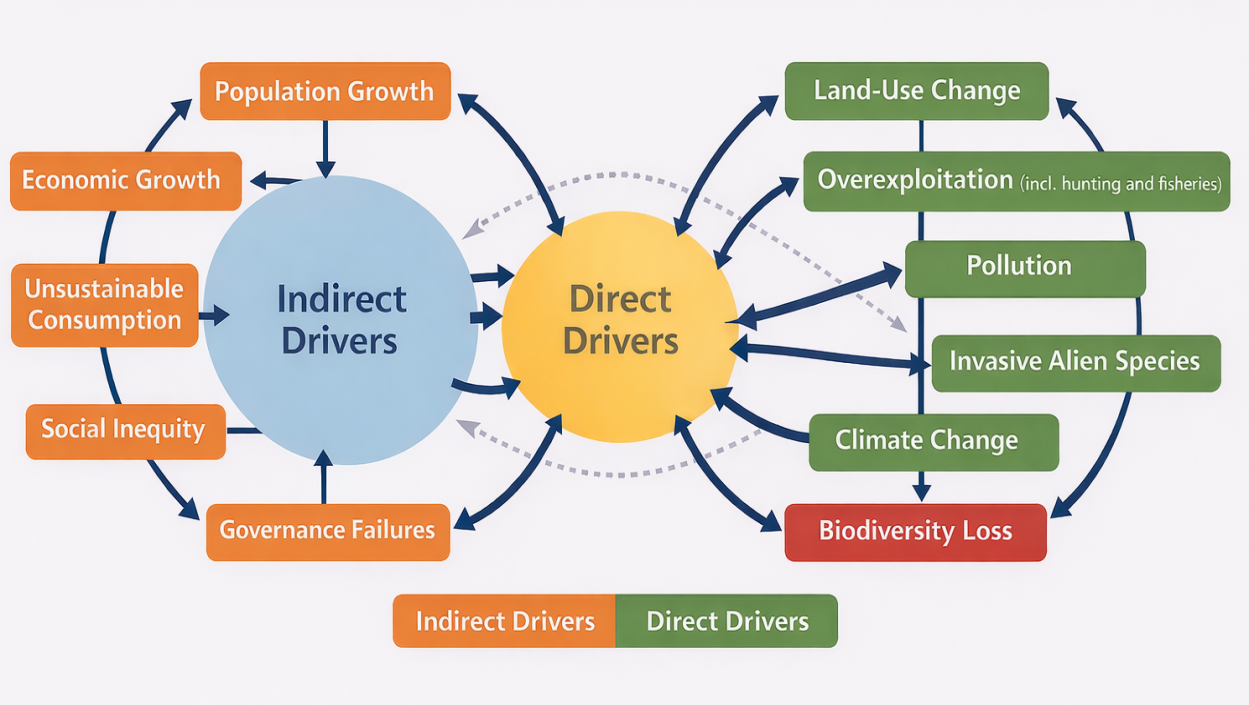


***Figure 4** illustrates how indirect (underlying) drivers—such as population growth, economic development pathways, unsustainable consumption patterns, social inequality, and governance failures—create the conditions that give rise to direct drivers of biodiversity loss. These direct drivers, including land-use change, overexploitation, pollution, invasive alien species, and climate change, act immediately on ecosystems and species, accelerating habitat degradation and biodiversity decline. The figure highlights the reinforcing feedback between indirect and direct drivers, underscoring the need for the NBSAP to address not only site-level pressures but also broader socio-economic and governance factors that shape biodiversity outcomes, consistent with the Kunming–Montreal Global Biodiversity Framework.*

4.6. Knowledge gaps and research priorities

Despite the availability of valuable data and analyses, significant knowledge gaps remain. These include incomplete species inventories, limited long-term monitoring data, insufficient socio-economic and gender-disaggregated information, and gaps in spatial and genetic data.

Addressing these gaps will be critical for effective implementation, monitoring, and adaptive management of the NBSAP. The strategy therefore emphasises learning-by-doing, strengthened monitoring systems, and partnerships with academic and research institutions.

Implications for the NBSAP (Summary Box)

- Biodiversity loss in Sierra Leone is driven by cumulative and interacting pressures, requiring integrated, cross-sector responses rather than isolated actions.
- Conservation efforts must extend beyond protected areas to other effective area-based conservation measures, including production landscapes and seascapes, with a strong focus on connectivity and sustainable use.
- Addressing indirect drivers—governance, incentives, tenure, and capacity—is as important as managing direct pressures.
- Genetic diversity and agro-biodiversity should be explicitly incorporated into biodiversity, agriculture, and climate strategies.
- Strengthened monitoring and knowledge systems are essential for adaptive, KM-GBF-aligned implementation.

Priority research areas are summarised in Annex B1 and reflected in the Monitoring Framework (Annex D3).

4.7. Key biodiversity risks, socio-economic implications, and strategic implications for the NBSAP

This section synthesises the biodiversity status and trends presented above to identify priority risks and opportunities, clarify their socio-economic implications, and explain how these considerations directly informed the selection of national targets and Strategic Programmes under the NBSAP.

Priority ecosystems and species at risk
The analysis highlights several ecosystems and species groups facing heightened risk due to cumulative pressures from land-use change, over-exploitation, pollution, invasive alien species, and climate variability. These include:

- **Terrestrial forest ecosystems**, particularly remaining Upper Guinean forests, riparian forests, and forest–agriculture mosaics, which are critical for endemic species, carbon storage, and watershed protection;

- **Coastal and marine ecosystems**, including mangroves, estuaries, and nearshore fisheries habitats, which are under increasing pressure from overfishing, pollution, and coastal development;

- **Inland freshwater ecosystems and wetlands**, which support fisheries, agriculture, and water regulation but are vulnerable to degradation and altered hydrological regimes, and

- **Threatened and economically important species**, including forest-dependent species, aquatic species central to fisheries livelihoods, and species of cultural significance.

Detailed ecosystem- and species-level analyses, spatial prioritisation, and supporting datasets are provided in Annex B1 (Biodiversity Status in Sierra Leone) and Annex B2 (Spatial Analysis and Priority Biodiversity Areas).

Economic and social implications of biodiversity loss

Biodiversity loss in these priority ecosystems poses significant risks to national development objectives and human well-being. In particular:

- **Fisheries productivity and food security** are closely linked to the health of coastal, marine, and inland aquatic ecosystems; continued degradation threatens protein availability and household incomes, especially in coastal and riverine communities;

- **Livelihood resilience** in rural and forest-adjacent areas depends on ecosystem services such as non-timber forest products, soil fertility, and water regulation;

- **Disaster risk reduction and climate resilience** are increasingly reliant on intact ecosystems, including mangroves for coastal protection and forests and wetlands for flood regulation; and

- **Urban and peri-urban populations** face growing risks associated with ecosystem degradation, including flooding, mudslides, heat stress, and reduced water quality.

While detailed economic valuation is presented in sectoral and finance analyses, these linkages demonstrate that biodiversity loss is not only an environmental concern but also a material risk to food systems, livelihoods, public health, and climate adaptation efforts.

Strategic implications for national targets and interventions

The risks and opportunities identified above directly informed the prioritisation of national biodiversity targets and the design of Strategic Programmes under this NBSAP. In particular:

- The identification of priority ecosystems and species at risk underpins targets related to protected and conserved areas, restoration, connectivity, and species recovery;

- The links between biodiversity, livelihoods, and food security informed targets addressing sustainable production, fisheries, agriculture, and wild species use;

- Pollution, invasive alien species, and climate-related pressures informed targets on pollution reduction, ecosystem-based climate adaptation, and ecosystem services; and

- Governance, participation, and financing risks informed targets addressing inclusive governance, capacity development, resource mobilisation, and accountability.

These linkages ensure that the NBSAP moves beyond descriptive analysis toward a risk- and opportunity-based strategy, consistent with CBD guidance and recognized international practice. The resulting targets and interventions are presented in Part III (National Targets) and operationalised through the Strategic Programmes and Action Plan in Part IV, with detailed implementation, financing, and monitoring arrangements set out in the annexes.

5. SPATIAL ANALYSIS AND BIODIVERSITY-INCLUSIVE PLANNING

5.1. Purpose and decision questions for spatial analysis

Spatial analysis plays a central role in translating biodiversity priorities into practical land- and sea-use decisions in Sierra Leone's planning and investment processes. Rather than serving as a purely technical exercise, spatial analysis under this NBSAP is applied as a decision-support tool to guide land- and sea-use planning, conservation prioritization, restoration investment, and infrastructure development, in line with KM-GBF Targets 1 and 3. This spatial component is specifically designed to answer targeted policy and planning questions, including:

- Where are Sierra Leone's most important biodiversity areas located, and how are they distributed across the country?

- Where do biodiversity values intersect with current and emerging development pressures?

- Which landscapes and seascapes should be prioritised for early action during 2026–2030?

- How can spatial information better inform EIA/SEA processes, sector planning, and investment decisions?

The spatial analysis underpinning this NBSAP therefore focuses on prioritisation, risk management, and decision support, rather than exhaustive inventory mapping.

5.2. Data sources, standards, and limitations

The spatial analysis draws on a combination of national datasets, global biodiversity information, and project-generated analyses. Key data inputs include protected and conserved areas, Key Biodiversity Areas (KBAs), ecosystem distribution, land use and land cover, infrastructure and extractive activities, and environmental risk layers.

While efforts were made to ensure consistency and quality, data gaps and limitations remain, including uneven spatial coverage, varying update cycles, and limited resolution for certain biodiversity components. These limitations are explicitly acknowledged, and the NBSAP adopts a precautionary and adaptive approach, recognising that spatial data will continue to improve during implementation.

Detailed metadata, methodologies, and data sources are provided in Annex B2 (Spatial Analysis and Priority Biodiversity Areas), including the accompanying Spatial Atlas.

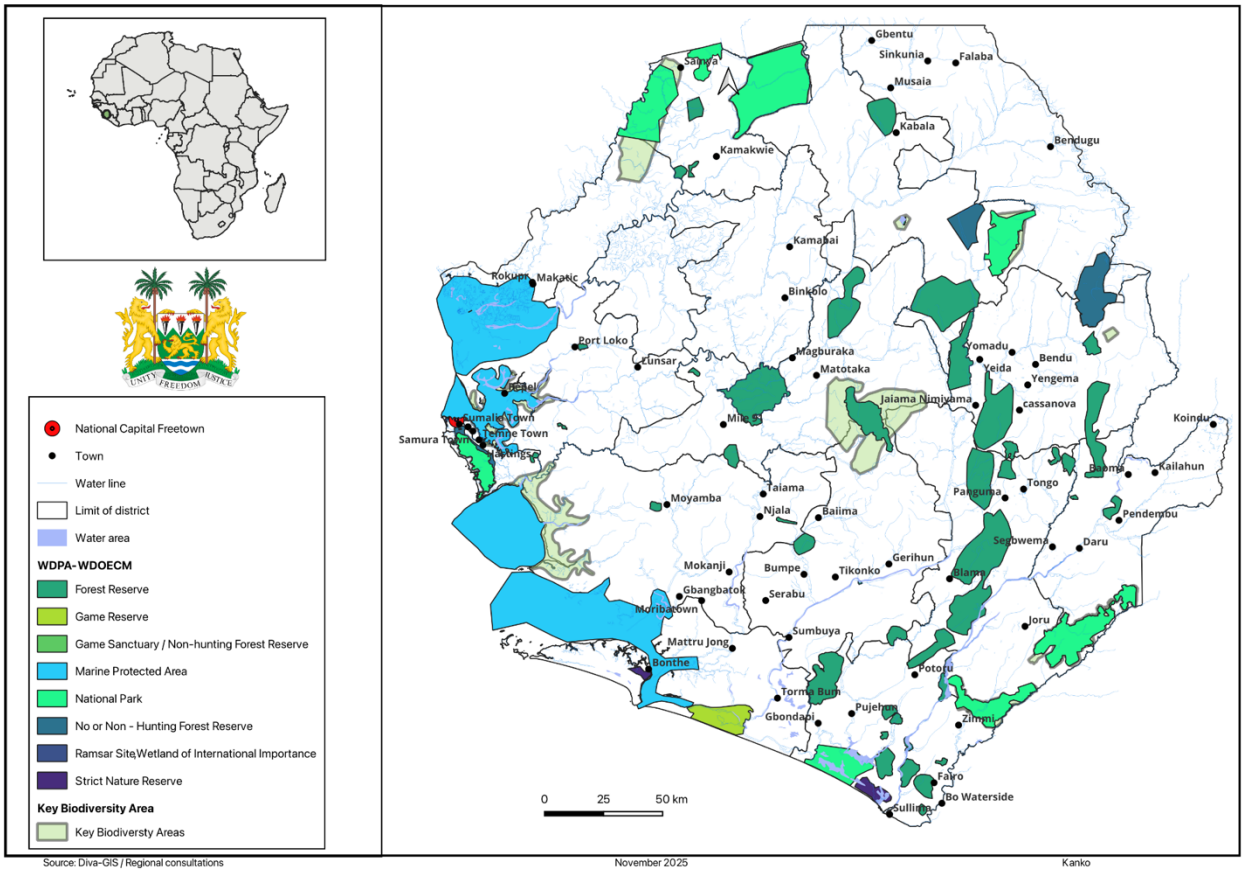
5.3. National biodiversity importance overlays

The spatial analysis identifies areas of high biodiversity importance, including protected areas, proposed or potential Other Effective Area-Based Conservation Measures (OECMs), KBAs, and critical habitats supporting threatened species and ecosystem services.

These areas represent the backbone of Sierra Leone's biodiversity conservation network. However, many of them occur within or adjacent to multi-use landscapes and seascapes**,** where conservation outcomes depend on broader land-use governance, community engagement, and sectoral coordination.

These overlays provide the spatial foundation for national Target 3 implementation and guide decisions on protection, restoration, and expanded connectivity.

Figure 5: Map of Protected Areas, OECMs, and Key Biodiversity Areas *(National biodiversity importance overlay)*



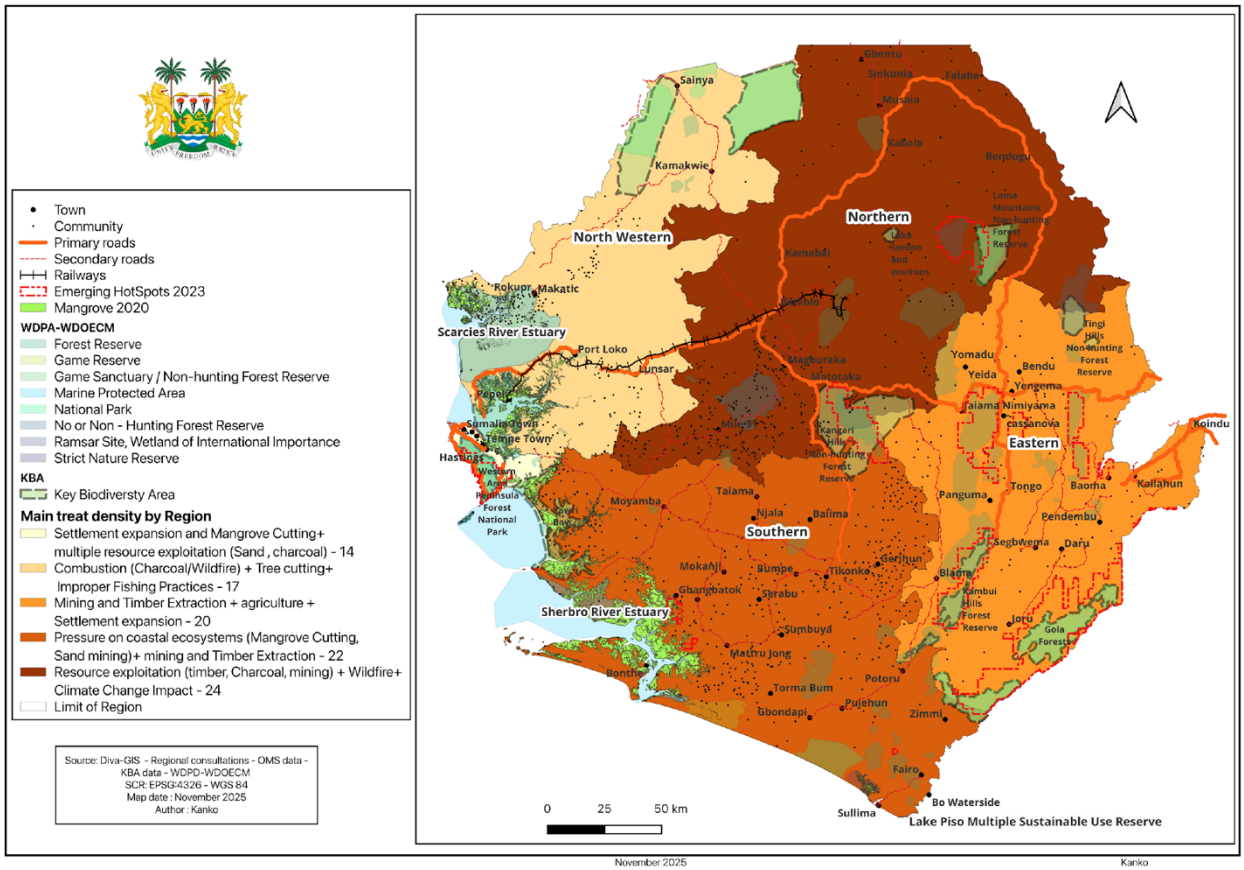
(Source: National WDPA/WDOECM and KBA datasets; see Annex B2)

5.4. Pressure and risk overlays

To support proactive planning, biodiversity importance layers were overlaid with key pressure and risk indicators, including agricultural expansion, mining and quarrying, infrastructure development, coastal erosion, and pollution risk.

This analysis highlights areas where biodiversity is most exposed to current and emerging pressures, as well as locations where uncoordinated development could result in significant and potentially irreversible impacts. In several cases, high biodiversity value coincides with zones of rapid economic activity, underscoring the need for strengthened safeguards, spatial planning, and mitigation measures.

Figure 6: Map of biodiversity importance and pressure-risk overlay
(Overlay of biodiversity importance areas with mining, agriculture, infrastructure, and coastal risk layers; see Annex B2)



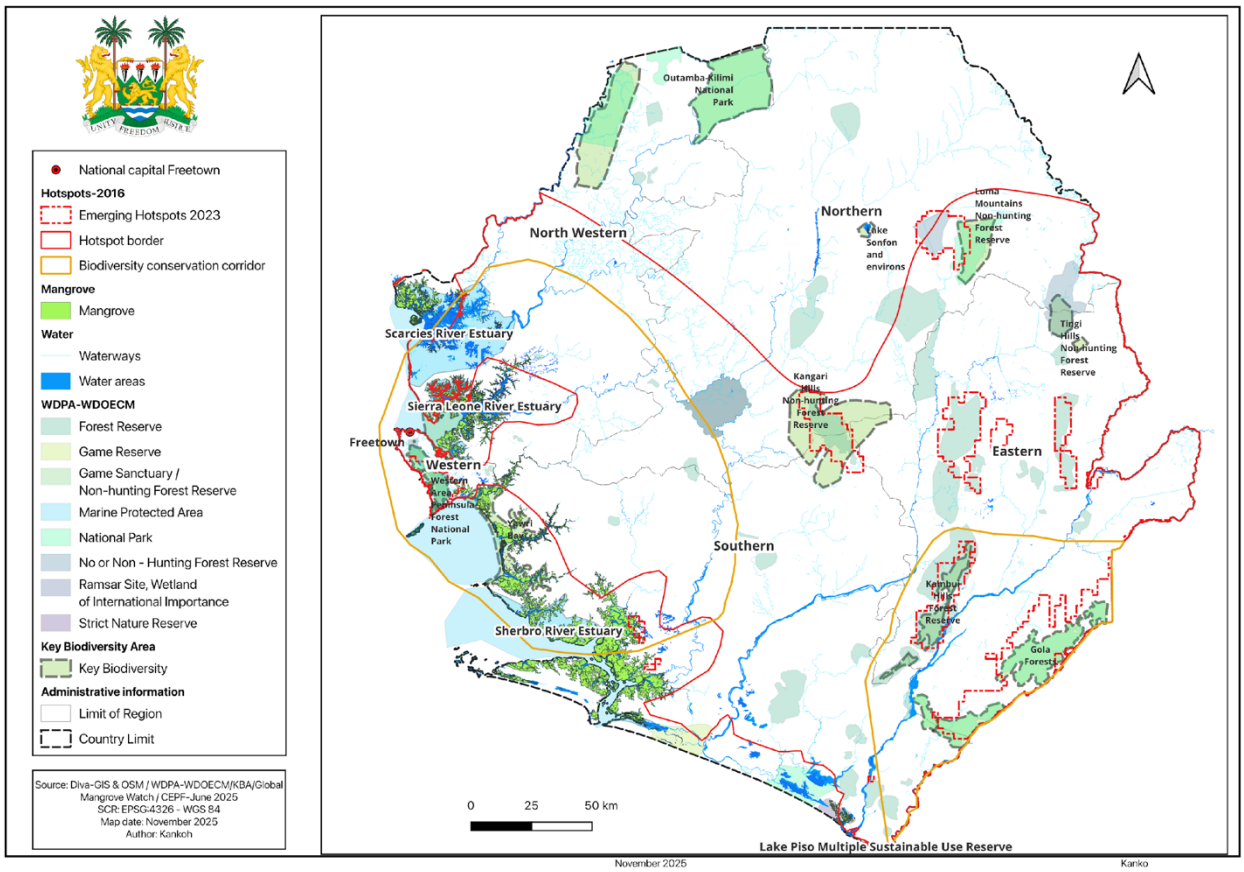
5.5. Connectivity and ecological infrastructure

Ecological connectivity is essential for maintaining ecosystem function, species movement, genetic exchange, and resilience to climate change. The spatial analysis identifies key **corridors,** watersheds, mangrove systems, and coastal features that contribute to national ecological infrastructure.

Protecting and restoring connectivity across landscapes and seascapes enhances the effectiveness of protected areas, supports wildlife movement and climate adaptation, and sustains ecosystem services critical for livelihoods and development. These considerations are particularly relevant for forest–agriculture mosaics, river basins, and coastal zones.

Figure 7: Ecological connectivity, corridors, and ecological infrastructure elements

(Including mangrove systems, forest corridors, river basins, and coastal features; see Annex B2)



5.6. Priority geographies for 2026–2030 implementation

Based on the integration of biodiversity importance, pressure, vulnerability, and feasibility considerations, the spatial analysis identifies a set of priority geographies for focused implementation during the first phase of the NBSAP (2026–2030).

These priority areas are not intended to exclude action elsewhere, but rather to concentrate early investments, institutional effort, and partnership development where they are likely to deliver the greatest biodiversity and development returns.

Table 4: Priority geographies and strategic rationale

Geography	Biodiversity value	Key pressures	Strategic response
Upper Guinean Forest Belt (Eastern & Southern Regions)	High species richness and endemism; critical habitat for globally threatened mammals and birds; major carbon stocks	Agricultural expansion, logging, mining, infrastructure development, habitat fragmentation	Strengthen protected area networks and corridors; promote landscape-scale land-use planning; scale up community forestry, restoration, and sustainable value chains
Western Area Peninsula & Freetown Catchment	Watershed protection, endemic species, coastal–forest interface; critical ecosystem services for urban population	Rapid urbanisation, deforestation, encroachment, pollution, landslides	Enforce land-use zoning and watershed protection; restore degraded slopes; integrate biodiversity safeguards into urban and infrastructure planning
Northern Savanna and Transition Zones	Ecological connectivity between forest and savanna systems; supports agro-pastoral livelihoods	Recurrent bushfires, agricultural expansion, overgrazing, weak land tenure	Promote climate-smart land management; fire management strategies; strengthen tenure security and integrated landscape governance
Major River Basins (e.g. Rokel, Sewa, Moa)	Inland fisheries, freshwater biodiversity, water supply for agriculture and settlements	Overfishing, sedimentation from mining and agriculture, pollution	Integrated river basin management; fisheries co-management; strengthened regulation of extractive activities
Coastal and Estuarine Zones (including mangroves)	Mangrove forests, nursery grounds for fisheries, blue carbon, coastal protection	Coastal erosion, mangrove clearing, infrastructure development, climate change	Mangrove protection and restoration; climate-resilient coastal planning; community-based co-management
Marine Areas and Nearshore Waters	Fisheries productivity, marine biodiversity, emerging MPAs	Historical overfishing, illegal fishing, weak enforcement (improving)	Expand and effectively manage MPAs; strengthen fisheries governance and monitoring; align with blue economy strategies
Transboundary Landscapes (Guinea & Liberia borders)	Shared ecosystems and migratory species; regional ecological connectivity	Cross-border land-use change, weak coordination, illicit activities	Strengthen transboundary cooperation; harmonise management approaches; leverage regional initiatives and financing

Note: *Priority geographies reflect areas of high biodiversity value, ecosystem service importance, and vulnerability to current and emerging pressures. Strategic responses align with the NBSAP's objectives for spatial planning, conservation, restoration, and sustainable use.*

Detailed spatial justification and boundary delineations for these priority geographies are provided in Annex B2.

5.7. Spatial data governance and update protocol

Effective use of spatial information depends on clear data governance arrangements, including custodianship, quality assurance, access, and update mechanisms. The NBSAP therefore emphasises the establishment and strengthening of institutional responsibilities for spatial biodiversity data, linked to national information systems and the CBD Clearing-House Mechanism. EPA-SL will serve as the national coordinating entity for biodiversity spatial data governance, in collaboration with sector ministries and research institutions.

An update protocol is proposed to ensure that spatial data used for planning, monitoring, and reporting remain current and fit for purpose throughout the NBSAP implementation period. This supports adaptive management and continuous improvement in decision-making.

5.8. Strategic use of spatial analysis for planning, protection, and restoration

Spatial analyses conducted for the NBSAP are intended to directly inform strategic decision-making at national and sub-national levels, rather than serving solely as technical assessments. These analyses support the prioritisation, sequencing, and spatial targeting of biodiversity actions in line with national development objectives and the Kunming–Montreal Global Biodiversity Framework.

National criteria for protected areas and OECMs

Spatial prioritisation under the NBSAP applies nationally defined criteria to guide the expansion, rationalisation, and effective management of protected areas and other effective area-based conservation measures (OECMs). These criteria include:

- biodiversity importance and ecosystem representation;
- presence of threatened or endemic species;
- ecosystem services and climate resilience value;
- connectivity and landscape integrity; and
- socio-economic context and feasibility.

These criteria are applied transparently and evidence-based, consistent with national legislation and CBD guidance.

These criteria underpin decisions related to protected area expansion and OECM recognition, as reflected in national targets and Programme 2 (Protected, conserved, and connected ecosystems and species recovery). Detailed spatial layers and candidate areas are presented in Annex B2 (Spatial Analysis and Priority Biodiversity Areas).

Priority corridors and restoration opportunity areas

Spatial analyses also identify priority ecological corridors and restoration opportunity areas to enhance landscape connectivity, ecosystem resilience, and service delivery. These areas are particularly relevant in:

- forest–agriculture mosaics;
- degraded watersheds and wetlands; and
- coastal and mangrove systems critical for disaster risk reduction.

The identification of these corridors and restoration priorities directly informs targets and actions related to restoration, connectivity, and ecosystem-based climate adaptation, and is operationalised through Programmes 1, 2, and 4. Detailed maps and spatial prioritisation outputs are provided in Annex B2.

Integration into national and sub-national planning systems

The NBSAP assigns clear institutional responsibility for ensuring that spatial biodiversity priorities inform planning and investment decisions. The Environmental Protection Agency of Sierra Leone (EPA-SL) will coordinate the integration of biodiversity spatial outputs into:

- national land-use and development planning processes;
- environmental impact assessment and strategic environmental assessment systems; and
- sub-national planning and zoning instruments implemented by local councils.

Spatial biodiversity layers will be formally incorporated into screening and scoping stages of EIA and SEA processes.

Textbox 5.1: Spatial Implications for the NBSAP

- Prioritisation is essential to target limited resources where biodiversity risks and opportunities are greatest.
- Biodiversity conservation outcomes depend on landscape- and seascape-level governance, not only protected areas.
- Early action should focus on priority geographies where high biodiversity value, development pressure, and feasibility intersect.
- Strengthened spatial data governance will enhance the effectiveness of EIA/SEA, sector planning, and accountability.

This integration will be undertaken in collaboration with relevant sector ministries and planning authorities, ensuring that spatial biodiversity priorities guide decisions on infrastructure development, extractive activities, agricultural expansion, and urban growth. Implementation arrangements are further detailed in Part V (Implementation, Financing, Monitoring, and Reporting).

6. POLICY, LEGAL, AND REGULATORY FRAMEWORK

6.1. Overview of the policy and legal landscape

Sierra Leone has established a broad set of policies, laws, and regulations relevant to biodiversity conservation, environmental management, and natural resource governance. These instruments provide an essential foundation for implementing the Convention on Biological Diversity and related international commitments.

However, while the existence of policy and legal frameworks is not a primary constraint, opportunities remain to strengthen coherence, enforcement, and operationalisation across institutions and sectors. Biodiversity considerations are often addressed in sectoral policies, but integration into planning, permitting, and investment decision-making is inconsistent.

The updated NBSAP therefore focuses not on creating additional policies, but on strengthening alignment, implementation, and compliance across the existing framework.

6.2. Core environmental and biodiversity laws and regulations

Core environmental and biodiversity-related legislation establishes mandates for environmental protection, wildlife management, protected areas, and impact assessment. These instruments provide the legal basis for biodiversity conservation, regulation of resource use, and enforcement action.

Strengths include:

- formal recognition of environmental protection and conservation objectives;
- establishment of institutional mandates for oversight and regulation; and
- provision for environmental impact assessment and compliance mechanisms.

Key challenges include:

- outdated provisions that do not fully reflect KM-GBF ambitions or emerging issues;
- limited subsidiary regulations and operational guidelines; and
- enforcement capacity constraints and limited deterrence for non-compliance in some areas.

Detailed legal matrices, institutional mandates, and reform gaps are provided in Annex B3 (Policy, Legal, and Institutional Review)

6.3. Sectoral policy coherence (agriculture, fisheries, forestry, mining, infrastructure, land/water, urban)

Policies and investments heavily influence biodiversity outcomes in sectors such as agriculture, fisheries, forestry, mining, infrastructure, energy, water, and urban development. While many sector policies acknowledge environmental sustainability, practical mechanisms for biodiversity mainstreaming are limited**.**

In several cases, sector objectives may prioritise short-term economic gains without adequately accounting for biodiversity risks, cumulative impacts, or long-term loss of ecosystem services. This results in trade-offs that are not always transparent or managed effectively.

Table 5: Snapshot of sectoral policy coherence

Sector	Biodiversity relevance	Strengths	Gaps	Implications for NBSAP
Environment & Natural Resources	Core mandate for biodiversity conservation, protected areas, and ecosystem management	Existing environmental legislation; NBSAP framework; EIA/SEA provisions; growing technical capacity	Limited enforcement; fragmented mandates; financing constraints	Strengthen coordination mechanisms; improve enforcement capacity; integrate biodiversity finance and monitoring systems
Agriculture	Major driver of land-use change; critical for agrobiodiversity and livelihoods	Recognition of climate-smart agriculture; extension systems in place; policy openness to sustainability	Weak integration of biodiversity safeguards; limited incentives for nature-positive practices	Mainstream agrobiodiversity and ecosystem-based approaches; align incentives and extension services with NBSAP targets
Forestry	Central to forest biodiversity, carbon stocks, and ecosystem services	Community forestry framework; forest policy reforms; restoration initiatives	Illegal logging; weak compliance; limited benefit-sharing	Strengthen forest governance; scale up community-based management and restoration aligned with KM-GBF Targets 2 and 3
Fisheries & Blue Economy	Marine and inland biodiversity; food security and employment	Fisheries co-management pilots; emerging MPAs; policy momentum on blue economy	Overfishing; IUU fishing; limited monitoring and data	Expand co-management and MPAs; strengthen enforcement and data systems; align fisheries recovery with biodiversity goals
Mining & Extractives	High impact on forests, freshwater, and landscapes	Environmental permitting requirements; growing awareness of safeguards	Weak enforcement; artisanal mining impacts; poor rehabilitation	Strengthen safeguards, restoration obligations, and spatial planning; integrate biodiversity offsets where appropriate
Energy & Infrastructure	Influences habitat fragmentation and ecosystem integrity	National infrastructure planning	Limited biodiversity-sensitive planning;	Integrate biodiversity into infrastructure siting and design; apply

		frameworks; EIA requirements	cumulative impacts poorly addressed	mitigation hierarchy and spatial planning tools
Land Tenure & Local Governance	Determines access, stewardship, and conservation incentives	Customary tenure recognition; decentralised governance structures	Insecure tenure; weak dispute resolution; limited IPLC inclusion	Strengthen tenure security and participatory governance as enablers for biodiversity outcomes
Tourism & Cultural Heritage	Nature-based tourism potential; incentive for conservation	Rich natural and cultural assets; growing eco-tourism interest	Limited investment; weak standards; uneven benefit sharing	Promote biodiversity-friendly tourism models; strengthen standards and community benefits
Finance & Planning	Determines allocation of public and private investment	National development planning frameworks; emerging interest in green finance	Limited biodiversity tagging and tracking; weak alignment with NBSAP	Integrate biodiversity into budgeting, investment screening, and finance strategies

Note on Table 5: The assessment highlights areas of partial alignment and gaps across key sectors, underscoring the need for targeted mainstreaming, policy harmonisation, and institutional coordination to enable effective NBSAP implementation.

6.4. Environmental impact assessment, SEA, and compliance

Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) are key regulatory tools for managing biodiversity risks from development. While EIA processes are established and legally grounded, their effectiveness depends on the quality of data integration, compliance monitoring, and inter-agency coordination.

Areas for strengthening include:

- limited integration of spatial biodiversity data into screening and scoping;
- inconsistent quality of EIA studies;
- capacity constraints in post-approval monitoring and enforcement of approval conditions; and
- limited application of SEA for policies, plans, and programmes.

Strengthening EIA/SEA effectiveness is therefore a critical leverage point for achieving biodiversity-positive development outcomes.

Recent efforts to strengthen environmental governance, improve technical review capacity, and enhance transparency provide a foundation for progressively improving the effectiveness of EIA and SEA during the NBSAP implementation period.

Figure 8: Illustration of Sierra Leone's EIA/SEA Process and Strengthening Pathways for Biodiversity Integration

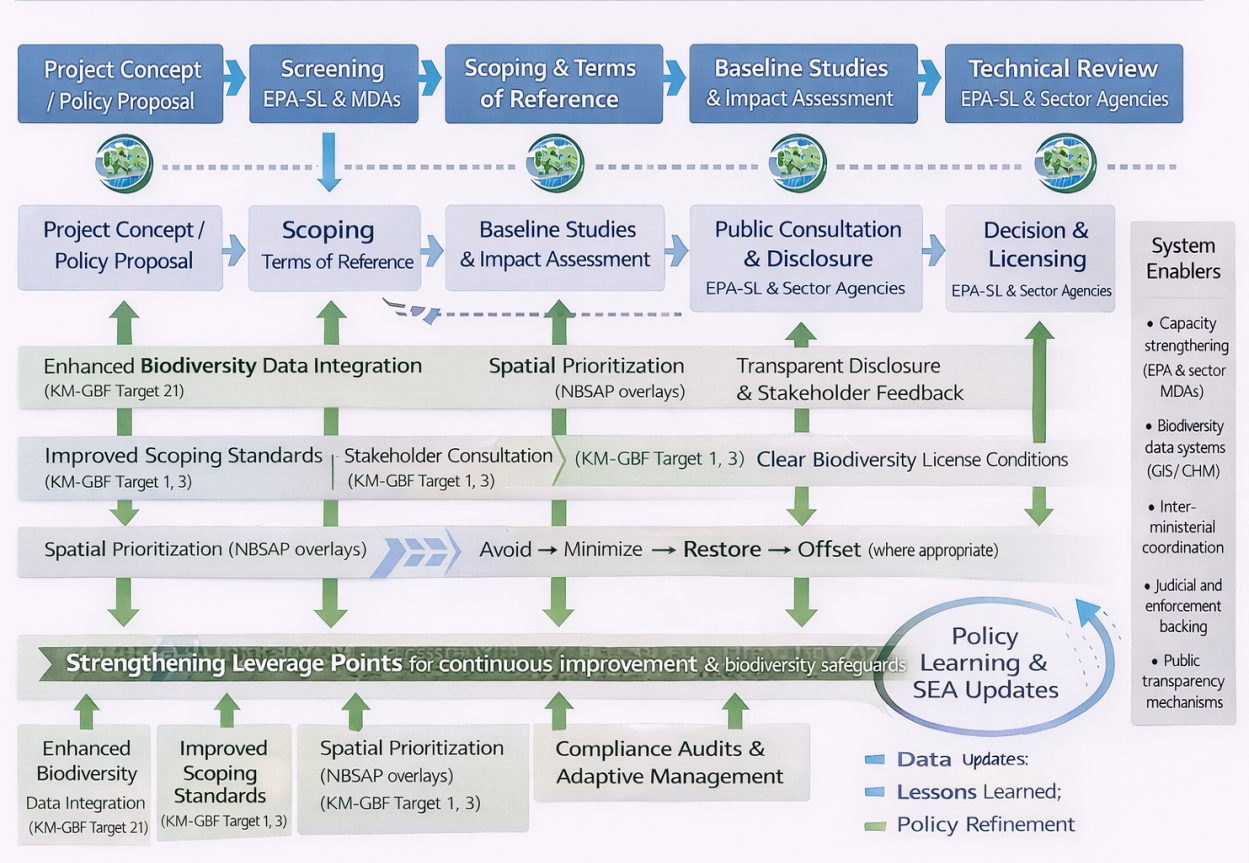


***Figure 8** illustrates Sierra Leone's formal EIA/SEA process and identifies priority leverage points where strengthened biodiversity integration — including improved spatial data, clearer scoping standards, enhanced transparency, and systematic post-approval monitoring — can enhance regulatory performance and conservation outcomes. The emphasis is on continuous system strengthening in line with the Kunming-Montreal Global Biodiversity Framework and national development priorities.*

6.5. ABS/DSI and biosafety readiness

Access and Benefit-Sharing (ABS), Digital Sequence Information (DSI), and biosafety frameworks are emerging priorities under the CBD and the KM-GBF. Sierra Leone has taken initial steps toward addressing these areas, but institutional readiness and operational capacity are still evolving.

Key gaps include:

- limited awareness and technical capacity on ABS and DSI among institutions and stakeholders;
- absence or limited operationalisation of procedures and benefit-sharing mechanisms; and
- weak coordination between biodiversity, research, agriculture, and trade institutions.

Addressing these gaps presents both a compliance requirement and an opportunity to generate equitable benefits from the sustainable use of genetic resources.

6.6. Enforcement, compliance, judiciary, and deterrence

Enforcement and compliance remain priority areas for strengthening within the biodiversity policy framework. Weak enforcement capacity, limited inter-agency coordination, and low deterrence undermine the effectiveness of otherwise adequate legal provisions.

Challenges include:

- insufficient staffing, equipment, and financing for enforcement agencies;
- overlapping mandates and unclear lines of authority;
- limited prosecution and follow-through; and
- weak incentives for compliance by private actors.

Improving enforcement effectiveness requires not only legal reform but also institutional strengthening, coordination mechanisms, and incentive structures that promote compliance.

6.7. Policy reform priorities and sequencing (2026–2030)

Based on the policy and institutional review, priority reforms for the early phase of the NBSAP (2026–2030) include:

- strengthening policy coherence and biodiversity mainstreaming across priority sectors;
- developing, updating, and operationalising regulations and guidelines linked to core biodiversity laws;
- enhancing EIA/SEA effectiveness through improved data integration, standards, and enforcement;
- advancing readiness on ABS, DSI, and biosafety; and
- reinforcing enforcement, compliance, and deterrence mechanisms.

These reforms are sequenced to support early implementation gains, build institutional credibility, and create enabling conditions for longer-term biodiversity outcomes. Sequencing will align with available institutional capacity and financing, as outlined in Part V

6.8. Priority legal and institutional reforms for NBSAP implementation

The policy and legal framework governing biodiversity in Sierra Leone contains several enabling provisions that support implementation of the Kunming–Montreal Global Biodiversity Framework, alongside a limited number of priority gaps and inconsistencies that must be addressed to enable effective delivery of the NBSAP.

This section prioritises legal and institutional reforms essential to GBF delivery, drawing on the comprehensive review presented in Annex B3 (Policy, Legal, and Institutional Review).

Enabling provisions

Several existing policies and laws provide a strong foundation for biodiversity conservation and sustainable use, including provisions related to environmental management, protected areas, environmental impact assessment, and community participation. These instruments will be leveraged

and operationalised, rather than replaced, through strengthened regulations, guidelines, and enforcement mechanisms.

Critical legal and institutional gaps

Analysis identifies a limited number of priority gaps that constrain effective implementation of national biodiversity targets. These include:

- insufficient legal clarity for the recognition and governance of other effective area-based conservation measures (OECMs);
- limited regulatory detail to operationalise spatial planning and biodiversity safeguards across sectors;
- gaps in enforcement mechanisms and inter-agency coordination; and
- insufficient legal instruments to support access and benefit-sharing (ABS), monitoring, and compliance.

Addressing these gaps is essential for the effective implementation of the Strategic Programmes and national targets under this NBSAP.

Legal reform pathways and responsibilities

To ensure actionability, priority reforms are framed as a legal reform roadmap, specifying the appropriate type of legal instrument and institutional responsibility:

- Amendments to existing legislation will be pursued where statutory authority is required to recognise OECMs, strengthen biodiversity safeguards, or align sectoral mandates with national biodiversity targets;
- Regulations will be developed or updated to operationalise protected area management, spatial planning integration, pollution control, and enforcement mechanisms;
- Guidelines and administrative instruments will be used to support implementation, including for biodiversity mainstreaming, spatial decision-making, and monitoring and reporting.

The Environmental Protection Agency of Sierra Leone (EPA-SL) will coordinate the identification, drafting, and sequencing of these reforms, working in close collaboration with relevant sector ministries, the justice sector, and planning authorities. Enforcement responsibilities will remain with mandated institutions, supported by strengthened coordination mechanisms as outlined in Part V (Implementation, Financing, Monitoring, and Reporting).

A detailed matrix of priority legal reforms, instruments, and institutional responsibilities is provided in Annex B3, with implementation roles further clarified in Annex E3 (Institutional Roles and Responsibilities Matrix).

Textbox 6.1: Implications of policy, law and regulatory framework for the NBSAP

- Sierra Leone's challenge is not policy absence, but effective implementation, coherence, and enforcement.
- Biodiversity mainstreaming in sector policies and investments is a critical leverage point for impact.
- Strengthening EIA/SEA systems offers immediate opportunities to manage cumulative and irreversible risks.
- ABS, DSI, and biosafety readiness should be treated as strategic investments, not compliance burdens.
- Early policy and regulatory reforms are essential to enable the delivery of the 2026–2030 action programme.

7. INSTITUTIONS, GOVERNANCE, AND CAPACITY

7.1. Institutional landscape and mandates

Biodiversity governance in Sierra Leone involves a wide range of institutions operating at national, sub-national, and community levels. Core responsibilities for environmental regulation and coordination rest with the Environmental Protection Agency of Sierra Leone (EPA-SL), while sector ministries and agencies hold mandates that directly influence biodiversity outcomes through land use, resource management, infrastructure development, and service delivery.

Local councils and customary institutions play a critical role in land and resource governance, particularly in rural areas where customary tenure systems and community-based management arrangements shape access to and use of biodiversity. Civil society organisations, academic institutions, and the private sector also contribute to biodiversity conservation, knowledge generation, and implementation.

While mandates are broadly defined, overlaps and gaps in roles and responsibilities, combined with coordination constraints, can reduce overall system effectiveness if not proactively addressed.

A detailed institutional mapping and mandate analysis is provided in Annex B3 and Annex E3.

Figure 9: illustrating EPA–Sierra Leone's coordinating role within a broader whole-of-government and whole-of-society governance framework.

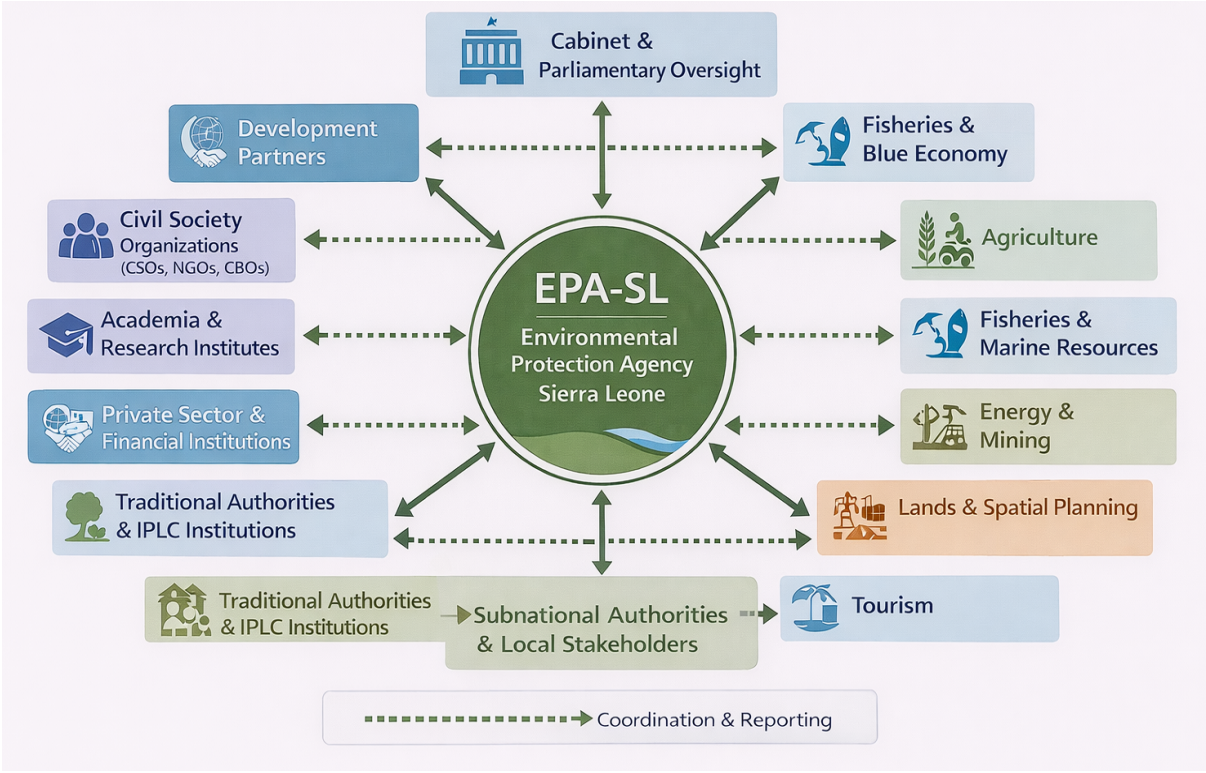


***Figure 9** illustrates the institutional landscape for biodiversity governance in Sierra Leone, illustrating EPA–Sierra Leone's role as the national coordinating institution for biodiversity policy, regulation, and CBD reporting, working in collaboration with sector ministries and non-state actors. It shows how EPA-SL engages with key government sectors where biodiversity pressures and mainstreaming opportunities are concentrated, alongside non-state actors—including civil society, development partners, academia, the private sector, and traditional authorities and IPLC institutions—that support implementation, financing, knowledge generation, and accountability. The figure reinforces the importance of a whole-of-government and whole-of-society approach for effective NBSAP implementation.*

♦ Coordination mechanisms and governance effectiveness

Effective biodiversity outcomes depend on coordination across institutions and sectors. Existing coordination mechanisms provide a foundation for collaboration but are sometimes project-driven or insufficiently institutionalised to consistently influence sector planning and investment decisions.

Key challenges include:

- limited horizontal coordination across sector ministries;
- weak vertical linkages between national institutions and local councils;

- insufficient integration of biodiversity considerations into economic planning and budgeting processes; and
- limited platforms for structured engagement with non-state actors.

The NBSAP builds on existing coordination structures and seeks to formalise and strengthen them, rather than create parallel systems. The NBSAP therefore emphasises strengthening coordination structures, clarifying leadership roles, and embedding biodiversity considerations into routine governance and planning processes.

7.2. Human and technical capacity constraints

Human, technical, and institutional capacity constraints influence the pace and effectiveness of biodiversity governance and implementation. These constraints cut across policy development, enforcement, monitoring, data management, and community engagement.

Common capacity gaps include:

- insufficient numbers of trained personnel in biodiversity management, enforcement, and monitoring;
- limited technical expertise in spatial analysis, data management, and MEL systems;
- weak institutional systems for knowledge management and learning; and
- constrained financial and logistical resources at national and sub-national levels.

Capacity limitations are particularly acute at the decentralised level, where responsibilities are increasing but resources and technical support remain limited.

Table 6: Key capacity gaps and implications

Capacity area	Gap	Impact on delivery	NBSAP response
Institutional coordination	Limited formal coordination mechanisms across sectors and levels of government	Fragmented implementation; weak mainstreaming of biodiversity into sector policies	Establish strengthened inter-ministerial coordination and clear roles for NBSAP implementation
Policy coherence and mainstreaming	Biodiversity insufficiently integrated into sectoral policies and plans	Sector decisions continue to drive biodiversity loss	Embed biodiversity safeguards and targets into sector strategies, SEAs, and planning processes
Enforcement and compliance	Enforcement capacity constraint and limited follow-up on EIA/SEA conditions	Mitigation measures poorly implemented; continued ecosystem degradation	Strengthen regulatory capacity, compliance monitoring, and accountability mechanisms

Data, monitoring, and reporting	Gaps in biodiversity data, indicators, and coordinated monitoring systems	Limited evidence-based decision-making and weak CBD reporting	Develop an integrated biodiversity monitoring and learning framework aligned with KM-GBF
Subnational and local capacity	Limited technical and financial capacity at district and community levels	Inconsistent local implementation and oversight	Strengthen decentralised capacity and community-based management systems
Traditional authorities and IPLCs	Inadequate recognition and resourcing of IPLC roles in biodiversity governance	Missed opportunities for inclusive and effective stewardship	Institutionalise IPLC participation, FPIC, and benefit-sharing mechanisms
Human resource capacity	Insufficient specialised skills in biodiversity planning, finance, and safeguards	Slow implementation and weak quality control	Targeted training, technical backstopping, and knowledge partnerships
Biodiversity financing	Limited and fragmented funding for biodiversity actions	Under-resourced NBSAP implementation	Develop a biodiversity finance strategy and leverage public, private, and donor resources

Institutional roles and capacity development responsibilities are further detailed in Annex E3.

7.3. Financing and institutional sustainability

Institutional effectiveness is closely linked to predictable and adequate financing. Biodiversity-related institutions rely heavily on project-based funding, resulting in fragmented implementation and limited long-term sustainability.

These institutional financing challenges are further elaborated in the Biodiversity Finance Plan and Annex F1.

Budget constraints, competing national priorities, and limited integration of biodiversity into public financial management systems further constrain institutional performance. Strengthening institutional sustainability therefore requires both increased resource mobilisation and improved financial planning, accountability, and coordination.

These issues are addressed in detail in the Biodiversity Finance Plan (Part IV), but their governance implications are central to the NBSAP's implementation design.

7.4. Partnerships and multi-stakeholder engagement

Partnerships with civil society, academic institutions, communities, and the private sector are essential for effective biodiversity governance. Such partnerships can extend implementation reach, support innovation, and strengthen accountability.

However, partnership engagement is frequently project-specific, with opportunities to strengthen long-term, systematic institutional collaboration or to scale successful models. The NBSAP seeks to formalise and strengthen partnership arrangements, particularly in areas such as community-based conservation, sustainable value chains, research and monitoring, and private sector engagement.

Regional and transboundary cooperation, including within the Mano River Union (MRU) context, also offers opportunities to address shared biodiversity challenges and enhance landscape-level outcomes.

7.5. Governance, accountability, and coordination for GBF delivery

Effective implementation of the Kunming–Montreal Global Biodiversity Framework requires clear accountability, coordinated decision-making, and adequate institutional capacity. While multiple institutions contribute to biodiversity outcomes, the NBSAP designates a lead national authority responsible for overall coordination and oversight of delivery.

National authority and accountability

The Environmental Protection Agency of Sierra Leone (EPA-SL) is designated as the lead national institution responsible for coordinating and overseeing the implementation of the NBSAP and national biodiversity targets. EPA-SL is accountable for:

- coordinating GBF implementation across sectors and levels of government;
- ensuring alignment between national targets, Strategic Programmes, and sectoral actions;
- overseeing monitoring, reporting, and learning; and
- serving as the national focal point for biodiversity reporting under the Convention on Biological Diversity.

This designation ensures a clear locus of accountability while maintaining sectoral implementation responsibilities within mandated institutions.

Coordination across sectors and levels of government

Coordination under the NBSAP is based on functional alignment and strengthened collaboration, rather than the creation of new institutional layers. Sector ministries and agencies retain responsibility for implementation within their mandates, while EPA-SL provides strategic coordination, guidance, and oversight.

Coordination will occur through:

- integration of biodiversity priorities into sector policies, plans, and budgets;
- structured inter-ministerial coordination platforms aligned to Strategic Programmes;
- collaboration with local councils to embed biodiversity priorities into sub-national planning and land-use decisions; and
- targeted technical working arrangements where cross-sector problem-solving is required.

Institutional coordination arrangements and reporting responsibilities are further elaborated in Annex E3 and the MEAL Framework (Annex D3).

Any coordination mechanism proposed under the NBSAP is justified by its contribution to efficiency, coherence, and accountability, and will build on existing government structures rather than duplicating them.

Minimum institutional capacity requirements

Effective NBSAP implementation requires minimum core capacities at national and sub-national levels, including:

- technical capacity for biodiversity planning, monitoring, and enforcement;
- coordination and facilitation skills to support cross-sector alignment;
- data and knowledge management capacity to support decision-making; and
- basic financial and administrative capacity to manage programmes and partnerships.

Capacity development priorities are addressed through Programme 5 (Governance, rights, inclusion, knowledge, and participation) and Programme 6 (Finance, implementation, monitoring, and accountability), with detailed capacity actions and responsibilities provided in the annexes.

Capacity development actions are sequenced in line with implementation priorities and financing availability, as outlined in Part V.

Textbox 7.1: Implications of institutions and governance capacity for the NBSAP

- Biodiversity governance in Sierra Leone involves multiple actors, but coordination and role clarity are key constraints.
- Strengthening institutional coordination is essential for effective mainstreaming and implementation.
- Capacity gaps at national and decentralised levels limit delivery and must be addressed systematically.
- Institutional sustainability depends on predictable financing and integration into national systems.
- Stronger partnerships with non-state actors and regional institutions are critical for scaling impact.

8. INCLUSION, GENDER, IPLCS, AND HUMAN RIGHTS

8.1. Overview: inclusion as an effectiveness requirement

Inclusive, rights-based biodiversity governance is essential for effective and sustainable implementation of Sierra Leone's NBSAP. Women, men, youth, and Indigenous Peoples and Local Communities (IPLCs) play differentiated roles in the use, management, and stewardship of biodiversity, and they experience distinct costs and benefits from conservation and development interventions.

In the Sierra Leone context, the term "Indigenous Peoples and Local Communities (IPLCs)" is used for consistency with CBD terminology. Sierra Leone does not formally recognise Indigenous Peoples as a distinct legal category; references to IPLCs in this NBSAP primarily relate to local communities, customary landholders, and traditional authorities.

Failure to adequately recognise and address these differences can undermine biodiversity outcomes, exacerbate inequalities, and increase conflict and non-compliance. Conversely, inclusive approaches that strengthen participation, tenure security, and benefit-sharing can enhance conservation effectiveness, livelihood resilience, and social legitimacy.

The NBSAP therefore treats inclusion, gender equality, and human rights not as cross-cutting add-ons, but as core enablers of delivery and accountability**.**

8.2. Gender roles, impacts, and participation barriers

Gender roles significantly influence interactions with biodiversity in Sierra Leone. Women and men often have differentiated responsibilities in agriculture, fisheries, forest product harvesting, household energy use, and natural resource management. These roles influence access to resources, decision-making authority, exposure to environmental risks, and capacity to benefit from biodiversity-related interventions.

Key gender-related challenges include:

- unequal access to land, credit, inputs, and extension services;
- limited representation of women in formal decision-making and governance structures;
- disproportionate labour burdens related to fuelwood and water collection; and
- heightened vulnerability to ecosystem degradation and climate impacts.

At the same time, women possess significant ecological knowledge and play critical roles in sustainable resource management. Addressing gender barriers and strengthening women's agency is therefore central to achieving biodiversity and development objectives.

Table 7: Gender-differentiated roles, impacts, and barriers in biodiversity management

Group	Key roles in biodiversity use & management	Biodiversity impacts (pressures & positive practices)	Key barriers to equitable participation	Priority entry points under the NBSAP
Women	Collection and processing of NTFPs; small-scale agriculture; fish processing; household water and fuel management; traditional knowledge holders	Positive: stewardship of forest products, seed selection, mangrove processing practices. Pressures: overharvesting driven by livelihood stress	Limited land and resource tenure; time poverty; limited access to finance, extension, and decision-making spaces	Secure access and benefit-sharing; gender-responsive extension; livelihood diversification; FPIC-compliant participation; targeted finance
Men	Commercial agriculture; timber extraction; fishing; hunting; community leadership roles	Positive: enforcement roles, community patrols. Pressures: overfishing, logging, land clearing	Market volatility; weak enforcement incentives; limited uptake of sustainable practices	Sustainable production incentives; compliance and co-management roles; skills upgrading
Youth	Farm labour; fishing crews; innovation and digital tools; community mobilisation	Positive: innovation, monitoring support. Pressures: short-term exploitation for income	Limited access to land, capital, skills, and leadership	Green jobs; skills and entrepreneurship; digital monitoring; youth quotas in governance
Local communities and customary authorities (referred to as IPLCs for CBD consistency)	Custodians of customary lands; conservation practices; traditional ecological knowledge	Positive: conservation and restoration practices. Pressures: marginalisation, loss of tenure	Insecure tenure; weak recognition of customary governance; limited benefit capture	FPIC enforcement; OECM recognition; customary tenure security; equitable benefit-sharing
Urban & peri-urban poor	Waste management (formal/informal); urban farming; coastal livelihoods	Positive: recycling and greening initiatives. Pressures: pollution hotspots	Limited services; exposure to environmental risks	Urban biodiversity planning; green infrastructure; inclusive CEPA

8.3. Youth, livelihoods, and intergenerational considerations

Youth constitute a large and growing proportion of Sierra Leone's population and are central to the future of biodiversity governance. Limited employment opportunities, land access constraints, and skills gaps can drive unsustainable resource use or disengagement from conservation efforts.

At the same time, youth offer opportunities for innovation, entrepreneurship, monitoring, and stewardship, particularly when supported through skills development, access to finance, and participation in decision-making. The NBSAP recognises youth as both a priority stakeholder group and a strategic investment in long-term biodiversity outcomes.

Youth inclusion priorities are further reflected in Programme 5 and related indicators in Annex D2.

8.4. Indigenous Peoples and Local Communities (IPLCs), tenure, and rights

Local communities and customary landholding groups (referred to here as IPLCs for CBD consistency) are custodians of significant areas of biodiversity and possess deep ecological knowledge and customary governance systems. Secure tenure and effective recognition of customary land and resource rights under national law, along with meaningful participation, are critical for effective biodiversity conservation and sustainable use.

Key challenges include:

- tenure insecurity and unclear resource rights;
- limited recognition of customary institutions in formal decision-making;
- risks of exclusion from benefits or disproportionate costs from conservation measures; and
- limited access to grievance and redress mechanisms.

The NBSAP emphasises free, prior, and informed consent (FPIC), participatory planning, and benefit-sharing as foundational principles for engagement with IPLCs.

8.5. Human rights, safeguards, and grievance redress

Biodiversity actions can generate social risks if not carefully designed and implemented. Potential risks include restrictions on access to resources, livelihood impacts, elite capture of benefits, and marginalisation of vulnerable groups.

To mitigate these risks, the NBSAP adopts a “do no harm” and rights-based approach, incorporating:

- inclusive participation across planning, implementation, and monitoring stages;
- transparent decision-making and information disclosure;
- gender-responsive and socially inclusive targeting of benefits;
- safeguards for tenure, livelihoods, and cultural heritage; and
- accessible grievance redress mechanisms.

These safeguards are integrated into the NBSAP’s implementation arrangements and detailed in Annex C2 (Safeguards and Risk Management Framework).

Figure 10: Illustrated Integration of gender equality, social inclusion, and local community rights across the NBSAP cycle

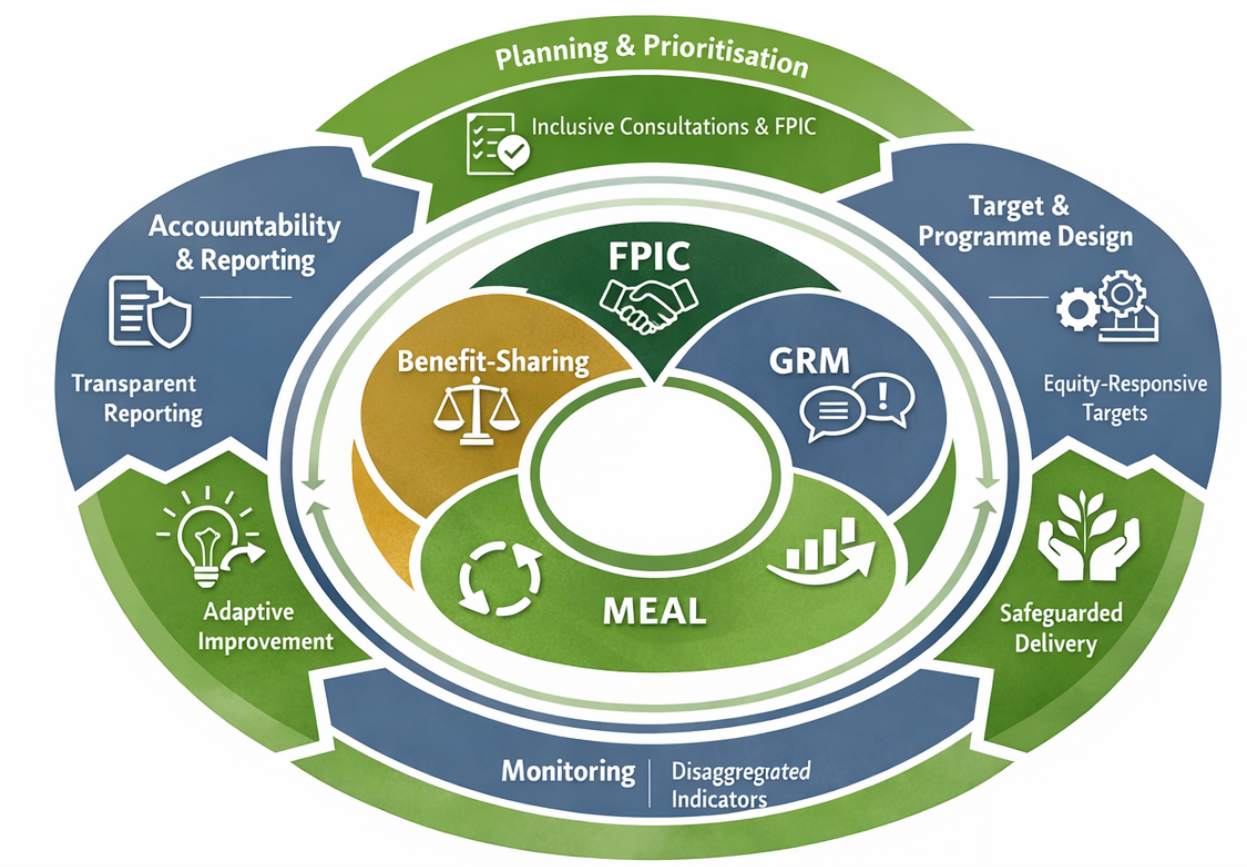


Figure 10 *Illustrates how gender equality, social inclusion, and IPLC rights are embedded throughout planning, implementation, monitoring, evaluation, accountability, and learning under the NBSAP.*

8.6. Operationalising rights, inclusion, and equity in NBSAP implementation

Commitments to gender equality, social inclusion, and the rights of Indigenous Peoples and Local Communities (IPLCs) under this NBSAP are operationalised through mandatory safeguards, enforceable procedures, and measurable indicators, consistent with the requirements of the Convention on Biological Diversity and the Kunming–Montreal Global Biodiversity Framework.

Free, Prior, and Informed Consent (FPIC)

NBSAP actions that may affect local community lands, resources, livelihoods, or cultural heritage will apply Free, Prior, and Informed Consent (FPIC) principles, consistent with national law and applicable safeguards frameworks. FPIC under the NBSAP is applied as a continuous process, grounded in the principles of freedom from coercion, prior engagement, culturally appropriate information, and the right to give or withhold consent.

FPIC standards, procedures, documentation requirements, and institutional responsibilities are defined in Annex C2 (Safeguards and Risk Management Framework) and apply to all programmes, actions, and financing mechanisms.

Application of FPIC principles will be aligned with existing statutory requirements, customary governance structures, and sectoral legal mandates.

Benefit-sharing arrangements

The NBSAP promotes equitable sharing of benefits arising from biodiversity conservation and sustainable use, consistent with national legal frameworks and applicable ABS provisions. These benefits include access and benefit-sharing (ABS), livelihoods, employment, ecosystem services, and biodiversity finance. Benefit-sharing arrangements are designed to:

- recognise customary rights and tenure;
- address differentiated impacts on women, youth, and IPLCs; and
- reduce risks of exclusion and elite capture.

Operational guidance on benefit-sharing is provided through the safeguards framework (Annex C2) and supported by the gender and IPLC analysis (Annex C1).

Grievance redress and access to justice

To ensure accountability and access to justice, the NBSAP establishes or strengthens a tiered Grievance Redress Mechanism (GRM) that builds on existing institutional mechanisms and is accessible, gender-sensitive, culturally appropriate, and time-bound. The GRM allows individuals and communities to raise concerns related to social, environmental, governance, or rights impacts arising from NBSAP implementation.

The GRM process, escalation pathways, and institutional responsibilities are detailed in Annex C2 and are integrated into national monitoring and reporting systems.

Monitoring participation and equity outcomes

Participation, inclusion, and equity outcomes under the NBSAP are monitored through sex-, age-, and IPLC-disaggregated indicators, integrated into the national Monitoring, Evaluation, Accountability, and Learning (MEAL) system. These indicators track:

- meaningful participation in decision-making;
- access to benefits;
- safeguards compliance; and
- grievance trends and resolution outcomes.

Indicator definitions, baselines, and reporting responsibilities are provided in Annex D2 (Target–Indicator Crosswalk) and Annex D3 (MEAL Framework).

Institutional responsibility

The Environmental Protection Agency of Sierra Leone (EPA-SL) serves as the national oversight institution for safeguards and coordination, responsible for standards, compliance monitoring, and

reporting. Sector ministries, agencies, and local councils are responsible for applying safeguards within their mandates, with support from civil society organisations where appropriate.

Textbox 8.1: Implications of inclusion, gender, IPLC, and human rights for the NBSAP

- Inclusion, gender equality, and human rights are **core conditions for effectiveness**, not optional considerations.
- Gender-responsive and youth-inclusive approaches enhance biodiversity outcomes and livelihood resilience.
- Secure tenure, FPIC, and meaningful participation of IPLCs are essential for legitimacy and sustainability.
- Safeguards and grievance mechanisms must be embedded across all programmes and actions.
- Monitoring systems should include disaggregated indicators to track equity and inclusion outcomes.

9. LESSONS LEARNED FROM NBSAP 2017–2026 AND IMPLICATIONS FOR THE UPDATED NBSAP

9.1. Overview of Lessons

The NBSAP 2017–2026 provided an essential framework for advancing biodiversity conservation and sustainable use in Sierra Leone. Over the implementation period, progress was achieved in selected thematic and geographic areas, particularly where dedicated projects, external financing, and strong institutional leadership supported actions. Evidence from the performance review (Annex B4) indicates that progress was most visible in areas where actions were embedded within sector programmes, supported by clear institutional leadership, and linked to measurable outputs. Conversely, actions that lacked defined institutional ownership, budget lines, or monitoring indicators showed limited or inconsistent implementation.

The review of the NBSAP 2017–2026 (Annex B4) highlights that limited progress was less a reflection of political commitment and more a function of structural design and systemic constraints that undermined implementation. These lessons directly informed the design of the updated NBSAP.

9.2. What did not work and why

The previous NBSAP relied heavily on a target-by-target, project-oriented approach, which resulted in fragmented implementation and limited prioritisation. Targets were numerous and broadly framed

but lacked clear prioritisation, sequencing, and institutional anchoring, thereby diluting implementation focus and accountability. Actions were often implemented in isolation, with weak linkage to national development planning and budget processes. Monitoring focused on activity reporting rather than outcomes, limiting learning and accountability. Indicators were not consistently aligned with national statistical systems or sector reporting frameworks, reducing their utility for decision-making and CBD reporting.

In addition, responsibilities for implementation were distributed across multiple institutions without a clearly defined coordination and accountability mechanism for overall delivery.. This reduced coordination across sectors and weakened incentives for sustained implementation.

9.3. Institutional and financing constraints

Key institutional constraints included limited cross-sectoral integration of biodiversity priorities, weak enforcement and compliance follow-through, and insufficient mechanisms to translate high-level policy commitments into sectoral plans, budgets, and regulatory practice. Financing constraints were equally decisive: biodiversity actions were largely dependent on external project funding, with limited domestic budget allocation and weak private-sector engagement. The BIOFIN analysis (Annex F1) confirms that domestic public expenditure on biodiversity remained fragmented and largely untagged within national budgeting systems, limiting visibility, predictability, and strategic allocation. As a result, biodiversity financing lacked long-term sustainability and was vulnerable to project cycles and external funding volatility. These constraints are documented in Annex B4 and Annex F1.

9.4. How the updated NBSAP addresses these weaknesses

The NBSAP 2026–2035 responds to these lessons through explicit design changes. It adopts a programme-based approach, clustering national targets into six Strategic Programmes to enable prioritisation, sequencing, and coordinated delivery. This approach reduces fragmentation by grouping related targets under accountable programme leads, sequencing actions over time, and aligning delivery mechanisms with institutional mandates and financing pathways. A clearly designated national coordinating authority is assigned overall responsibility for coherence, monitoring, and reporting, while sector institutions retain implementation responsibility within their mandates, with roles clarified in Annex E3.

The updated NBSAP integrates biodiversity-inclusive spatial planning to guide development decisions, embeds financing strategies through the BIOFIN framework, including expenditure tagging, identification of finance gaps, and development of blended financing mechanisms (Annex F1). It applies an adopted MEAL system focused on outcomes, learning, and accountability aligned with KM-GBF indicators and integrated into national reporting processes for the Seventh National Report and beyond (Annex D2 and Annex D3). Safeguards, participation, and equity are operationalised through enforceable procedures rather than aspirational commitments.

Together, these design features ensure that the updated NBSAP moves beyond a catalogue of activities toward a prioritised, spatially informed, financially grounded, and institutionally anchored strategy capable of delivering measurable biodiversity and development outcomes.

10. VISION 2050, MISSION 2030, PRINCIPLES AND THEORY OF CHANGE

10.1. Vision 2050 and Mission 2030

Vision 2050

By 2050, Sierra Leone lives in harmony with nature, where biodiversity is conserved, restored, and sustainably used to underpin inclusive economic growth, resilient livelihoods, food security, climate adaptability, and human well-being for present and future generations.

This vision recognises biodiversity as a foundational asset for national development, climate resilience, and social equity. It reflects Sierra Leone's long-term commitment under the Convention on Biological Diversity and the Kunming–Montreal Global Biodiversity Framework (KM-GBF) and aligns with national development priorities under the Medium-Term National Development Plan (MTNDP 2024–2030).

Mission 2030

By 2030, Sierra Leone will demonstrably halt and reverse biodiversity loss through coordinated, inclusive, and well-financed actions that integrate biodiversity into national and sectoral planning, strengthen institutions and governance, secure rights and benefits for communities, and deliver measurable outcomes aligned with the KM-GBF.

The Mission 2030 reflects the urgency of the current decade and prioritises recovery, system strengthening, and accelerated implementation, laying the foundation for sustained progress beyond 2030.

10.2. Guiding principles

The implementation of the NBSAP 2026–2035 is guided by the following principles, which inform all targets, programmes, and actions:

1. **Whole-of-government and whole-of-society approach**: Biodiversity outcomes depend on coordinated action across sectors, levels of government, civil society, communities, academia, and the private sector.
2. **Rights-based and inclusive development**: The NBSAP respects human rights, promotes gender equality and youth inclusion, and upholds the rights, knowledge, and participation of local communities and customary authorities (referred to as IPLCs for CBD consistency), including the application of free, prior, and informed consent (FPIC) principles consistent with national law.
3. **Ecosystem and landscape/seascape approach**: Biodiversity conservation and sustainable use are pursued at scales that reflect ecological processes, connectivity, and cumulative impacts, extending beyond protected areas.

4. **Prevention, precaution, and risk management**: Biodiversity loss is often irreversible. Decision-making, therefore, prioritises prevention, precaution, and the management of cumulative and systemic risks.

5. **Integration and mainstreaming**: Biodiversity considerations are embedded into national development planning, sector strategies, public investment, and regulatory systems, including through biodiversity-informed spatial planning and investment screening.

6. **Equity, benefit-sharing, and fairness**: The costs and benefits of biodiversity conservation and use are shared fairly, with particular attention to vulnerable and resource-dependent groups.

7. **Adaptive management and learning**: Implementation is guided by evidence, monitoring, and learning, allowing strategies and actions to be adjusted in response to new information and changing conditions.

10.3. Strategic approach and two-horizon pathway

The NBSAP adopts a two-horizon implementation pathway to balance urgency with long-term transformation:

2026–2030: Recovery and Acceleration

This first phase focuses on:

- Reducing key drivers of biodiversity loss;
- strengthening policy coherence, institutions, and coordination;
- prioritising high-impact actions and geographies;
- mobilising and aligning finance; and
- establishing robust monitoring and accountability systems.

Early actions during this phase are designed to deliver visible results, build confidence, and create enabling conditions for sustained implementation.

This phase emphasises regulatory strengthening, targeted spatial prioritisation, and early delivery of measurable gains in priority geographies.

2031–2035: Consolidation and Transformation

The second phase builds on early gains to:

F. scale up successful models and partnerships;

G. deepen biodiversity mainstreaming across sectors;

H. strengthen restoration and ecological connectivity;

I. enhance benefit-sharing and livelihood outcomes; and

J. sustain progress toward the 2050 vision of living in harmony with nature.

Transformation during this phase depends on consolidating institutional capacity, financing mechanisms, and cross-sector integration established during 2026–2030.

10.4. Theory of Change

Rationale

The Theory of Change for the NBSAP 2026–2035 is grounded in the diagnostic findings of Sections 3–9 of Part II, which show that biodiversity loss in Sierra Leone is driven not only by direct pressures but also by systemic governance, financing, capacity, and inclusion constraints. Addressing these underlying factors is essential for achieving durable biodiversity outcomes.

Theory of Change narrative

If Sierra Leone strengthens biodiversity governance, policy coherence, and institutional coordination;

and if biodiversity is systematically integrated into sector planning, spatial decision-making, and public and private investments;

and if adequate, predictable, and well-aligned financing is mobilised and aligned with national priorities;

and if communities, women, youth, and IPLCs have secure rights, meaningful participation, and equitable benefits;

then pressures on biodiversity will be reduced, ecosystems and species will recover, and biodiversity will contribute positively to resilient livelihoods, food security, and inclusive development.

Core results pathways

The NBSAP's Theory of Change is structured around five mutually reinforcing result pathways:

1. **Enabling conditions strengthened**

   Improved policies, institutions, coordination mechanisms, regulatory tools, and enforcement to enable effective action.

2. **Mainstreaming and risk management enhanced**

   Biodiversity is integrated into land- and sea-use planning, sector investments, EIA/SEA processes, and economic decision-making.

3. **Site-based conservation and sustainable use delivered**

   Priority ecosystems, species, and landscapes/seascapes are conserved, restored, and managed sustainably.

4. **Equity, rights, and livelihoods secured**

   Biodiversity actions generate fair benefits, strengthen livelihoods, and respect rights, reducing conflict and increasing compliance.

5. **Monitoring, learning, and accountability institutionalised**

Robust monitoring systems support adaptive management, transparency, and national and international reporting.

Figure 11: Theory of Change for Sierra Leone's NBSAP (2026–2035)

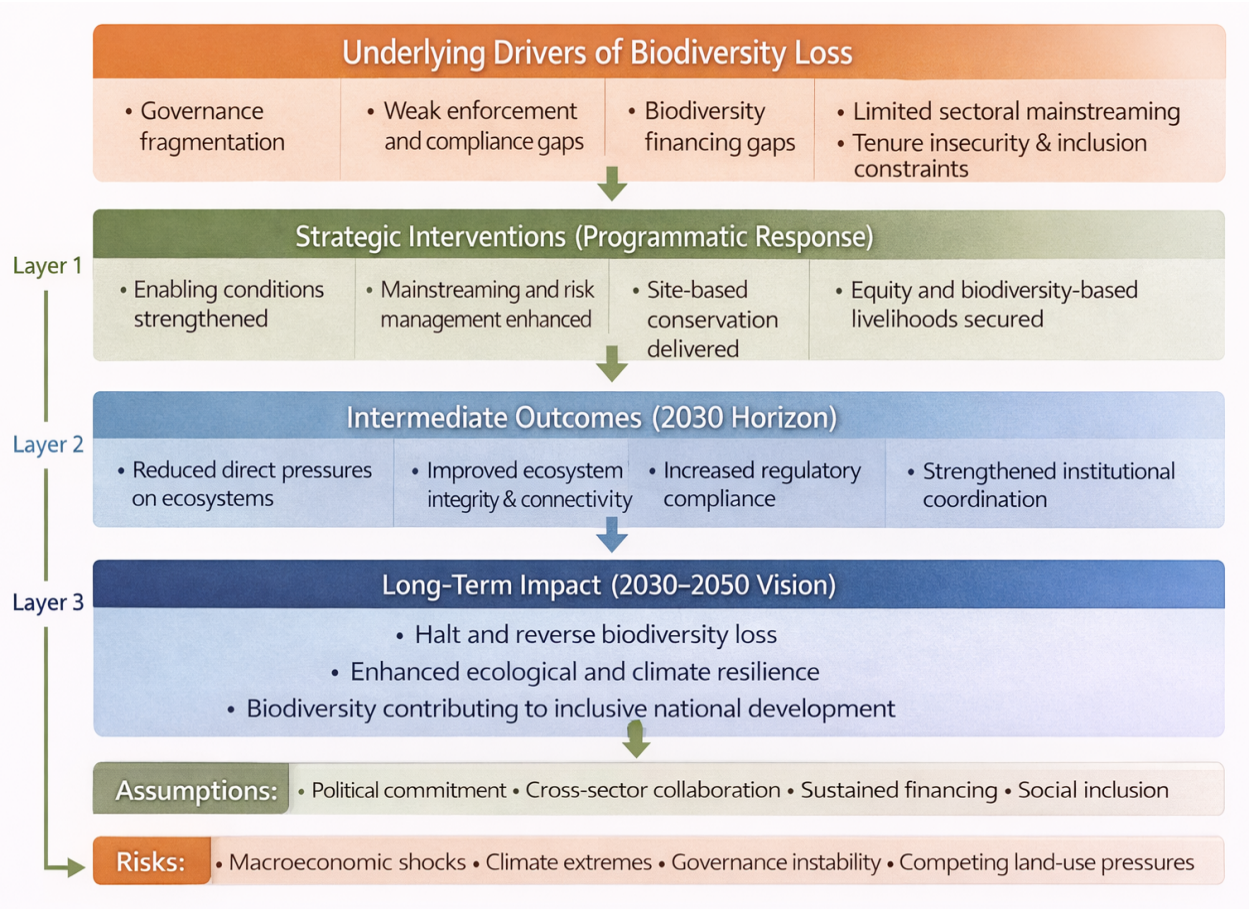


***Figure 11** illustrates the Theory of Change for Sierra Leone's NBSAP (2026–2035), showing how key governance, financing, and mainstreaming drivers are addressed through targeted interventions that strengthen enabling conditions, conservation delivery, and accountability. These actions lead to reduced pressures, improved ecosystem integrity, and stronger institutional coordination, ultimately contributing to halting and reversing biodiversity loss and advancing national development in alignment with the Kunming–Montreal Global Biodiversity Framework.*

10.5. Assumptions and risk management

The Theory of Change is underpinned by several key assumptions, including sustained political commitment, stakeholder engagement, availability of financing, and institutional willingness to coordinate across sectors. Risks related to economic pressures, climate shocks, capacity constraints, and governance challenges are acknowledged and addressed through the NBSAP's risk management,

including safeguards (Annex C2), financing strategies (Annex F1), and adaptive monitoring mechanisms (Annex D3).

The national vision, mission, guiding principles, and theory of change are operationalised through nationally adapted targets and Strategic Programmes aligned with the KM-GBF, as set out in Section 11 and Part III.

11. ALIGNMENT WITH THE KUNMING–MONTREAL GLOBAL BIODIVERSITY FRAMEWORK

The updated NBSAP 2026–2035 is explicitly aligned with the Kunming–Montreal Global Biodiversity Framework (KM-GBF) and translates its global goals and targets into nationally determined, context-specific, implementable, and monitorable actions. Alignment is achieved through adaptation rather than replication, ensuring that global ambition is grounded in Sierra Leone's ecological realities, development priorities, institutional capacity, and financing context.

National biodiversity targets were developed through a systematic review of the KM-GBF goals and targets, adapted to Sierra Leone's ecological, social, and institutional context. The review assessed relevance, feasibility, sequencing, and resource implications for each KM-GBF target in the Sierra Leone context. Where global targets required contextual interpretation, national targets were framed to reflect domestic priorities, legal frameworks, and institutional mandates while maintaining thematic coherence with the KM-GBF. Each national target is mapped to the corresponding KM-GBF target(s), ensuring full thematic coverage while allowing for national prioritisation. While the structure of national targets broadly corresponds to the KM-GBF framework to ensure comprehensive coverage, the wording, indicators, phasing, and implementation pathways reflect Sierra Leone's specific circumstances and strategic choices. This detailed target mapping, including narrative justification for national adaptation, is presented in Annex D1 (National Targets 1–23).

To ensure measurability and accountability, national targets are supported by a Target–Indicator Crosswalk that links each target to indicators aligned with the KM-GBF monitoring framework. Indicator definitions, baselines, and reporting responsibilities are provided in Annex D2, with operational monitoring arrangements set out in Annex D3 (MEAL Framework). Indicators are selected to ensure compatibility with the KM-GBF global monitoring framework, while prioritising data sources that are feasible within national statistical and institutional systems.

Implementation of the KM-GBF is operationalised through six Strategic Programmes (Part IV), which cluster related national targets into coherent delivery pathways. This programme-based approach enables coordinated implementation across sectors, reduces fragmentation, and supports prioritisation and sequencing of actions. It also ensures that KM-GBF-aligned targets are not implemented as isolated commitments, but as integrated components of broader institutional, spatial, financing, and governance reforms outlined in Parts III–V. Detailed actions, timelines, and institutional responsibilities are provided in Annex E1–E3.

The alignment approach reflects the diagnostic findings presented in Part II (Sections 3–10), which identified priority ecosystems, drivers, institutional constraints, financing gaps, and inclusion considerations. National targets, therefore, respond directly to identified national risks and opportunities, while remaining consistent with global ambition.

Alignment with the KM-GBF is reinforced through structured CBD-compliant reporting cycles, including preparation of the Seventh National Report (NR7) and subsequent reporting rounds. Reporting arrangements, responsibilities, and timelines are detailed in Annex H (Reporting and Compliance).

Through this integrated and nationally contextualised approach, the NBSAP ensures that Sierra Leone's contribution to the KM-GBF is clear, measurable, and actionable, while preserving national ownership, development coherence, and implementation feasibility.

Sierra Leone's NBSAP aligns fully with the KM-GBF while maintaining national sovereignty in target setting, prioritisation, and implementation sequencing.

National Ownership and Global Commitment

PART III — NATIONAL BIODIVERSITY TARGETS (2026–2035)

12.NATIONAL BIODIVERSITY TARGETS

Each national biodiversity target under this NBSAP is presented in a standardised format, consisting of a concise target statement, baseline reference, outcome milestone, responsible institutions, indicative cost, and corresponding Kunming–Montreal Global Biodiversity Framework (KM-GBF) targets. Detailed baseline values, interim milestones (2026 and 2028), indicators, institutional roles, and costing assumptions are provided in Annex D1 (Targets 1–23 Details), Annex D2 (Target–Indicator Crosswalk), Annex E3 (Institutional Roles and Responsibilities), and Annex F2 (Costing Summary). These annexes provide the technical detail underpinning the concise summaries presented in this section and ensure transparency, measurability, and accountability. Baseline 2026 refers to the commencement of NBSAP implementation and reflects the most recent verified national data available at the time of adoption. Historical trends, reference values, and methodological notes informing baseline conditions are documented in Annexes B1, B2, and D1.

National targets are aligned with the thematic scope of the KM-GBF but are framed to reflect Sierra Leone's ecological priorities, institutional mandates, sequencing capacity, and financing realities. Alignment is achieved through contextual adaptation rather than mechanical replication of global target wording.

Textbox 12.1: Implementation and monitoring notes for each target:

- Baselines and interim milestones (2026 and 2028) for each target are detailed in Annex D1.
- Indicators aligned with the KM-GBF monitoring framework are provided in Annex D2.
- Institutional roles and coordination responsibilities are set out in Annex E3.
- Indicative costs and financing assumptions are summarised in Annex F2, with programme-level actions detailed in Annex E1.

TARGETS 1–3: SPATIAL PLANNING, PROTECTED AREAS, AND OECMS

Strategic framing

Targets 1–3 establish the spatial and area-based foundation for biodiversity conservation and sustainable use in Sierra Leone, consistent with the ambition of KM-GBF Targets 1 and 3. They

prioritise biodiversity-inclusive land- and sea-use planning, expansion and effective management of protected areas, and recognition of other effective area-based conservation measures (OECMs). Together, these targets embed biodiversity considerations into national development planning, strengthen ecological representation and connectivity, and ensure that conservation outcomes contribute directly to climate resilience, disaster risk reduction, and sustainable livelihoods.

The design of Targets 1–3 is informed by the spatial analysis and priority geographies identified in Section 5 and Annex B2, ensuring that area-based actions are strategically targeted rather than uniformly applied.

Table 8: National Target Summary — Targets 1–3

National Target	Baseline (2026)	2030 Milestone	Lead Institution(s)	Indicative Cost (USD)	KM-GBF Target(s)
Target 1: Ensure that biodiversity is integrated into national and sub-national land- and sea-use planning and development decision-making through biodiversity-inclusive spatial planning	Baseline established through existing national spatial datasets, land-use plans, EIA/SEA procedures, and biodiversity overlays (see Annexes D1 & B2)	Biodiversity-inclusive spatial planning institutionalised within national and sub-national planning processes and systematically applied nationally and across priority sectors and identified high-biodiversity landscapes and seascapes	EPA-SL (coordination and oversight); Ministry of Lands, Housing and Country Planning; Ministry of Planning and Economic Development (MoPED); Local Councils, and relevant ministries.	See Annex F2	GBF Target 1
Target 2: Expand and effectively manage protected areas to conserve priority ecosystems and species	Existing protected area coverage, ecological representation, and management effectiveness status (see Annexes B1, B2, and D1)	Increased, ecologically and effectively managed protected area network contributing measurably to ecosystem integrity and species recovery.	EPA-SL (national coordination and reporting); NPAA; Forestry Department & Wildlife Authorities, relevant sector agencies.	See Annex F2	GBF Target 3
Target 3: Recognise and support other effective area-based conservation measures (OECMs) that contribute to biodiversity outcomes	OECMs not yet systematically defined, recognised or mapped within national policy and reporting systems (see Annex D1)	National policy and operational framework for OECMs established, with identified and documented sites contributing to nationally determined area-based conservation objectives	EPA-SL (policy framework and reporting); Sector Ministries; Traditional Authorities; and Customary Institutions; Local Councils	See Annex F2	GBF Target 3

Detailed definitions, baseline values, interim milestones (2026 and 2028), indicators aligned with the KM-GBF monitoring framework, institutional role matrices, and costing assumptions for Targets 1–3 are provided in Annexes D1, D2, E3, and F2.

TARGETS 4–6: SUSTAINABLE USE, RESTORATION, AND SPECIES RECOVERY

Strategic framing

Targets 4–6 address the direct drivers of biodiversity loss by promoting sustainable use of wild species, restoring degraded ecosystems, and preventing species extinction. These targets respond directly to the pressures identified in Sections 3–4 and Annexes B1 and B2, including overexploitation of fisheries and wildlife, forest degradation, ecosystem fragmentation, and declining species populations. Together, they operationalise biodiversity-positive production landscapes and seascapes, contributing to food security, livelihoods, and ecosystem resilience consistent with the ambition of the Kunming–Montreal Global Biodiversity Framework, while reflecting Sierra Leone's ecological priorities, livelihood dependencies, and institutional capacity.

Implementation emphasises integrated management within production landscapes and seascapes, recognising that biodiversity conservation in Sierra Leone must occur both within and beyond formally protected areas.

Detailed baselines, interim milestones (2026 and 2028), species lists, restoration priority areas, indicator definitions, institutional responsibilities, and costing assumptions for Targets 4–6 are provided in Annexes D1, D2, E3, and F2.

Table 9: National Target Summary — Targets 4–6

National Target	Baseline (2026)	2030 Milestone	Lead Institution(s)	Indicative Cost (USD)	KM-GBF Target(s)
Target 4: Ensure the sustainable use and management of wild species, including fisheries, forests, and wildlife, to prevent overexploitation and biodiversity loss	Evidence of unsustainable harvesting levels and uneven enforcement across key wild species sectors (fisheries, forestry, wildlife) as documented in Annexes B1 and D1	Sustainable use and management systems operational for priority wild species and resource sectors, including strengthened regulatory frameworks, science-based management plans, compliance, and community co-management arrangements.	EPA-SL (policy coordination and reporting); Ministry of Fisheries and marine resources; Forestry & Wildlife Authorities; Local Councils; relevant enforcement agencies	See Annex F2	GBF Target 5

Target 5: Restore degraded terrestrial, inland water, coastal, and marine ecosystems to enhance biodiversity, ecosystem services, and climate resilience	Documented degradation of forests, wetlands, watersheds, mangroves, and selected marine ecosystems, as identified in national spatial analyses (Annex B2) and status assessments (Annex D1)	Restoration action implemented across nationally prioritised ecosystems and landscapes, contributing measurably to ecosystem functionality, carbon storage, and resilience objectives	EPA-SL (national coordination and monitoring); Forestry Department & the Ministry of Environment and Climate Change (MoECC); other Ministries; Local Councils; CSOs	See Annex F2	GBF Target 2
Target 6: Prevent species extinction and improve the conservation status of threatened species	Documented declining populations trends for priority threatened and endemic species, based on national assessments and IUCN Red List status (see Annex D1 & B1)	Measurable improvement in conservation status or stabilisation of priority threatened species populations through targeted recovery plans, habitat management, and threat mitigation measures	EPA-SL (coordination and reporting); Wildlife Authorities; Research Institutions; Civil Society Organisations (CSOs); relevant sector agencies	See Annex F2	GBF Target 4

Targets 4–6 collectively ensure that conservation and sustainable use are mutually reinforcing, addressing both ecological recovery and socio-economic resilience.

TARGETS 7–10: POLLUTION, INVASIVE ALIEN SPECIES, CLIMATE, AND ECOSYSTEM SERVICES

Strategic framing

Targets 7–10 address systemic pressures on biodiversity arising from pollution, invasive alien species, and climate change, while safeguarding ecosystem services essential for human well-being and national development. These targets reduce biodiversity-related risks to food systems, water security, public health, disaster resilience, and economic stability, reinforcing biodiversity as productive natural capital rather than a standalone environmental concern.

They operationalise risk reduction and ecosystem-based approaches within national planning, sector regulation, and spatial decision-making frameworks, in alignment with KM-GBF Targets 6, 7, 8, and 11, while remaining tailored to Sierra Leone's institutional and development context.

Detailed baseline data, priority ecosystems, and sectoral risk analyses supporting Targets 7–10 are provided in Annex B1 (Biodiversity Status), Annex B2 (Spatial Analysis), Annex B3 (Policy and Legal Review), Annex D1 (Target Details), Annex D2 (Indicator Crosswalk), and Annex F2 (Costing Summary).

Table 10: National Target Summary — Targets 7–10

National Target	Baseline 2026	2030 Milestone	Lead Institution(s)	Indicative Cost (USD)	KM-GBF Target(s)
Target 7: Reduce pollution from priority sectors and sources to levels that do not cause significant harm to biodiversity, ecosystem functions, and human health, through strengthened regulation, enforcement, and prevention measures.	Pollution pressures affecting terrestrial, freshwater, coastal, and marine ecosystems, particularly from mining, agrochemicals, urban waste, and untreated effluents (see Annex B1, B2, and B3).	Measurable reductions in pollution loads in priority ecosystems and sectors, supported by strengthened compliance monitoring, improved waste management systems, and integration of biodiversity safeguards into EIA/SEA processes.	EPA-SL; Sector Ministries; Local Councils	See Annex F2	GBF Target 7
Target 8: Prevent, minimise, and manage the introduction and impacts of priority invasive alien species through pathway management, early detection, coordinated response, and strengthened biosecurity systems.	Invasive alien species present in key ecosystems, with limited coordinated monitoring, pathway control, and rapid response mechanisms (see Annex B1 and B3)	Priority invasive alien species pathways identified and managed, with operational monitoring systems, coordinated inter-agency response, and strengthened border and biosecurity controls.	EPA-SL; Forestry & Agriculture Ministries; Border Agencies	See Annex F2	GBF Target 6
Target 9: Integrate ecosystem-based approaches into national and sub-national climate change mitigation, adaptation, and disaster risk reduction planning and implementation	Ecosystem-based climate and disaster risk reduction actions not systematically integrated into national development planning, NDC implementation, and sub-national land-use planning (see Annex D1 & B2)	Ecosystem-based climate and disaster risk reduction solutions embedded in national climate policy, NDC implementation, and sub-national planning instruments, with financing and monitoring mechanisms operational.	EPA-SL; Climate & Environment Institutions; Planning Authorities	See Annex F2	GBF Targets 8 & 11
Target 10: Maintain, enhance, and restore priority ecosystem services that support food security, water security, disaster resilience, and sustainable economic development	Ecosystem service values insufficiently reflected in sector planning, budgeting, and investment screening processes (see Annex B1, B2, and F1).	Ecosystem services values integrated into spatial planning, sector strategies, public investment screening, and biodiversity finance mechanisms for priority ecosystems and sectors.	EPA-SL; Sector Ministries; Local Councils	See Annex F2	GBF Target 11

While national targets correspond to relevant KM-GBF targets, they are framed to reflect Sierra Leone's institutional readiness, ecological priorities, and development pathways. Alignment does not

imply identical wording or scope; rather, it ensures substantive contribution to the global goals while maintaining national ownership and implementation feasibility.

TARGETS 11–15: GOVERNANCE, FINANCE, AND CAPACITY

Strategic framing

Targets 11–15 strengthen the enabling conditions for effective biodiversity implementation, focusing on governance effectiveness, biodiversity finance, institutional capacity, knowledge systems, and mainstreaming across sectors and levels of government. These targets directly address the institutional, coordination, financing, and monitoring constraints identified in the review of the NBSAP 2017–2026 (Section 9 and Annex B4).

By clarifying accountability, strengthening cross-sector coordination, mobilising sustainable finance, and improving data and learning systems, these targets ensure that biodiversity outcomes are durable, scalable, and embedded within national development systems. They are foundational to the sustained delivery of all other national biodiversity targets and align substantively with KM-GBF Targets 14, 15, 19, 20, and 21, while reflecting Sierra Leone's institutional context.

Detailed baseline values, institutional responsibilities, coordination arrangements, indicators, and costing assumptions are provided in Annex D1 (Target Details), Annex D2 (Target–Indicator Crosswalk), Annex E3 (Institutional Roles and Responsibilities), Annex F1 (Biodiversity Finance Plan), Annex F2 (Costing Summary), and Annex B3/B4 (Policy and Performance Review).

Table 11: National Target Summary — Targets 11–15

National Target	Baseline 2026	2030 Milestone	Lead Institution(s)	Indicative Cost (USD)	KM-GBF Target(s)
Target 11: Systematically integrate biodiversity values, risks, and ecosystem service considerations into national and sub-national development planning, policies, budgeting, and decision-making across priority sectors.	Biodiversity considerations partially reflected in in selected planning and policy processes, with limited integration into sector budgeting, public investment screening, and sub-national planning instruments (see Annex D1 & B3)	Biodiversity values, risks, and ecosystem service considerations systematically embedded across priority sectors reflected in sector strategies, public investment decisions, and sub-national development plans.	EPA-SL; Ministry of Planning; Sector Ministries	See Annex F2	GBF Target 14
Target 12: Strengthen institutional coordination, governance effectiveness,	Fragmented cross-sector coordination, variable enforcement capacity, and limited structured accountability	Functioning cross-sector coordination platforms, clearly defined institutional roles, and strengthened compliance and oversight mechanisms	EPA-SL; Justice & Oversight Institutions; Sector Ministries	See Annex F2	GBF Target 15

regulatory compliance, and accountability mechanisms for biodiversity implementation	mechanisms (see Annex D1, B3 & E3)	operational at national and sub-national levels.			
Target 13: Mobilise, align, and scale public, private, and innovative financing mechanisms to sustainably support biodiversity conservation and sustainable use	Biodiversity finance largely project-based and donor-dependent, with limited domestic budget allocation and biodiversity expenditure tracking (see Annex D1 & F1)	Sustainable and diversified biodiversity financing mechanisms operational, including strengthened domestic budget allocations, biodiversity expenditure tracking, and private sector engagement aligned with national targets.	EPA-SL; Ministry of Finance; Private Sector	See Annex F2	GBF Target 19
Target 14: Strengthen national and sub-national technical, institutional, and enforcement capacity for biodiversity planning, implementation, monitoring, and compliance	Capacity gaps in technical expertise, enforcement, monitoring systems, and institutional coordination at national and sub-national levels (see Annex D1 & B4)	Enhanced technical, institutional, and enforcement capacity across national and sub-national institutions, supported by structured training, staffing, and operational systems.	EPA-SL; Training Institutions; Local Councils	See Annex F2	GBF Target 20
Target 15: Strengthen biodiversity data systems, knowledge management, and information sharing to support evidence-based decision-making, monitoring, and CBD reporting.	Biodiversity data fragmented, uneven in quality, and underutilised in policy and investment decision-making (see Annex D1, D2, and G1)	Integrated national biodiversity knowledge and data systems operational, linked to the national MEAL framework, spatial data platforms, and CBD reporting mechanisms.	EPA-SL; Research Institutions; Data Agencies	See Annex F2	GBF Target 21

Targets 11–15 correspond to KM-GBF Targets 14, 15, 19, 20, and 21. While the thematic scope aligns with the global framework, national targets are framed to reflect Sierra Leone's governance structures, fiscal realities, and institutional capacities. Alignment ensures a substantive contribution to global biodiversity goals without replicating the wording or scope of global targets.

TARGETS 16–20: SUSTAINABLE PRODUCTION, CONSUMPTION, AND PRIVATE SECTOR ENGAGEMENT

Strategic framing

Targets 16–20 address the economic drivers of biodiversity loss identified in Part II, particularly those linked to production systems, market incentives, and consumption patterns. They focus on promoting biodiversity-positive production and consumption practices, strengthening private-sector responsibility, reforming harmful incentives, and supporting sustainable value chains.

These targets position the private sector as a strategic delivery partner in biodiversity outcomes and align biodiversity objectives with national economic transformation, competitiveness, and resilience. They seek to reduce systemic biodiversity risks within economic systems while creating opportunities for innovation, market access, and sustainable investment, consistent with the ambition of relevant KM-GBF targets.

Detailed baselines, sector analyses, institutional responsibilities, and financing mechanisms related to Targets 16–20 are provided in Annex D1 (Target Details), Annex B1 (Status and Drivers), Annex B3 (Policy Review), Annex F1 (Biodiversity Finance Plan), and Annex F2 (Costing Summary)

Table 12: National Target Summary — Targets 16–20

National Target	Baseline 2026	2030 Milestone	Lead Institution(s)	Indicative Cost (USD)	KM-GBF Target(s)
Target 16: Promote and scale sustainable and biodiversity-positive production practices across agriculture, forestry, fisheries, and other priority sectors	Production systems in key sectors remain largely resource-intensive, with limited integration of biodiversity safeguards spatial planning criteria, and sustainable management standards (see Annexes D1 & B1)	Biodiversity-positive production practices adopted and operationalised across priority sectors and landscapes, supported by sector guidelines, extension services, and compliance mechanisms.	EPA-SL; Sector Ministries; Producer Organisations	See Annex F2	GBF Target 10
Target 17: Reduce biodiversity impacts associated with unsustainable consumption patterns through awareness, standards, and market-based measures across priority value chains.	Consumption patterns and market demand not systematically aligned with biodiversity sustainability considerations, with limited standards and consumer awareness mechanisms in place (see Annex D1)	Sustainable consumption standards, awareness measures, and procurement policies implemented across priority value chains, contributing to reduced biodiversity pressures.	EPA-SL; Trade & Consumer Authorities; Private Sector	See Annex F2	GBF Target 16

Target 18: Strengthen private sector management, accountability, and disclosure of biodiversity-related risks and impacts within regulatory and voluntary frameworks.	Limited systematic biodiversity risk assessment, disclosure, and accountability practices within private sector operations and financial decision-making (see Annexes D1 & B3)	Biodiversity risk management, mitigation, and disclosure practices integrated into private sector operations, environmental licensing processes, and financial decision-making frameworks.	EPA-SL; Ministry of Trade; Financial Regulators	See Annex F2	GBF Target 15
Target 19: Reform, phase out, or redirect incentives that contribute to biodiversity loss, and strengthen positive incentives that support conservation and sustainable use.	Incentive structures in selected sectors may inadvertently contribute to biodiversity loss, with limited systematic review or biodiversity impact screening (see Annexes D1 & F1)	Incentive structures reviewed and adjusted in priority sectors, with biodiversity-positive fiscal and market incentives operational and monitored.	Ministry of Finance; EPA-SL; Sector Ministries	See Annex F2	GBF Target 18
Target 20: Strengthen and scale sustainable value chains and market access for biodiversity-friendly products	Limited market access , certification uptake, and financial support mechanisms for biodiversity-friendly products and enterprises (see Annex D1 & F1)	Biodiversity-friendly value chains strengthened certified where appropriate, and scaled through improved market access, financing, and public-private partnerships.	EPA-SL; Trade Authorities; Private Sector; CSOs	See Annex F2	GBF Targets 15 & 19

Targets 16–20 correspond to KM-GBF Targets 10, 15, 16, 18, and 19. While aligned in scope, national targets are framed to reflect Sierra Leone's economic structure, private sector landscape, and fiscal realities. Alignment ensures substantive contribution to the global framework while maintaining nationally appropriate sequencing and implementation pathways.

TARGETS 21–23: PARTICIPATION, CEPA, IMPLEMENTATION, AND ACCOUNTABILITY

Strategic framing

Targets 21–23 ensure that implementation of the NBSAP is inclusive, transparent, adaptive, and accountable, with meaningful participation by all stakeholders, coordinated communication and education efforts, and robust monitoring, evaluation, accountability, and learning (MEAL) systems. These targets operationalise the rights-based, gender-responsive, and safeguards commitments outlined in Section 8 and Annexes C1–C2, and directly address the implementation and accountability gaps identified in the review of NBSAP 2017–2026 (Section 9 and Annex B4).

Together, they embed participation, behavioural change, monitoring, and reporting into the core delivery architecture of the NBSAP, ensuring long-term sustainability and credibility of biodiversity outcomes in line with relevant KM-GBF targets.

Detailed safeguards procedures, participation standards, indicator definitions, and reporting arrangements are provided in Annex C1 (Gender and IPLC Analysis), Annex C2 (Safeguards and Risk Management Framework), Annex D1 (Target Details), Annex D2 (Target–Indicator Crosswalk), Annex D3 (MEAL Framework), Annex B4 (Performance Review), and Annex F2 (Costing Summary).

Table 13: National Target Summary — Targets 21–23

National Target	Baseline 2026	2030 Milestone	Lead Institution(s)	Indicative Cost (USD)	KM-GBF Target(s)
Target 21: Ensure the full, effective, inclusive, and gender-responsive participation of all stakeholders, including women, youth, and local communities (IPLCs), in biodiversity decision-making, and implementation processes.	Participation uneven across sectors and levels of government, with safeguards, FPIC, and grievance redress mechanisms not yet systematically applied across all biodiversity actions (see Annexes D1,C1, & C2)	Inclusive, rights-based participation mechanisms operational across all NBSAP programmes and actions with documented application of safeguards, FPIC procedures, and grievance redress systems.	EPA-SL; Local Councils; CSOs; Traditional Authorities	See Annex F2	GBF Target 22
Target 22: Strengthen coordinated, communication, education, public awareness, and knowledge-sharing (CEPA) systems to support biodiversity mainstreaming and behavioural change.	CEPA initiatives fragmented, project-based, and not systematically aligned with national biodiversity targets, sector priorities, or behavioural change objectives (see Annexes D1 & G1)	Coordinated national CEPA strategy implemented, with measurable outreach, education integration, and public awareness outcomes contributing to biodiversity-positive behavioural change.	EPA-SL; Education & Information Ministries; Media	See Annex F2	GBF Target 21
Target 23: Ensure effective implementation, monitoring, evaluation, reporting, and accountability of the NBSAP through an operationalised national MEAL framework.	Monitoring and reporting systems historically focused on activities rather than outcomes with limited integration of indicators, learning feedback loops, and cross-sector reporting (see Annex D1, D3, & B4)	Fully operational and institutionalised MEAL system supporting adaptive management outcome tracking, cross-sector reporting, and CBD-compliant national reporting cycles.	EPA-SL; Sector Ministries; Statistics & Oversight Bodies	See Annex F2	GBF Target 23

Targets 21–23 correspond substantively to KM-GBF Targets 21, 22, and 23. While aligned in ambition, national targets are framed to reflect Sierra Leone's governance systems, safeguards framework, and reporting architecture. Alignment ensures a meaningful contribution to global biodiversity commitments without replicating the wording of global targets.

PART IV — STRATEGIC PROGRAMMES AND ACTION PLAN

13.STRATEGIC PROGRAMMES AND ACTION PLANS

13.1. Purpose and structure of Part IV

Part IV operationalises the 23 national biodiversity targets (Section 12) through six Strategic Programmes that serve as coordinated delivery platforms for implementation. Each programme clusters related targets to enable prioritisation, sequencing, and cross-sector coordination, ensuring that actions are mutually reinforcing and resource-efficient.

This programme-based structure directly responds to lessons from the 2017–2026 NBSAP review (Section 9), which identified fragmentation, diffuse accountability, and project-based implementation as key constraints. By grouping targets into coherent delivery pathways, Part IV strengthens accountability, reduces duplication, and improves clarity of implementation.

To improve clarity, reduce repetition, Part IV focuses on programme intent, scope, and strategic outcomes, while detailed actions are presented in a standardised format in Annex E1 (Programme Action Tables). Each action in Annex E1 is:

- explicitly linked to one or more national targets;
- assigned to lead and supporting institutions in line with Annex E3 (Institutional Roles and Responsibilities);
- costed within indicative ranges (Annex F2);
- informed by safeguards and risk management measures (Annex C2); and
- aligned with monitoring, evaluation, accountability, and learning (MEAL) requirements (Annex D3).

Through this integrated structure, Part IV ensures that national targets are translated into implementable, monitorable, and financeable actions, contributing substantively to the Kunming–Montreal Global Biodiversity Framework while remaining tailored to Sierra Leone's institutional context.

13.2. Standard action framework (applies to all programmes)

All Strategic Programmes are implemented through actions presented using a single standardised template in Annex E1 (Programme Action Tables). This framework ensures consistency across programmes and strengthens accountability, financing, and reporting coherence.

Each action in Annex E1 includes:

- Linked National Target(s) (Section 12);
- Lead and supporting institutions, consistent with Annex E3 (Institutional Roles and Responsibilities);
- Implementation timeframe (phased within the 2026–2030 and 2031–2035 horizons);
- Indicative cost range (Annex F2);

- Key risks and mitigation measures, aligned with the Safeguards and Risk Management Framework (Annex C2)
- Monitoring indicators and reporting responsibilities aligned with the national MEAL framework (Annex D3).

This approach eliminates duplication across programmes, clarifies institutional accountability, and ensures that actions are implementation-ready, financeable, safeguard-compliant, and monitorable. It also supports structured reporting under national accountability systems and CBD reporting cycles.

The NBSAP 2026–2035 is delivered through six Strategic Programmes:

1. Programme 1: Biodiversity-Inclusive Spatial Planning and Safeguards
2. Programme 2: Protected, Conserved, and Connected Ecosystems and Species Recovery
3. Programme 3: Sustainable Use and Biodiversity-Positive Production Systems
4. Programme 4: Pollution Reduction, Climate Resilience, and Ecosystem Services
5. Programme 5: Governance, Rights, Inclusion, and Institutional Capacity
6. Programme 6: Biodiversity Finance, Implementation, Monitoring, and Accountability

Together, these programmes translate national targets into coordinated delivery pathways, ensuring prioritisation, sequencing, and institutional coherence.

EPA–Sierra Leone serves as the national coordinating authority for NBSAP implementation, ensuring cross-programme coherence and reporting alignment, while sector ministries and agencies retain responsibility for implementation within their respective mandates.

13.3. STRATEGIC PROGRAMME 1: Biodiversity-inclusive spatial planning and safeguards

Programme Intent

This programme establishes the spatial and regulatory foundation for biodiversity conservation by integrating biodiversity priorities into land- and sea-use planning, marine and coastal zoning, infrastructure siting, and sectoral investments decision-making. It operationalises KM-GBF Target 1 and reinforces related targets on ecosystem services, climate resilience, and mainstreaming, thereby underpinning all other programmes.

By guiding where and how development occurs, Programme 1 shifts biodiversity management from reactive mitigation to proactive spatial risk management.

Scope and Focus

- Biodiversity-inclusive national and sub-national land-use planning
- Marine Spatial Planning (MSP) and coastal zoning
- Application of biodiversity safeguards to public and private investments

- Integration of spatial biodiversity data into national and sub-national planning, permitting, and licensing systems
- Strengthening the use of EIA and SEA as tools for biodiversity risk prevention and cumulative impact management

Linked National Targets

Targets 1, 9, 10, and 11

Programme 1 provides the planning and safeguards architecture necessary to reduce ecosystem risk (Target 9), maintain ecosystem services (Target 10), and mainstream biodiversity across sectors and levels of government (Target 11).

Implementation Approach

Actions under this programme guide where and how development occurs, ensuring that biodiversity values inform decisions on agriculture, fisheries, infrastructure, urban expansion, mining, energy, and other extractive activities.

Implementation will:

- Embed spatial biodiversity layers (Annex B2) into planning and screening procedures;
- Strengthen the quality and consistency of biodiversity considerations within EIA and SEA processes;
- Apply the mitigation hierarchy (avoid–minimise–restore–offset) consistently;
- Ensure safeguards and FPIC requirements are applied in accordance with Annex C2; and
- Build institutional capacity for spatial analysis, cumulative impact assessment, and inter-agency coordination.

Detailed actions, institutional responsibilities, safeguards, monitoring indicators, and indicative costs are provided in Annexes E1, E3, C2, D3, and F2.

13.4. STRATEGIC PROGRAMME 2: Protected, conserved, and connected ecosystems and species recovery

Programme Intent

This programme secures terrestrial, freshwater, coastal, and marine biodiversity through the expansion and effective management of protected areas, the recognition of Other Effective Area-Based Conservation Measures (OECMs), the restoration of degraded ecosystems, the strengthening of ecological connectivity, and targeted species recovery.

It operationalises KM-GBF Target 3 and related targets on restoration and species conservation, ensuring that area-based conservation contributes directly to ecosystem resilience, climate adaptation, and sustainable livelihoods.

Scope And Focus

- Terrestrial protected areas, forest reserves, and community conservation areas
- Marine and coastal protected areas (MPAs) and sustainable fisheries zones
- Recognition and support of OECMs in multi-use landscapes and seascapes
- Ecological corridors and landscape connectivity
- Restoration of degraded forests, wetlands, mangroves, and watersheds
- Recovery of threatened and endemic species and prevention of extinction

These components ensure ecological representation, functional connectivity, and improved management effectiveness across the national conservation network.

Linked National Targets

Targets 2, 3, 5, and 6

Programme 2 advances the expansion and effective management of protected and conserved areas (Target 2), formal recognition of OECMs (Target 3), restoration of degraded ecosystems (Target 5), and recovery of threatened species (Target 6).

Implementation Approach

Programme actions expand and strengthen protected and conserved areas, in ecologically representative and strategically prioritised locations, informed by the spatial analysis in Annex B2.

Implementation will:

- Improve management effectiveness of existing protected areas;
- Establish or formalise OECMs where conservation outcomes are demonstrable;
- Restore priority degraded ecosystems contributing to connectivity and climate resilience;
- Develop and implement species recovery plans for nationally and globally threatened species; and
- Strengthen community stewardship, co-management arrangements, and equitable benefit-sharing.

Area-based measures will be guided by nationally defined criteria for ecological representation, connectivity, ecosystem services, and socio-economic feasibility.

All actions are costed and risk-screened in Annex E1, with safeguards applied in accordance with Annex C2. Monitoring of area coverage, management effectiveness, restoration progress, and species recovery outcomes is integrated into the national MEAL framework (Annex D3).

13.5. STRATEGIC PROGRAMME 3: Sustainable production, use, and livelihoods

Programme Intent

This programme addresses the direct drivers of biodiversity loss by promoting sustainable use of wild species and transitioning key production sectors toward biodiversity-positive practices, while strengthening livelihoods, food security, and economic resilience.

It advances sustainable management across fisheries, forestry, wildlife, and agriculture, aligning biodiversity conservation with national economic transformation and poverty reduction priorities.

Scope And Focus

- Sustainable fisheries management, including strengthened monitoring and action to address illegal, unreported, and unregulated (IUU) fishing
- Sustainable forestry and wildlife management systems, including improved compliance and community stewardship
- Biodiversity-positive agriculture, agroforestry, and sustainable value chains
- Community-based natural resource management and equitable benefit-sharing
- Market access and incentives for biodiversity-friendly products and enterprises

These focus areas aim to reduce overexploitation, improve resource governance, and create economic incentives for sustainable production and consumption.

Linked National Targets

Targets 4, 16, 17, 18, and 20

Programme 3 operationalises sustainable use of wild species (Target 4), biodiversity-positive production systems (Target 16), sustainable consumption and value chains (Target 17), strengthened private sector accountability (Target 18), and expanded biodiversity-friendly markets (Target 20).

Implementation Approach

Actions under this programme combine regulatory strengthening, economic incentives, co-management arrangements, and private sector engagement to shift production systems toward sustainability.

Implementation will:

- Strengthen compliance and enforcement mechanisms in fisheries, forestry, and wildlife management;
- Expand co-management and community-based resource governance systems;
- Promote biodiversity-positive agricultural practices and sustainable supply chains;
- Support development of certification, traceability, and responsible sourcing standards where appropriate;
- Improve access to finance and markets for biodiversity-friendly enterprises; and
- Align public incentives and private investment with biodiversity objectives.

Private sector participation is treated as a core delivery mechanism rather than a peripheral stakeholder role. Safeguards and equitable benefit-sharing requirements apply in accordance with Annex C2. Detailed actions, institutional responsibilities, costing ranges, and risk mitigation measures are provided in Annex E1, with monitoring integrated into the national MEAL framework (Annex D3).

13.6. STRATEGIC PROGRAMME 4: Pollution control, ecosystem services, and climate resilience

Programme Intent

This programme reduces systemic environmental pressures on biodiversity while safeguarding and restoring ecosystem services that underpin human well-being, public health, food security, disaster risk reduction, and climate resilience.

It operationalises national commitments related to pollution reduction, invasive alien species management, ecosystem-based climate action, and maintenance of ecosystem services, ensuring that biodiversity conservation contributes directly to resilience and sustainable development.

Scope And Focus

- Reduction of land-based and marine pollution affecting terrestrial, freshwater, coastal, and marine ecosystems
- Prevention, control, and management of invasive alien species and pathways
- Ecosystem-based adaptation (EbA) and disaster risk reduction (DRR)
- Climate-resilient coastal zone management and erosion control
- One Health approach linking biodiversity, ecosystem integrity, animal health, and human well-being

These focus areas address cumulative and cross-sectoral pressures that degrade ecosystem function and increase vulnerability to climate and health risks.

Linked National Targets

Targets 7, 8, 9, and 10

Programme 4 advances pollution reduction (Target 7), invasive alien species management (Target 8), ecosystem-based climate mitigation and adaptation (Target 9), and protection and restoration of ecosystem services essential for development and resilience (Target 10).

Implementation Approach

Actions under this programme integrate biodiversity considerations into climate policy,

disaster risk management, public health planning, and pollution control systems, with particular emphasis on high-risk coastal, urban, and watershed landscapes.

Implementation will:

- Strengthen pollution prevention, monitoring, and compliance systems across sectors;
- Improve coordination on invasive alien species detection, response, and pathway management;
- Embed ecosystem-based adaptation and nature-based solutions into national and sub-national planning;
- Support mangrove, wetland, watershed, and coastal ecosystem restoration for climate resilience; and
- Promote cross-sector collaboration under a One Health framework to address biodiversity–health linkages.

Risk screening and safeguards are applied in accordance with Annex C2. Detailed actions, institutional responsibilities, costing ranges, and risk mitigation measures are provided in Annex E1, with monitoring indicators integrated into the national MEAL framework (Annex D3).

13.7. STRATEGIC PROGRAMME 5: Governance, rights, inclusion, knowledge, and participation

Programme Intent

This programme ensures that biodiversity implementation is inclusive, rights-based, accountable, and socially equitable, supported by strengthened knowledge systems, institutional capacity, and meaningful stakeholder participation.

It embeds safeguards, participation, gender equality, youth engagement, and local community rights as core implementation requirements, rather than cross-cutting aspirations.

Scope And Focus

- Gender equality, youth engagement, and recognition of Indigenous Peoples and Local Communities (IPLC) within the national context
- Application of Free, Prior, and Informed Consent (FPIC), equitable benefit-sharing, and access to grievance redress mechanisms
- Capacity development at national and sub-national levels for biodiversity planning, enforcement, and coordination
- Communication, education, and public awareness (CEPA) to support behavioural change and policy uptake
- Strengthening biodiversity knowledge systems, data access, and institutional learning

These focus areas ensure that biodiversity governance is participatory, transparent, and supported by credible knowledge and institutional systems.

Linked National Targets

Targets 14, 15, 21, and 22

Programme 5 strengthens institutional capacity (Target 14), biodiversity data and knowledge systems (Target 15), inclusive and gender-responsive participation (Target 21), and coordinated communication and awareness systems (Target 22).

Implementation Approach

Actions under this programme operationalise safeguards, participation, capacity development, and knowledge commitments through enforceable procedures and measurable indicators.

Implementation will:

- Institutionalise FPIC, benefit-sharing, and grievance redress mechanisms in accordance with Annex C2;
- Strengthen coordination between national institutions, local councils, and customary authorities;
- Enhance technical and administrative capacity for biodiversity planning and enforcement;
- Implement a coordinated national CEPA strategy aligned with national targets (Annex G1);
- Improve biodiversity data governance, reporting systems, and knowledge-sharing platforms.

Participation, safeguards compliance, and equity outcomes are monitored through sex-, age-,and community-disaggregated indicators integrated into the national MEAL framework (Annex D3). Detailed actions and institutional responsibilities are provided in Annex E1.

13.8. STRATEGIC PROGRAMME 6: Finance, implementation, monitoring, and accountability

Programme Intent

This programme enables the effective delivery, financial sustainability, transparency, and accountability of the NBSAP through strengthened biodiversity finance systems, institutional coordination, monitoring, evaluation, and CBD-compliant reporting.

It provides the operational backbone for implementing all national biodiversity targets and ensures that commitments translate into measurable results.

Scope And Focus

- Biodiversity finance mobilisation and alignment (BIOFIN), including implementation of the BIOFIN framework
- Integration of biodiversity priorities into national and sectoral budget systems

- Engagement of private finance and innovative financing mechanisms
- Institutionalisation of Monitoring, Evaluation, Accountability, and Learning (MEAL) systems
- CBD-compliant reporting, performance tracking, and adaptive management

These focus areas ensure predictable financing, institutional accountability, and evidence-based decision-making across all Strategic Programmes.

Linked National Targets

Targets 11, 12, 13, 19, and 23

Programme 6 supports biodiversity mainstreaming across development planning (Target 11), strengthens institutional coordination and governance effectiveness (Target 12), mobilises and aligns biodiversity finance (Target 13), reforms harmful incentives and promotes positive incentives (Target 19), and ensures effective monitoring, reporting, and accountability (Target 23).

Implementation Approach

Actions under this programme focus on aligning financial flows, strengthening institutional accountability, and operationalising performance tracking systems across sectors and levels of government.

Implementation will:

- Develop and implement a national biodiversity finance plan aligned with BIOFIN principles;
- Integrate biodiversity priorities into public financial management and budget processes;
- Engage private sector actors and financial institutions in biodiversity risk management and investment;
- Operationalise the national MEAL framework (Annex D3), including outcome-based indicators and disaggregated reporting;
- Strengthen institutional performance tracking and inter-agency accountability mechanisms; and
- Ensure timely and accurate reporting under the Convention on Biological Diversity (Annex H).

All actions are costed at indicative levels in Annex F2 and integrated into Programme Action Tables (Annex E1), ensuring traceability between financing, implementation, and reporting systems.

13.9. Cross-cutting safeguards and risk management

All Strategic Programmes and actions are subject to mandatory risk screening and mitigation in accordance with the Safeguards and Risk Management Framework (Annex C2).

This ensures that environmental, social, governance, and financial risks are identified early, assessed consistently, and managed proactively across all programmes and implementation levels.

Safeguards apply to:

- Spatial planning and regulatory decisions;
- Area-based conservation and restoration activities;
- Sustainable production and private sector engagement;
- Climate, pollution, and ecosystem service interventions; and
- Financing, monitoring, and reporting systems.

Application of safeguards includes Free, Prior, and Informed Consent (FPIC) where applicable, gender-responsive participation, equitable benefit-sharing, grievance redress mechanisms, and conflict-sensitive implementation.

Risk screening, mitigation measures, and compliance monitoring are integrated into the Programme Action Tables and monitored through the national MEAL framework.

Location of the Detailed Action Plan

The full operational details of Part IV are provided in the annexes:

- Annex E1 – Programme Action Tables (standardised action template)
- Annex E2 – Implementation Schedule
- Annex E3 – Institutional Roles and Responsibilities
- Annex F2 – Costing Summary

Together, these annexes provide traceability between national targets, programme actions, institutional mandates, financing requirements, safeguards, and monitoring arrangements.

PART V — IMPLEMENTATION, FINANCE, ACCOUNTABILITY, AND ADAPTIVE MANAGEMENT

14.NBSAP IMPLEMENTATION STRATEGY AND REPORTING

14.1. Purpose and approach

This Part sets out the institutional, operational, financial, monitoring, communication, and reporting arrangements for implementing the National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035. It ensures that national biodiversity targets are delivered in a coordinated, inclusive, transparent, and accountable manner, consistent with the Kunming–Montreal Global Biodiversity Framework (KM-GBF).

Implementation of the NBSAP is supported by integrated systems for coordination, financing, safeguards, monitoring, communication, learning, and accountability. Together, these systems provide the governance backbone necessary for effective delivery and long-term sustainability.

14.2. Institutional arrangements for implementation

The Environmental Protection Agency of Sierra Leone (EPA-SL) is the lead national institution responsible for overall coordination, oversight, and reporting on NBSAP implementation. EPA-SL works in close collaboration with sector ministries, local councils, statutory agencies, traditional authorities, civil society organisations, academia, and the private sector.

Implementation responsibilities are distributed in accordance with institutional mandates, with clear lead and supporting roles assigned for each action under the Strategic Programmes. These roles are detailed in Annex E3 (Institutional Roles and Responsibilities Matrix).

Coordination across sectors and levels of government is supported through:

- formal inter-institutional coordination mechanisms;
- integration of biodiversity priorities into sectoral and sub-national planning processes; and
- structured communication and engagement mechanisms to ensure transparency, information sharing, and sustained stakeholder participation.

BOX 14.1: Priority Governance Reforms for Effective NBSAP Implementation (2026–2035)

Successful implementation of Sierra Leone's National Biodiversity Strategy and Action Plan (NBSAP) requires targeted governance reforms that strengthen institutional effectiveness, accountability, and cross-sector coordination. Priority reforms for the 2026–2035 period include:

1. **Strengthened Cross-Sector Coordination**: Formalisation and operationalisation of inter-ministerial coordination mechanisms to ensure biodiversity priorities are integrated into land-use planning, agriculture, fisheries, mining, infrastructure, and finance decision-making.

2. **Enhanced Enforcement and Compliance Systems**: Improved regulatory capacity, clearer institutional mandates, strengthened inspection and compliance monitoring systems, and enhanced deterrence for environmental violations.

3. **Integration of Biodiversity into Public Financial Management**: Embedding biodiversity considerations into national budgeting, investment screening, and sectoral expenditure frameworks to reduce dependence on project-based financing.

4. **Operationalisation of Spatial and Safeguard Systems**: Systematic use of biodiversity-inclusive spatial data, EIA/SEA strengthening, and full application of the Safeguards and Risk Management Framework (Annex C2) across all programmes and investments.

5. **Institutionalisation of Monitoring, Accountability, and Reporting**: Full operationalisation of the MEAL system, clear institutional accountability for target delivery, and strengthened CBD-compliant reporting and transparency mechanisms.

These reforms focus on improving the effectiveness of existing systems rather than creating new institutional layers, ensuring that biodiversity governance is efficient, coherent, and aligned with national development priorities.

14.3. Implementation modalities and sequencing

The NBSAP is implemented through six Strategic Programmes (Part IV), which translate national biodiversity targets into coherent clusters of actions. Actions are prioritised and sequenced to reflect national capacity, financing realities, and the need for early enabling investments.

Detailed implementation modalities are presented through:

- Annex E1 – Programme Action Tables (standardised action template);
- Annex E2 – Implementation Schedule (phasing and timelines); and
- Annex F2 – Costing Summary by Programme and Phase.

Implementation follows a phased approach, with early emphasis on enabling actions (policy alignment, spatial planning, capacity development, safeguards, and financing systems), followed by scaling field-level interventions and consolidating long-term sustainability measures.

Communication and outreach actions are implemented alongside technical interventions to ensure stakeholder awareness, behavioural change, and local ownership throughout all phases.

14.4. Financing and sustainability

Financing for NBSAP implementation draws on public budgets, development partner support, private sector engagement, and innovative financing mechanisms. Biodiversity finance priorities and mobilisation strategies are set out in the Biodiversity Finance Plan (Annex F1), with indicative costing summarised in Annex F2.

Financing arrangements support both:

- technical implementation of biodiversity actions; and
- enabling systems such as capacity development, safeguards, communication, and monitoring necessary for sustained impact.

Integration of biodiversity priorities into national and sectoral budgeting processes strengthens long-term financial sustainability and reduces reliance on short-term project financing.

14.5. Safeguards, risk management, and adaptive implementation

All NBSAP actions are subject to screening and management under the Safeguards and Risk Management Framework (Annex C2). This framework identifies potential environmental, social, institutional, and operational risks and outlines mitigation measures to ensure implementation is inclusive, rights-based, and environmentally sound.

Risk screening informs adaptive implementation, allowing actions to be adjusted in response to emerging challenges, lessons learned, and changing national circumstances.

Safeguards are applied consistently across all Strategic Programmes and financing mechanisms.

14.6. Monitoring, Evaluation, Accountability, and Learning (MEAL)

Monitoring and evaluation of the NBSAP are guided by a results-based Monitoring, Evaluation, Accountability, and Learning (MEAL) Framework, aligned with KM-GBF monitoring guidance and national reporting requirements.

The MEAL system:

- tracks progress toward national targets and milestones;
- supports adaptive management and institutional learning;
- ensures accountability of implementing institutions; and
- provides evidence for national and international reporting.

Detailed indicators, baselines, milestones, and data sources are provided in Annex D1 (Targets Details), Annex D2 (Target–Indicator Crosswalk), and Annex D3 (NBSAP MEAL Framework), with operational procedures outlined in the MEAL Standard Operating Procedures.

14.7. Reporting, transparency, and CBD Compliance

EPA-SL is responsible for consolidating and submitting national biodiversity reports, including reporting under the Convention on Biological Diversity. Reporting arrangements and compliance requirements are detailed in Annex H (Reporting and Compliance).

In addition to formal reporting, public-facing communication of NBSAP progress, including summary reports and outreach products, supports transparency and accountability to stakeholders and citizens.

14.8. Communication, education, and public awareness (CEPA)

Communication, education, and public awareness are integral to effective NBSAP implementation. CEPA supports informed participation, behavioural change, transparency, and accountability, and strengthens the link between biodiversity outcomes and societal benefits.

CEPA implementation is guided by the National CEPA Strategy and Action Plan (Annex G1) and includes:

- stakeholder engagement and feedback mechanisms;
- public awareness and education initiatives;
- targeted communication for decision-makers, communities, youth, and the private sector; and
- dissemination of NBSAP progress, lessons, and results.

CEPA activities are coordinated with programme implementation, monitoring, and reporting processes to ensure coherence and efficiency.

14.9. Review and adaptive updating

The NBSAP will be periodically reviewed to reflect implementation experience, emerging scientific knowledge, and evolving national priorities. Findings from monitoring, evaluation, and stakeholder feedback will inform adjustments to actions, sequencing, and resource allocation, ensuring that the NBSAP remains responsive, effective, and aligned with national development objectives and global biodiversity commitments.

ANNEXES — NBSAP 2026–2035

ANNEX A — FOUNDATIONAL AND PROCESS ANNEXES

ANNEX A1 — NBSAP PREPARATION PROCESS AND METHODOLOGY

A1.1 Purpose of this Annex

This annex documents the methodological approach, analytical processes, data sources, and validation steps undertaken in preparing Sierra Leone's National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035. It provides a transparent account of how national biodiversity targets, Strategic Programmes, and implementation arrangements were developed, reviewed, and refined.

The annex serves three primary purposes. First, it demonstrates alignment with the Convention on Biological Diversity (CBD) and the Kunming–Montreal Global Biodiversity Framework (KM-GBF). Second, it provides methodological clarity for national institutions and implementation partners responsible for delivery. Third, it offers sufficient technical transparency to support academic scrutiny, development partner engagement, and future updates of the NBSAP.

The preparation process was designed to move beyond a descriptive biodiversity assessment toward a coherent, implementable, and accountable national strategy grounded in evidence and institutional realism.

A1.2 NBSAP Update Approach and Phases

A1.2.1 Overall Approach

The NBSAP 2026–2035 was developed as a structured update of Sierra Leone's previous NBSAP (2017–2026), informed by lessons learned from implementation experience and guided by CBD revision principles. The update process was anchored in five core considerations: ecological evidence, development alignment, institutional feasibility, financing realism, and measurability.

Rather than beginning with global targets and attempting direct replication, the preparation process followed a diagnostic-to-delivery approach. It began with a review of biodiversity status, trends, and drivers, proceeded through institutional and governance analysis, and culminated in the design of nationally adapted targets and programme-based delivery pathways.

This approach ensured that the NBSAP reflects national priorities and constraints while maintaining full thematic alignment with the KM-GBF.

A1.2.2 Phased Preparation Process

The preparation of the NBSAP unfolded through six structured phases.

♠ **Phase 1: Stocktaking and Diagnostic Review**

The process began with a systematic review of the performance and limitations of the 2017–2026 NBSAP. This included examination of implementation gaps, institutional coordination challenges, financing constraints, and monitoring weaknesses. The review revealed that limited progress was not primarily attributable to lack of commitment, but rather to structural fragmentation, diffuse accountability, and insufficient integration into sector planning and budgeting systems. These findings directly informed the design logic of the updated NBSAP.

♠ **Phase 2: Evidence Consolidation and Spatial Analysis**

The second phase focused on consolidating ecological, socio-economic, and governance evidence. Biodiversity status and trends were synthesised across terrestrial, freshwater, coastal, and marine ecosystems. Spatial analysis integrated biodiversity importance layers with pressure and risk overlays to identify priority geographies and ecological corridors. This phase generated the analytical foundation for spatial planning, restoration prioritisation, and ecosystem-based climate responses.

♠ **Phase 3: Target Adaptation and Structuring**

National biodiversity targets were developed through systematic review of the 23 KM-GBF targets. Each global target was assessed for national relevance, ecological urgency, institutional feasibility, and measurability. Where appropriate, multiple global targets were operationalised through a single national target to ensure coherence and avoid fragmentation. The result was a set of 23 nationally adapted targets that maintain full thematic coverage while reflecting Sierra Leone's context.

♠ **Phase 4: Programme Design and Operationalisation**

To strengthen implementation coherence, national targets were clustered into six Strategic Programmes. This programme-based structure reduces duplication, enables sequencing, and clarifies institutional accountability. Each programme was operationalised through standardised action templates, defined institutional roles, indicative cost ranges, and integration with safeguards and monitoring systems.

♠ **Phase 5: Multi-layer Validation and Technical Review**

Draft versions of the NBSAP were circulated for structured review through a Technical Working Group (TWG) process, institutional, and national stakeholders' consultations. Comments were formally consolidated, classified, and addressed through documented revisions. Inputs were received from sector ministries, the ABS Focal Point, marine governance stakeholders, protected area authorities, academic institutions, and civil society organisations. This process strengthened legal clarity, spatial coherence, species recovery realism, and governance arrangements.

♠ **Phase 6: Final Harmonisation and Coherence Review**

The final phase focused on internal consistency across Parts I–V and all annexes. Cross-referencing was strengthened, duplication removed, and alignment between targets, programmes, financing, safeguards, and monitoring systems ensured. This phase resulted in the Final NBSAP 2026–2035.

A1.3 Data Sources Used

The NBSAP draws upon a triangulated evidence base combining national datasets, global biodiversity information, and project-generated technical analyses.

National data sources included biodiversity status reports, protected area records, national spatial datasets, census data, sector policy documents, and national development planning frameworks, including the Medium-Term National Development Plan (MTNDP 2024–2030). Sector ministries and agencies provided administrative and policy documentation relevant to agriculture, fisheries, forestry, mining, land use, and environmental management.

Global and regional datasets were used to complement national data, including the IUCN Red List, Key Biodiversity Areas datasets, the World Database on Protected Areas (WDPA), and other internationally recognised biodiversity and ecosystem datasets. These were used primarily for comparative benchmarking and species status verification.

Technical reference materials—including conservation planning roadmaps, natural capital threat analyses, and spatial prioritisation studies—provided additional analytical depth. All datasets were reviewed for consistency and triangulated where possible to reduce bias arising from incomplete or uneven coverage.

A1.4 Analytical Methods

The analytical framework combined ecological assessment, spatial analysis, governance diagnostics, and target development methodologies.

Ecosystem and species analyses were conducted using directional trend assessment (declining, stable, improving) rather than precise quantitative modelling, reflecting data availability constraints. Direct and indirect drivers of biodiversity loss were categorised to inform systemic reform design.

Spatial analysis employed overlay techniques integrating biodiversity importance layers with pressure indicators such as land-use change, extractive activity, and infrastructure expansion. Connectivity and corridor identification supported ecological integrity planning. These analyses informed the prioritisation of geographies for the 2026–2030 implementation phase.

Institutional and governance analysis involved review of mandates, policy coherence, enforcement capacity, financing structures, and coordination mechanisms. The objective was not to produce an exhaustive legal audit but to identify implementation bottlenecks affecting biodiversity outcomes.

Target development applied feasibility screening, indicator compatibility testing, and alignment checks with the KM-GBF monitoring framework. This ensured that national targets are measurable and institutionally realistic.

A1.5 Validation and Review Steps

Validation of the NBSAP was conducted through a structured, multi-tiered process.

The Technical Working Group (TWG) served as the primary platform for cross-sector technical review. Draft sections were circulated, comments formally consolidated, and revisions undertaken with documented justifications. This process strengthened ownership across institutions and ensured technical robustness.

Institutional contributions included thematic inputs on access and benefit-sharing (ABS), marine governance considerations, protected area management realism, and academic corrections. Sector ministries reviewed mainstreaming provisions to ensure alignment with operational mandates.

A formal national validation workshop provided an opportunity for high-level endorsement and clarification of institutional responsibilities. Feedback from this stage resulted in further refinement of implementation sequencing, financing framing, and accountability structures.

A1.6 Alignment with CBD and KM-GBF Guidance

Alignment with the CBD and KM-GBF was embedded throughout the preparation process rather than applied retrospectively. Each national target is mapped to corresponding KM-GBF targets through the Target–Indicator Crosswalk (Annex D2). Monitoring indicators are aligned with global guidance while adapted to national data realities.

The NBSAP maintains full thematic coverage of KM-GBF goals, including spatial planning (Target 1), area-based conservation (Target 3), sustainable use (Target 5), pollution reduction (Target 7), climate integration (Target 8), finance mobilisation (Target 19), participation and rights (Target 22), and reporting (Target 23).

National adaptation avoids mechanical mirroring of global targets, instead translating them into implementable, sequenced actions consistent with Sierra Leone's institutional capacity and development priorities.

A1.7 Methodological Integrity and Limitations

The preparation process acknowledges data and capacity limitations. Species inventories remain incomplete for certain taxonomic groups, and long-term ecological monitoring data are limited. Spatial datasets vary in resolution and update cycles.

Institutional and financing constraints also affect implementation feasibility. The NBSAP therefore adopts an adaptive management approach, allowing for periodic review and refinement as new information becomes available.

The strategy prioritises directional assessment and risk-informed decision-making over false precision. Where uncertainty exists, precautionary and safeguards-based approaches are applied.

A1.8 Conclusion

The preparation of the NBSAP 2026–2035 was structured, evidence-based, participatory, and aligned with CBD guidance. It integrates biodiversity science, spatial analysis, governance reform, financing realism, and accountability systems into a coherent national framework.

This annex provides methodological transparency and demonstrates that the NBSAP is not a collection of aspirational commitments, but a strategically designed, institutionally grounded, and internationally aligned biodiversity strategy for the period 2026–2035.

ANNEX A2 — STAKEHOLDER MAPPING AND ENGAGEMENT SUMMARY

A2.1 Purpose and Strategic Framing

This annex summarises the stakeholder mapping and engagement process undertaken to support the update of Sierra Leone's National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035 and the preparation of the 7th National Biodiversity Report (NR7).

Stakeholder engagement was treated not as a procedural requirement but as a core analytical pillar of the NBSAP update. The process was designed to ensure that national biodiversity priorities, targets, and implementation pathways are grounded in stakeholder evidence, institutional realities, and broad-based ownership.

The engagement process was aligned with national development priorities articulated in the Medium-Term National Development Plan (MTNDP 2024–2030) and Sierra Leone's international obligations under the Convention on Biological Diversity (CBD), particularly the Kunming–Montreal Global Biodiversity Framework (KM-GBF). It operationalised principles of participation, inclusiveness, transparency, and accountability consistent with KM-GBF Targets 21–23.

The process combined structured stakeholder mapping, multi-level consultations, and iterative validation to generate a nationally coherent synthesis of biodiversity challenges, opportunities, and delivery constraints.

A2.2 Stakeholder Identification, Categorisation, and Mapping

A comprehensive stakeholder mapping exercise was conducted at the outset of the process. Stakeholders were identified and categorised according to institutional mandate, influence, interest, exposure to biodiversity risks, and potential role in implementation.

The principal stakeholder categories included:

- **National Government Ministries, Departments, and Agencies (MDAs)** responsible for environment, forestry, protected areas, agriculture, fisheries, land administration, mining, planning, finance, tourism, and local government;

- **Local Authorities**, particularly district and city councils with mandates for land-use planning, environmental management, and local by-laws;
- **Civil Society Organisations (CSOs) and NGOs**, engaged in conservation, advocacy, research, and community mobilisation;
- **Communities and Local Resource Users**, including traditional authorities and representatives of forest-, mangrove-, wetland-, agricultural-, and fisheries-dependent livelihoods;
- **Private Sector Actors**, particularly in mining, forestry, agriculture, fisheries, energy, infrastructure, and tourism;
- **Development Partners**, including UN agencies and bilateral and multilateral institutions supporting biodiversity, climate, and finance initiatives.

Stakeholders were further analysed using an influence–interest matrix to calibrate engagement intensity and modality. High-influence actors (e.g., sector ministries, finance authorities) were engaged through structured technical and policy dialogue, while highly affected groups (e.g., resource-dependent communities) were prioritised for participatory consultation and evidence gathering. This ensured that both decision-making authority and lived experience informed the NBSAP update.

A2.3 Engagement Methods and Platforms

The engagement process applied a multi-level, mixed-methods approach guided by an approved Stakeholder Engagement Plan (SEP). The SEP established objectives, engagement protocols, facilitation standards, documentation requirements, and feedback loops.

Engagement occurred across four primary levels:

♠ **District-Level Consultations**

District engagements captured local biodiversity assets, ecosystem services, threats, livelihood dependencies, and governance constraints. These consultations provided granular evidence on resource use patterns, tenure challenges, and enforcement realities.

♠ **Regional Workshops**

Regional consultations synthesised district findings and identified cross-district ecosystem patterns. This level of engagement facilitated trend validation and surfaced systemic governance challenges that are not always visible at the local scale.

♠ **National Technical Platforms**

Engagement with MDAs, technical experts, and the National Technical Working Group (TWG) ensured that biodiversity priorities were technically sound and institutionally aligned. These platforms clarified sector roles, identified policy inconsistencies, and strengthened cross-sector coherence.

♠ **National Policy and Oversight Platforms**

Dialogue with parliamentary and oversight institutions strengthened governance legitimacy and reinforced accountability considerations.

In addition, thematic engagement platforms were convened, notably on biodiversity finance through the UNDP-supported Biodiversity Finance (BioFIN) initiative, ensuring that financing constraints and opportunities were explicitly integrated into NBSAP design.

Across all platforms, a suite of structured tools was applied to standardise data capture. These tools facilitated systematic documentation of ecosystem status, drivers of biodiversity loss, institutional performance, gendered livelihood dimensions, financing gaps, and proposed priority actions.

Facilitation methods were adapted to local contexts, including the use of visual aids, group discussions, and oral validation to enable participation by non-literate stakeholders and ensure inclusiveness.

A2.4 Regional and National Consultation Synthesis

District consultations consistently identified forests, mangroves, wetlands, riverine systems, and marine and coastal ecosystems as ecologically critical and under increasing pressure. Key drivers of biodiversity loss—such as charcoal and fuelwood production, agricultural expansion, mining, illegal timber harvesting, urban encroachment, and pollution—were repeatedly confirmed across districts.

Regional workshops validated these findings and revealed cross-ecosystem patterns, highlighting that biodiversity loss is not isolated but systemic. Participants emphasised governance constraints, including weak enforcement, overlapping mandates, limited coordination, insufficient budget allocations, and capacity deficits at sub-national levels.

National-level technical consultations provided further prioritisation and strategic guidance. The Technical Working Group confirmed thematic alignment with the KM-GBF and clarified institutional roles under the proposed Strategic Programmes. Parliamentary engagement underscored the need for stronger accountability and oversight mechanisms. Biodiversity finance discussions reinforced that financing gaps constitute a binding constraint and must be addressed as a cross-cutting enabler.

The synthesis of district, regional, and national engagements directly informed:

- Priority ecosystem identification (Part II);
- Target clustering and programme design (Part III and IV);
- Governance and financing reforms (Parts IV and V);
- Safeguards and inclusion provisions (Annex C2).

A2.5 Participation and Inclusion (Gender, Youth, and IPLCs)

Inclusiveness was treated as both a procedural requirement and a strategic necessity for effective biodiversity governance.

Women actively participated in consultations, particularly in discussions on forest product harvesting, charcoal and fuelwood use, fisheries processing, wetland management, and household-level resource governance. Their contributions strengthened the understanding of livelihood dependencies and gendered impacts of biodiversity loss.

Youth were strongly represented, reflecting their substantial involvement in natural resource–based livelihoods and their potential role in restoration, green employment, and behaviour change initiatives.

Sierra Leone does not formally recognise Indigenous Peoples as a distinct constitutional category. However, engagement with Indigenous Peoples and Local Communities (IPLCs), as defined under the CBD, was undertaken through traditional authorities, community representatives, and district-level platforms. These engagements provided substantive insights into customary tenure systems, local stewardship practices, and community-based conservation approaches.

While resource constraints limited dedicated IPLC-only platforms, triangulation through civil society organisations, district actors, and national validation ensured that IPLC perspectives were meaningfully reflected in the NBSAP's safeguards, participation, and benefit-sharing provisions.

A2.6 Implications for the Updated NBSAP

The stakeholder engagement process yielded several strategic implications that shaped the final NBSAP:

First, biodiversity loss in Sierra Leone is widely perceived as systemic and development-linked rather than sector-specific. This reinforced the need for cross-sector coordination and for integrating spatial planning.

Second, institutional fragmentation and weak enforcement were repeatedly identified as critical constraints, informing the governance and accountability provisions in Parts IV and V.

Third, livelihood dependence on biodiversity resources necessitates integrating social, gender, and youth dimensions across all programmes rather than confining them to a single thematic section.

Fourth, biodiversity finance was consistently identified as a limiting factor, reinforcing the centrality of finance mobilisation and integration into public financial management systems.

Finally, stakeholders emphasised the importance of measurable results, transparent reporting, and adaptive management, strengthening the design of the MEAL and reporting systems.

A2.7 Conclusion

The stakeholder mapping and engagement process demonstrates strong national awareness of biodiversity challenges and broad consensus on priority pathways for action. By grounding the updated NBSAP in structured, inclusive, and multi-level engagement, Sierra Leone has strengthened national ownership and enhanced the credibility of its biodiversity strategy.

The engagement process directly supports compliance with CBD participation principles and KM-GBF Targets 21–23 and provides a durable foundation for inclusive implementation, adaptive learning, and transparent reporting throughout the 2026–2035 period.

ANNEX A3 — LIST OF CONTRIBUTORS AND INSTITUTIONS

A3.1 Purpose of this Annex

This annex documents the institutions, technical teams, consultants, and development partners that contributed to the preparation, review, validation, and refinement of Sierra Leone's National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035.

The purpose of this annex is threefold:

- To recognise institutional and technical contributions to the NBSAP update;
- To clarify roles and accountability in the preparation process; and
- To demonstrate national ownership and multi-stakeholder collaboration consistent with CBD guidance and KM-GBF principles.

The preparation of the NBSAP was undertaken as a nationally led process, coordinated by the Environmental Protection Agency of Sierra Leone (EPA-SL), with structured engagement of government institutions, technical experts, civil society, academia, and development partners.

A3.2 Core Technical Team

The core technical oversight and coordination of the NBSAP 2026–2035 was led by the Environmental Protection Agency of Sierra Leone (EPA-SL) in its capacity as the national focal institution for biodiversity policy and reporting under the Convention on Biological Diversity.

EPA-SL provided:

- Strategic direction for the NBSAP update process;
- Institutional coordination across ministries and agencies;
- Oversight of stakeholder engagement and validation processes;
- Technical review of draft sections;
- Alignment with national policy and legal frameworks;
- Consolidation of national reporting obligations.

The Core Technical Team comprised senior technical officers and designated focal points within EPA-SL, including the CBD Focal Point and relevant programme leads responsible for biodiversity, environmental management, safeguards, and monitoring.

The Core Technical Team ensured that the updated NBSAP reflects national priorities, maintains policy coherence, and aligns with Sierra Leone's international biodiversity commitments.

A3.3 National Institutions and Technical Working Group (TWG)

A3.3.1 Technical Working Group (TWG)

A multi-sectoral Technical Working Group (TWG) was convened to provide a structured technical review and cross-sector validation of the NBSAP draft.

The TWG included representatives from:

1. Environment, Natural Resources, and Climate Change institutions;
2. Forestry and Wildlife authorities;
3. National Protected Area Authority (NPAA);
4. Fisheries and Marine governance institutions;
5. Agriculture and Land-use planning institutions;
6. Mining and extractive sector regulators;
7. Planning and Finance authorities;
8. Local Government institutions;
9. Academic and research institutions.

The TWG functioned as the primary technical deliberation platform, reviewing draft targets, programme structures, safeguards provisions, and institutional arrangements. It strengthened inter-ministerial coherence and ensured that biodiversity priorities were feasible within existing mandates.

A3.3.2 Contributing National Institutions

In addition to TWG members, several national institutions provided structured comments and thematic inputs during the review and validation phases. These included:

- The ABS Focal Point and associated research institutions;
- Marine governance and BBNJ-related representatives;
- National Protected Area Authority (NPAA);
- Njala University and other academic institutions;
- Sector ministries responsible for agriculture, fisheries, forestry, land, mining, planning, and finance;
- Parliamentary Committee on Environment and Climate Change (policy-level engagement);
- Local councils and district-level authorities (through regional consultations).
  These institutions contributed technical refinements, governance clarifications, and sector mainstreaming adjustments that strengthened the final NBSAP.

A3.4 Consultants and Reviewers

A3.4.1 Lead Technical Consultants (KANKO Experts)

The NBSAP update process was supported by external technical consultants engaged to provide structured analytical, drafting, and harmonisation support.

KANKO Company, based in Ghana with associated experts provided:

- Methodological design for the update process;
- Target adaptation and KM-GBF alignment mapping;
- Spatial integration and programme structuring;
- Drafting and technical harmonisation across Parts I–V;
- Consolidation of stakeholder and TWG comments;
- Governance and financing coherence strengthening;
- Integration of safeguards and MEAL systems.

Their role was advisory and technical, operating under the oversight and direction of EPA-SL and the TWG.

A3.4.2 Biodiversity Finance (BioFIN) Team

The UNDP-supported Biodiversity Finance Initiative (BioFIN) team contributed analytical support on biodiversity finance, including:

- Review of financing gaps and constraints;
- Alignment of NBSAP actions with finance mobilisation pathways;
- Input into Annex F1 (Biodiversity Finance Plan);
- Strengthening of financial sustainability provisions in Part V.

The BioFIN contribution ensured that financing considerations were embedded as a cross-cutting enabler rather than treated as a standalone annex.

A3.4.3 External Reviewers and Thematic Contributors

Additional technical review and thematic contributions were received from subject-matter experts, sectoral consultants, and development partner advisors.

These reviewers contributed to:

- ABS and DSI readiness considerations;
- Marine and coastal governance provisions;
- Species recovery realism;
- Safeguards and rights-based frameworks;
- Monitoring and reporting alignment.

All external contributions were reviewed and integrated through structured comment matrices to ensure traceability and accountability.

A3.5 Development Partners

The preparation and validation of the NBSAP benefited from support and engagement by development partners committed to biodiversity, climate resilience, and sustainable development in Sierra Leone. Development partners contributing to the process included:

- United Nations Development Programme (UNDP) — including support through the Biodiversity Finance Initiative (BioFIN);
- United Nations Environment Programme (UNEP) — including alignment with CBD reporting processes;
- European Union (EU) — through biodiversity, environment, and governance support frameworks;
- Other bilateral and multilateral development partners engaged in biodiversity, climate, and natural resource governance initiatives.

Development partners provided technical guidance, financial support, capacity strengthening, and alignment with international frameworks. Their engagement reinforced compliance with CBD reporting requirements and strengthened the credibility of the NBSAP as an internationally aligned strategy.

A3.6 Governance Integrity and Accountability

The NBSAP 2026–2035 is a nationally owned document. While consultants and development partners provided technical and financial support, ultimate responsibility for the content, commitments, and implementation of the NBSAP rests with the Government of Sierra Leone through EPA-SL.

All contributions were consolidated through structured review mechanisms, including the Technical Working Group, institutional validation, and national endorsement processes. This ensured:

A. Institutional accountability;
B. Policy coherence;
C. Transparency of inputs;
D. Traceable integration of comments;
E. Consistency with national mandates.

A3.7 Concluding Note

The preparation of the NBSAP 2026–2035 reflects a collaborative, multi-institutional effort grounded in national leadership and supported by technical expertise and development partnership.

This annex records that collaborative foundation and affirms that the NBSAP represents a nationally endorsed, technically validated, and internationally aligned biodiversity strategy for Sierra Leone for the period 2026–2035.

ANNEX B — BASELINE ANALYSIS AND EVIDENCE

ANNEX B1 — BIODIVERSITY STATUS, TRENDS, AND DRIVERS' ANALYSIS

B1.1 The biogeographic context of Sierra Leone

Sierra Leone is part of the Afrotropical biogeographic region of the world, which includes Africa south of the Sahara Desert, the majority of the Arabian Peninsula, Madagascar, southern Iran, extreme southwestern Pakistan, and the islands of the western Indian Ocean (Udvardy, 1975). The interior of Sierra Leone is influenced by climatic forces: (i) the Harmattan (North-East Trades), which flows during the dry season (December to April), wherein the country is dominated by dry, dusty winds blowing from the Sahara Desert; (ii) The West African Monsoon (South-West Trades), during the rainy season (May to November), coming in with moist maritime air from the Atlantic Ocean moves inland, bringing heavy precipitation. The coast of Sierra Leone also belongs to the Tropical Atlantic of the Marine Ecoregion of the World. The vegetation and ecology of the country is therefore determined by the climatic forces that influence these ecoregions.

B1.2 General information on species status and trends

Sierra Leone is an ecologically diverse country with forests, savanna, wetlands (inland and coastal) ecosystems that support a diverse array of flora and fauna. Over a couple of centuries of human activities, there is both empirical and anecdotal evidence that significant portions of pristine ecosystems have been lost or degraded. It is estimated that by the end of the 19th century, 60% of the country's land area was covered by closed-canopy forest, but only about 5% remains today. The loss of ecosystem extent and quality has significant consequences for the diversity of flora and fauna, both species and genetic. The data in Table 14 provide insight into the current state of species diversity across known taxa.

Table 14: The number of species of various taxonomic groups categorized under the IUCN Red List (2025).
SC – Species of Conservation Concern; NS – Number of species

Taxonomic group	CR	EN	VU	NT	DD	IUCN 2025	CITES Apdx I	CITES Apdx II	Total NS
Plants	2	9	38	10	1	60	0	2	~2000
Mammals	3	7	6	5	4	25	7	2	170
Birds	2	5	8	11	1	27	2	3	642
Reptiles	4	0	8	3	3	18	6	8	67
Amphibians	0	0	1	2	5	8	0	0	69
Fish	0	0	1	6	0	7	2	3	180
Butterflies	0	0	0	4	1	1	0	0	800
Total number	**11**	**21**	**62**	**41**	**15**	**146**	**15**	**18**	**1914**

With the exception of butterflies, this figure excludes other insects and general invertebrate groups for which little or no studies have been done. In general, recent *ad hoc* studies have highlighted low presence and declining numbers and distribution of species within and outside the national forest estate. However, according to the IUCN Red List of Threatened Species (2016), only about 5% of the species in the taxa covered are globally threatened.

B1.2.1 Ecosystems / Vegetation Diversity

Sierra Leone's locations in West tropical Africa accord a mixed blessing to the floristic diversity, varying physiognomy, and variety of vegetation. The diversity of ecosystems and plant communities are influenced by two main broad biome types as illustrated in the map in Figure 12 given below and described in the paragraphs that follow:

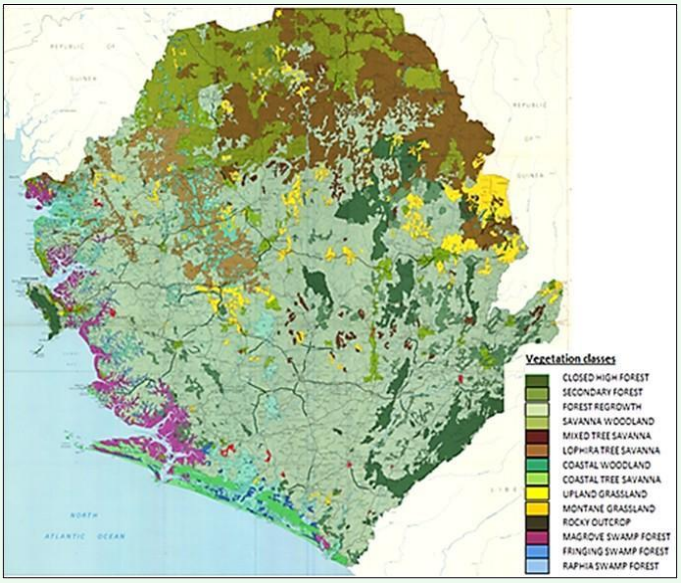


Figure 12: Vegetation map of Sierra Leone (Source: Panagos et al, 2011)

Please note that this map was produced in 2011. Although the general vegetation character may not have changed significantly, some specific areas may have undergone substantial transformation, such as the urban sprawl affecting the periphery of the Western Area National Park, the uncontrolled exploitation of Pterocarpus erinaceus woodland, and mining activities around the Kangari Hills Non-hunting Forest Reserve.

B1.2.2 Sudan-Guinea Savanna biome

The Sudan-Guinea Savanna in the north incorporates a range of grassland and woodland savanna ecosystems. The grasslands span most of the extreme northern sectors and are dominated by *Andropogon gaboneensis sp, Chasmopodium caudatum, and Pennisetum purpureum*. The woodland distribution correlates also cover the areas traversed by grassland, and they are dominated by few tree species namely, *Lophira lanceolata, Pterocarpus erinaceous, Parkia biglobosa, Piliostigma thonningi* and *Daniella oliveri*. Savanna grassland and woodland mosaics are found inundating various stretches of the landscape and do occur as mixed savanna grassland/woodland. These environments contain a mix of species of wood and grasses characteristic of savanna biomes. Vast areas of woodland and/or grassland savanna occur in the Outamba-Kilimi National Park (OKNP) in northern Sierra Leone.

B1.2.3 Guinea-Congo Forest biome.

Traversing much of the south, southeast to parts of the east is the Guinea-Congo Forest (GCF) biome, which is characterised by a diverse array of plant communities, dominated by a diverse range of trees, shrubs, shrubs and lianas. The plant communities found in the GCF biomes comprise subdivisions as follows:

6. Moist evergreen forest - species including *Heriteira utilis, Uapaca guineensis, Cryptosepalum tetraphyllum, Lophira alata, Diospyrus elliota, Brachystegia leonensis, Pentachetra macrophylla, Mimusops heckelli, Parinari excelsa, Funtumia africana, Xylopia aethiopica* and *Erythrophylum ivorensis*;

7. Moist semi-deciduous forest **-** main species including *Chlorophora regia*, *Terminalia ivorense*, *Piptadinia africanum*, *Entandrophragma* sp, *Afzelia* sp, *Oldfieldia africana*, and *Daniella thurifera*;

8. Moist secondary forest - dominant species being *Anisophyllea* sp, *Musanga smithii*, *Chlorophora regia*, *Terminalia* sp, *Macrolobium dawei*, *Bridelia ferruginea*, *Berlinia* sp and *Uapaca* sp.

Much of the closed primary forests and the moist semi-deciduous forests have been converted to farmbush and farmland through decades of slash and burn agriculture, accompanied by degradation activities such as timber, wood and charcoal extraction. In addition to trees, many species of shrubs and herbs occur, but most uniquely are the lianas, which are typical of mature and secondary forest but almost completely absent in savanna communities. The remaining 5% of closed forests are found in protected areas mostly in the east to southeast of the country; the Western Area Peninsula National Park (WAPNP) is the westernmost extent of GC forest biome, mainly moist semi-deciduous forest, whilst the Gola Rain Forest National Park (GRFNP) in the southeast holds the largest areas of closed moist evergreen forest ecosystem in the country.

The forests in Sierra Leone are very important to its citizens, but more so through its strong ethnobotanic relationship to local communities and indigenous peoples. An overwhelming diversity of trees, shrubs, lianas, palms and herbs provide resources for medicines, food, utilities, building materials, furniture, and energy needs for the people. Some species are sources of income and livelihood base for a significant number of local people through exploitation of wood, poles, timber and non-timber forest products (NTFP) such as honey, mushrooms, snails and other such resources. The cultural attachment to forests is enormous and it traverses all sects, ethnicity and cultures across all regions in the country, proiding diverse ecosystems services support to human lives.

B1.2.4 Other ecosystems

Montane vegetation

At high altitudes (>1400 m asl) are montane forests and montane grasslands. Only two areas hold these ecosystems; namely, Loma Mountains National Park and Tingi Hills Non-hunting Forest Reserve. The montane areas are among the most pristine environments in the country, because the mountain range, rugged terrane and inaccessible road network, where they occur, protects them from frequent human interference. The montane forests are dominated by *Parinari excelsa*, *Cola lateritia* and *Uapaca togoensis*, whilst the grasslands have a monospecific dominance of *Pennisetum purpureum*, at both the Loma and Tingi mountain ranges. These montane grasslands are characterized by natural fires that influence the physiognomy and growth cycle of the vegetation.

Edaphic vegetation

Scattered around the country are edaphic forests which occurrence are mainly influenced by moisture levels and so are found associated with flooding zones, streams and rivers. There are two subdivisions, as follows: (i) Fresh inland swamp forest indicative of the presence of raphia species (*Raphia sudanica* and *Raphia hookeri*); and (ii) riverine, riparian and fringing forest with key tree species being *Plagiosiphon imaginatus* and *Catharimus altissimum*. Edaphic forest are important for the hydrological cycle and for ecological function as they determine the soil's capacity to capture, store, filter, and release water. In combination with the vegetation, the soils in edaphic forest regulate how precipitation is partitioned into green water (evapotranspiration) and blue water (groundwater and runoff) flows. They also support species recruitment and maintain high plant diversity, thereby ensuring effective ecosystem functions. However, their ecological viability and ecosystem functions are being degraded by mining and agriculture related erosion and sedimentation.

Freshwater aquatic ecosystems

Sierra Leone is inundated with an extensive network of inland freshwater ecosystems. Ten major rivers and their associated network of streams and tributaries criss-cross every sector of the country, flowing approximately from the northeast to southwest of the country. These aquatic systems keep the hydrological cycles active and provide ecological engine for the function of many other

ecosystems, such as edaphic forests, riparian ecologies, inland valley swamps and coastal environments. The IVS network is estimated at 630,000 ha (MAFFS, 2010), with about a fifth of it under rice cultivation.

Coastal and Marine Ecosystems

The major plant community found along the 560 km of coastline in Sierra Leone is mangrove, which thrive in brackish zones along creeks, bays, lagoons and estuaries. The total mangrove forest cover is estimated at 176,600 ha (Chong, 1987) and Trzaska et al. (2018), comprises six species distributed to varying degrees across these coastal ecosystems, depending on salinity dynamics in the estuarine systems. The species are *Rhizophora racemosa, Rhizophora mangle*, *Rhizophora harrizonii*, *Avicennia africana*, *Canocarpus erectus*, and *Laguncularia racemosa*. A greater proportion of mangrove vegetation occurs in four main estuarine systems outlined in Table 15.

The two estimates are 30 years apart and during that period significant quantities of mangrove were degraded through conversion for swamp rice cultivation and wood extraction to supply the fish curing industry and domestic energy needs. Between 2018 and 2025 a number of mangrove restoration interventions were implemented at various sites, with promising outcomes for mangrove vegetation recovery in the foreseeable future. Thus, prospective estimates may indicate increased cover by 2035, if restoration and protection measures are sustained.

Table 15: Distribution of mangrove estate in Sierra Leone

Estuary	Chong, 1987 (Relative %)	WA BiCC 1990 to 2016 Analysis	
		2016 (5 km buffer) (Relative %)	Relative Change Since 1987 (5km buffer)
Scarcies River	13,007 (7.1%)	9,067 (7.2%)	-5,216 (37% loss)
Sierra Leone River	34,234 (18.6%)	29,112 (23.1%)	+2,910 (11% gain)
Yawri Bay	29,505 (16.1%)	11,408 (9.1%)	-2,433 (18% loss)
Sherbro River	99,854 (54.3%)	76,376 (60.6%)	-500 (1% loss)
TOTAL	**176,600**	**125,963**	**NA**

The marine environment is neatly contiguous with the coastal zone and together with the "Exclusive Economic Zone" (EEZ) of Sierra Leone covers an area of about 160,000 km^2 from Kiragba in the north to Mano in the south. The continental shelf of the coast of Sierra Leone is about 100 km wide in the north and tapers to about 13 km in the south towards Liberia. The total continental shelf area covers about 30,000 km^2 and it is perennially enriched by nutrients from the river networks, rendering the coastal environment a unique ecosystem, which serves not only as an important habitat for assemblages of marine organisms but also as a feeding and breeding ground for most economically targeted species.

B1.3 Botanic characteristics and status of flora

Sierra Leone is estimated to hold over 2000 species of vascular plants including 74 species endemic to the West African sub-region, based on studies by Cole (1968), Cole (1993), Klop et al., (2008), and *ad hoc* surveys by the Forestry Department and various impact assessments. There are 91 plant species listed as threatened (CR/EN/VU), near threatened (NT), and data dependent (DD) based on an assessment by the EPA in 2015 and IUCN (2025) Red List of Threatened Species. The number of threatened plant species is apparently correlated with the threat status of ecosystems, which explains the greater number of threatened forest tree species compared to those from other ecosystems. There is no empirical data to show the distribution of plant species, but most of timber resources are found in closed canopy forest formations.

Some of the most locally exploited timber species, which are now listed as threatened by IUCN (2025) include *Gilbertodendron bilineatus* (VU), *Gilbertodendron splendidum* (VU), *Afzelia africana* (VU), *Heritiera utilis* (VU), *Terminalia ivoriensis* (VU) and *Pterocarpus erineaceous* (EN); Whereas, *H. utilis* was downlisted to Least Concern (LC), *P. erinaceus* was uplisted to Endangered (EN) in the last two years. The species *Lebbiae grandiflora* (new to science) and *Triclisia macrophylla* are listed as Critically Endangered (CR). With the exception of the Gola Rain Forest National Park (GRFNP), most forest reserves and national parks are under huge threats from various sources, chiefly agriculture, urbanisation and mining. Table 16 shows the number of threatened plant species in each of the floral families in the country. The full list of threatened plant species is given in the tables below.

The ethnobotanic dependency of the rural population, through the diverse ecosystem services plants provide, is huge, and cuts across all regions and ethnic groups, as shown by empirical evidence (Lebbie and Gurries, 1995) and various unpublished research reports. Many of the plant species of various life forms (trees, shrubs, herbs and lianas) are used by the local people for medicinal purposes. The variety of food sourced from the wild range from fruits to tubers, whilst there is huge reliance on woody species for timber, poles, ropes, and domestic fuel purposes. Some of these resources, especially timber, wood and charcoal provide huge economic lifeline for local people and thus, wild plants are very important support resources for rural communities.

Table 16: List of species of plants in Sierra Leone listed on IUCN Red List and CITES Appendices

SPECIES	SPECIES	IUCN 2016	IUCN 2025	CITES Appendix
Lebbiae grandiflora	Podostemaceae	X	CR	
Triclisia macrophylla	Menispermaceae	X	CR	
Raphionacme caerulea	Asclepiadaceae	EN	EN	
Stylochaeton pilosus	Araceae	EN	EN	
Synsepalum tsounkpe	Sapotaceae	EN	EN	
Placodiscus attenuatus	Sapindaceae	EN	EN	
Placodiscus pseudostipularis	Sapindaceae	EN	EN	

Tieghemella africana	Sapotaceae	EN	EN	
Tieghemella heckelii	Sapotaceae	EN	EN	
Xysmalobium samoritourei	Asclepiadaceae	EN	EN	
Pterocarpus erinaceus	Fabaceae	LC	EN	II
Afzelia Africana	Fabaceae	LC	VU	II
Monocyclanthus vignei	Annonaceae	EN	VU	
Neolemonniera clitandrifolia	Sapotaceae	EN	VU	
Garcinia kola	Guttiferae	VU	VU	
Gilbertiodendron bilineatum	Leguminosae	VU	VU	
Gilbertiodendron splendidum	Leguminosae	VU	VU	
Haplormosia monophylla	Leguminosae	VU	VU	
Homalium smythei	Salicaceae	VU	VU	
Isoglossa dispersa	Acanthaceae	VU	VU	
Isolona deightonii	Annonaceae	VU	VU	
Ixora nigerica	Rubiaceae	VU	VU	
Khaya anthotheca	Meliaceae	VU	VU	
Khaya grandifoliola	Meliaceae	VU	VU	
Khaya senegalensis	Meliaceae	VU	VU	
Ledermanniella aloides	Podostemaceae	VU	VU	
Lophira alata	Ochnaceae	VU	VU	
Marsdenia magniflora	Asclepiadaceae	VU	VU	
Milicia regia	Moraceae	VU	VU	
Millettia warneckei	Leguminosae	VU	VU	
Monopetalanthus compactus	Leguminosae	VU	VU	
Nesogordonia papaverifera	Sterculiaceae	VU	VU	
Pararistolochia goldieana	Aristolochiaceae	VU	VU	
Pavetta lasioclada	Rubiaceae	VU	VU	
Phyllanthus profusus	Euphorbiaceae	VU	VU	
Placodiscus oblongifolius	Sapindaceae	VU	VU	
Pseudovigna sulaensis	Leguminosae	VU	VU	
Pterygota macrocarpa	Sterculiaceae	VU	VU	
Rhodognaphalon brevicuspe	Bombacaceae	VU	VU	
Rhytachne glabra	Gramineae	VU	VU	
Sapium aubrevillei	Euphorbiaceae	VU	VU	
Schumanniophyton problematicum	Rubiaceae	VU	VU	
Sterculia oblonga	Sterculiaceae	VU	VU	
Synsepalum aubrevillei	Sapotaceae	VU	VU	
Terminalia ivorensis	Combretaceae	VU	VU	
Trichilia ornithothera	Meliaceae	VU	VU	
Trichoscypha cavalliensis	Anacardiaceae	VU	VU	
Turraeanthus africana	Meliaceae	VU	VU	
Warneckea memecyloides	Melastomataceae	VU	VU	

Zanthoxylum atchoun	Rutaceae	VU	VU	
Gilbertiodendron limba	Leguminosae	NT	NT	
Guarea cedrata	Meliaceae	VU	NT	
Guarea thompsonii	Meliaceae	VU	NT	
Hallea stipulosa	Rubiaceae	VU	NT	
Irvingia gabonensis	Irvingiaceae	NT	NT	
Maclaudia felixii	Asclepiadaceae	NT	NT	
Milicia excelsa	Moraceae	NT	NT	
Nauclea diderrichii	Rubiaceae	VU	NT	
Scleria robinsoniana	Cyperaceae	NT	NT	
Vepris suaveolens	Rutaceae	NT	NT	
Rhytachne megastachya	Gramineae	NT	DD	
Heritiera utilis	Sterculiaceae	VU	LC	
Lovoa trichilioides	Meliaceae	VU	LC	
Neostenanthera hamata	Annonaceae	VU	LC	
Piptostigma fugax	Annonaceae	VU	LC	
Pellegriniodendron diphyllum	Leguminosae	NT	LC	
Xylopia elliotii	Annonaceae	VU	LC	

B1.3.1 Diversity and Status of Fauna

Sierra Leone is home to almost 1800 species of terrestrial fauna of various phyla and classes. The Gola Forest Rain Forest National Park is considered to hold the most diverse fauna. Many rare species of fauna, especially primates, large mammals, and some birds, are confined to protected areas and protected by legislation. Specific status and trends of the fauna of various taxa are given below.

B1.3.1.1 Mammals

There are about 170 species of mammals, of which are 15 species of primates (six of which are threatened), 18 species of antelopes (16 species considered threatened or locally rare), other species of large mammals (10 are threatened), 45 species of bats (one near-threatened and one data deficient) and a good diversity of other groups, such as medium to small-sized mammals. Table 17 presents the number of species listed as threatened by IUCN (2016) and IUCN (2025), based on recent information on species status. The data show an increase in the number of threatened mammals, with a notable increase in those uplisted to higher threat status, such as CR and EN. Seven species are listed on Appendix 1 and two species on Appendix II of CITES. Hunting and trapping of mammals are common across all regions of Sierra Leone, posing the greatest threat to their survival. Monkeys are among the most hunted wild animals in the country, especially in the south and east, whilst antelopes are targeted everywhere, mainly for food and internal trade. The cane rat, *Thryonomys swinderianus,* is the most commonly trapped animal, mainly for subsistence.

Table 17: Threatened mammal species in Sierra Leone listed on IUCN Red List and CITES Appendix, 2025

Common name	*Scientific names*	IUCN 2017	IUCN 2025	CITES Appendix
Western Chimpanzee	*Pan troglodytes verus*	EN	CR	I
Lion	*Panthera leo*	VU	CR	I
African Elephant Loxodonta	*Loxodonta africana cyclotis*	VU	CR	I
Diana Monkey	*Cercopithecus Diana*	VU	EN	
Red Colobus Monkey	*Poliocolobus badius*	EN	EN	
Pied Colobus Monkey	*Colobus polykomus*	VU	EN	
Pygmy Hippo	*Hexaprotodon liberiensis*	EN	EN	II
Jentink's Duiker	*Cephalophus jentinki*	EN	EN	
White-bellied Pangolin	*Phataginus tricuspis*	VU	EN	I
Long-tailed Pangolin	*Manis tetradactyla*	VU	VU	I
Giant Pangolin	*Smutsia giganteus*	VU	EN	I
Common Hippopotamus	*Hippopotamus amphibius*	VU	VU	II
Olive Colobus Monkey	*Poliocolobus verus*	NT	VU	
Sooty Mangabey	*Cercocebus torquatus*	VU	VU	
Golden Cat	*Profelis aurata*	VU	VU	
Leopard	*Panthera pardus*	NT	VU	
West African Manatee	*Trichechus senegalensis*	VU	VU	I
Zebra Duiker	*Cephalophus zebra*	VU	VU	
Guinea Baboon	*Papio papio*	NT	NT	
Spotted-necked Otter	*Hydrictis maculicollis*	NT	NT	
Cape Clawless Otter	*Aonyx capensis*	NT	NT	
Bongo	*Tragelaphus eurycerus*	NT	NT	
Straw-coloured fruit bat	*Eidolon helvum*	NT	NT	
Tear-drop fruit bat	*Scotonycteris ophiodon*	NT	DD	
Slender-billed squirrel	*Protoxerus aubinnii*	DD	DD	
Small Sun Squirrel	*Heliosciurus punctate*	DD	DD	
Temmink's squirrel	*Epixerus ebii*	DD	DD	
Guinea Horseshoe bat	*Rhinolophus guineensis*	VU	LC	
Water Chevrotin	*Hyemoschus aquaticus*	DD	LC	

B1.3.1.2 Avifauna

A total of 642 bird species have been identified in Sierra Leone across various studies (Dowsett and Dowsett-Lemaire, 1993; Okoni-Williams et al., 2001, 2005; Klop et al., 2008; Demey and Okoni-Williams, 2015), comprising 489 resident and 143 migratory species. The migratory species are categorized into 96 species of Palearctic migrants and 47 species of Intra-African migrants. Of the resident species, 307 show proof of breeding, including 174 species restricted to the Guinea-Congo forest biome of which 14 species are endemic to the Upper Guinea forest Endemic Bird Area (Stattersfield et al., 1998). Twenty-eight species are restricted to the Sudan-Guinea Savanna biome.

Twenty-seven (27) bird species are of global conservation concern (down from 30 in 2016), and the number of species in all threatened categories decreased slightly. Now there are two critically endangered (CR) species, five endangered (EN), and vulnerable (VU). There are 12 near threatened (NT) and three data deficient (DD) species (Table 18). A significant proportion of threatened bird species occur in forest ecosystems, mainly within the GCF and UGF assemblages. Large birds (raptors and hornbills) are hunted/trapped for food and their bills, whilst small and colourful birds are trapped for the pet trade. Parrots are the most preferred pets, and they are smuggled across land and sea borders to supply the international market.

Table 18: List of species of birds in Sierra Leone listed in the IUCN Red List and CITES Appendices

English name	Scientific names	IUCN 2016	IUCN 2025	CITES Appendix
Hooded Vulture	*Necrosyrtes monochas*	CR	CR	II
White-backed Vulture	*Gyps africanus*	CR	CR	II
Egyptian Vulture	*Neophron percnopterus*	EN	EN	II
Bateleur	*Terathopius ecaudatus*	NT	EN	
Martial Eagle	*Polemaetus bellicosus*	NT	EN	
Timneh Parrot	*Psithacus timneh*	EN	EN	I
Sierra Leone Prinia	*Prinia leontica*	VU	EN	
White-breasted Guineafowl	*Agelastes meleagrides*	VU	VU	
Rufous Fishing Owl	*Scotopelia ussheri*	VU	VU	
Brown-cheeked Hornbill	*Ceratogymna cylindricus*	VU	VU	
Yellow-casqued Hornbill	*Ceratogymna elata*	VU	VU	
Western Wattled Cuckoo-shrike	*Campephaga lobata*	VU	VU	
Yellow-bearded Greenbul	*Criniger olivaceus*	VU	VU	
White-necked Picathartes	*Picathartes gymnocephalus*	VU	VU	I
Nimba Flycatcher	*Melaenornis annamarulae*	VU	VU	
Lesser Flamingo	*Phoenicopterus minor*	NT	NT	
Pallid Harrier	*Circus macrourus*	NT	NT	
Crowned Eagle	*Stephanoaetus coronatus*	EN	NT	
Great Snipe	*Gallinago media*	NT	NT	
Blue-moustached Bee-eater	*Merops mentalis*	NT	NT	
Yellow-footed Honeyguide	*Melignomon eisentrauti*	DD	NT	
Green-tailed Bristlebill	*Bristlebill Bleda eximia*	VU	NT	
Lagden's Bush-shrike	*Malaconotus lagdeni*	NT	NT	
Rufous-winged Illadopsis	*Illadopsis rufescens*	NT	NT	
Gola Malimbe	*Malimbus ballmanni*	EN	NT	
Copper-tailed Glossy Starling	*Lamprotornis cupreocauda*	NT	NT	
Black-capped Rufous Warbler	*Bathmocercus cerviniventris*	NT	DD	
Lesser Kestrel	*Falco naumanni*	VU	LC	
Damara Tern	*Sterna balaenarum*	NT	LC	
Baumann's Greenbul	*Phyllastrephus baumanni*	DD	LC	
Emerald Starling	*Lamprotornis iris*	DD	LC	

B1.3.1.3 Herpeto-fauna

The herpetofauna (reptiles and amphibians) comprises 136 species: 67 reptiles and 69 amphibians. Although not well studied, reptiles are very widely distributed across all habitats, both aquatic and terrestrial. The reptilian diversity includes: three species of crocodiles (two globally threatened); five species of marine turtles (four globally threatened); many species of tortoises (two globally threatened); four species of monitor lizards (one globally threatened) (see Table 19 for species that are listed as threatened by IUCN (2016). Four of the species listed in Table 19 are listed as critically endangered, the highest category of endangered species in the IUCN Red List (2025). Six species are listed under CITES Appendix 1, whilst eight species are listed under CITES Appendix II (Table 19); some of these species are considered as LC by IUCN (2025).

The amphibian diversity (toads and frogs) comprises five endangered species, one vulnerable species, 13 near-threatened species, and seven species considered data deficient. One frog species, *Cardioglossa aureoli (new name: Arthroleptis aureoli), is endemic to West Africa, with records from the Western Area Peninsula Forest and the Bumbuna* Watershed. One toad species *Sclerophrys cristiglans*, which is also endemic to the region, occurs in the Tingi Hills Forest Reserve. Comparatively, amphibians are the most threatened groups with nearly 50% of the total number of species placed in one threatened category or the other (Table 20).

Table 19: List of species of reptiles in Sierra Leone listed on IUCN Red List and CITES Appendices

Common Name	Scientific Name	IUCN 2016	IUCN 2025	CITES Appendix
Hawksbill Turtle	*Eretmochelys imbricata*	CR	CR	I
Kunda half-toed gecko	*Hemidactylus kundaensis*	CR	CR	
Home's Hinge-back Tortoise	*Kinixys homeana*	VU	CR	II
Slender-snouted Crocodile	*Mecistops cataphractus*	CR	CR	
Olive Ridley Turtle	*Lepidochelys olivacea*	EN	VU	I
Loggerhead Turtle	*Caretta caretta*	EN	VU	I
Leatherback Turtle	*Dermochelys coriacea*	VU	VU	I
Senegal Flap-shell Turtle	*Cyclanorbis senegalensis*	NT	VU	
African Softshell Turtle	*Trionyx triunguis*	DD	VU	II
African Dwarf Crocodile	*Osteolaemus tetraspis*	VU	VU	I
Gray's Monitor	*Varanus olivaceus*	VU	VU	
Gaboon viper	*Bitis gabonica*	VU	VU	
West African Black Mud Turtle	*Pelusios niger*	LC	NT	
Ball Python	*Python regius*	LC	NT	
Rock Python	*Python sebae*	NT	NT	II
Forest Hing-back Turtoise	*Kinixys erosa*	VU	DD	II
Sierra Leone Worm Lizard	*Cynisca degrysi*	ND	DD	
Gecko sp *Hemidactylus pseudomuriceus*	ND	DD		
Graceful Chameleon	*Chamaeleo gracilis*	LC	LC	II
Senegal Chameleon	*Chamaeleo senegalensis*	LC	LC	II
Nile Monitor	*Varanus niloticus*	LC	LC	II
Green Turtle	*Chelonia mydas*	EN	LC	I
Nile Crocodile	*Crocodylus niloticus*	LC	LC	II

Table 20: List of species of amphibians in Sierra Leone listed on IUCN Red List and CITES Appendices

English	Scientific names	IUCN 2016	IUCN 2025	CITES Appendix
Ukami Reed Frog	*Hyperolius torrentis*	EN	VU	
Freetown Long-fingered Frog	*Arthroleptis aureole*	EN	NT	
Big-eyed Forest Tree Frog	*Leptopelis macrotis*	NT	NT	
Tingi Hills Frog	*Sclerophrys cristiglans*	DD	DD	
Frog sp	*Ptychadena arnei*	DD	DD	
Frog sp	*Ptychadena pujoli*	DD	DD	
Angel's Caecilian	*Geotrypetes angeli*	DD	DD	
Beautiful Squeaker	*Arthroleptis formosus*	EN	DD	
Wermuth's Reed Frog	*Hyperolius wermuthi*	NT	LC	
Togo toad	*Sclerophrys togoensis*	NT	LC	
Sierra Leone Reed Frog	*Hyperolius chlorosteus*	NT	LC	
Nimba Reed Frog	*Hyperolius zonatus*	NT	LC	
Chochran's Running *Frog*	*Kassina cochranae*	NT	LC	
Sierra Leone Water Frog	*Odontobatrachus natator*	NT	LC	
Ringed River Frog	*Phrynobatrachus annulatus*	EN	LC	
Allen's River Frog	*Phrynobatrachus alleni*	NT	LC	
Guinea River Frog	*Phrynobatrachus guineensis*	NT	LC	
Liberia River Frog	*Phrynobatrachus liberiensis*	NT	LC	
Tai River Frog	*Phrynobatrachus phyllophilus*	NT	LC	
Sierra Leone Grassland Frog	*Ptychadena superciliaris*	NT	LC	
Allen's Slippery Frog	*Conraua alleni*	VU	LC	
Mascarene Grass Frog	*Ptychadena mascareniensis*	DD	LC	
Grass Frog	*Ptychadena retropunctata*	DD	LC	
Ivory Coast Frog	*Hylarana occidentalis*	EN	LC	

B1.3.1.4 Fish and marine invertebrates

Much of the study on marine biodiversity in Sierra Leone, particularly fish, has been undertaken at the Sierra Leone River Estuary (SLRE) and the Yawri Ba,y which accounts for much of the ichthyofauna in Sierra Leone (Longhurst 1958, 1965, Sentengo and Ansa-Emmin 1986), with up to 80 species identified. Fish productivity in Sierra Leone is not exactly known, but based on data from some studies (Blabber, 1997; Baran, 2000), fish production in the estuaries is between 3,855 and 4,144 million tonnes per year.

The benthic fauna is a rather diverse group that has been the subject of investigations for several years (Longhurst 1963, Williams 1968, Williams 1969, Nieland 1982, Sentengo and Ansa-Emmin 1986, Anyangwa 1988, Coutin 1989). The dominant members of this group are the Clupeidae (*Ethmalosa fimbriata*, *Sardinella maderensis*, *Ilisha africana*). Others include: Carangidae (some species may

make periodic incursions into the estuary at high tide) and *Chloroscombrus chrysurus*; *Decepterus rhonchus* and *Trachurus tracea*; Tetraodontidae (*Lagocephalus cephalus*, *Liza falcipinis*), Sphyraenidae (*Sphyraena barracuda*), *Pristis pristis*; and Dasyatidae (*Dasyatis margarita*).

The inshore demersal stocks include mainly the Sciaenid assemblage, which live above the thermocline on shallow muddy bottoms. Although some 60-80 species have been identified in this community, only a few species are dominant, including *Pseudotolithus elongatus*, *Drepane africana*, *Cynoglossus goreensis*, *Arius lasticutus* and *Dasyatis maragaritu*. Among the inshore pelagic species, the most important species are the Clupeids (*Ilisha africana*, *Ethmalosa fimbriata*, *Sardinella maderensis* and *Sardinella aurita*), the Carangids and the Scombrids. These fish categories are mainly migratory and closely related to the fluctuations of the environmental conditions within the estuaries and near-shore.

The offshore pelagic fisheries consist mostly of species associated with three types of hydrographic regimes. *Engraulis encrasicolus*, *Sardinella aurita* and Decapterus species are found associated with the thermocline. *Scomber japonicus* and *Trachurus* spp are found in the upwelling zones. Tuna species are also found in this zone, which include: Yellowfin tuna (*Thunnus albacares*), Skipjack tuna (*Katsuwonus pelamis*), and Little tuna (*Euthynnus alletterates*). This community consists mostly of demersal fish species. It is diverse, but in terms of abundance, it is dominated by Sciaenidae. The prominent members of the Scianidae are *Pseudotolithus elongatus*, *P. senegalensis*, *P. brachygnatus*, *P. typhus*, Plynemidae (*Galeiodes decadactylus*, *Pentanemus quinquarius*, *Polydactylus qadrifilis*), Drepanidae (*Drepane africana*), Monodactylidae (*Monodactylus sebae*), Pomadasyidae (*Pomadasys jubelini*, *P. peroteti*), Lutjanidae (*Lutjanus goreensis*).

The offshore demersal fishers include the spared fauna of the continental slope community and shellfish. The spared fauna normally inhabits the regions below the thermocline on sandy and rocky bottoms. The shallow shelf Lutjanidae sub-community is dominated by the species *Balistis capriscus*, *Pagellus bellotti,* and *Dentex canariensis*. The deep shelf-sparing community includes *Dentex* sp and *Pendtheroscusion* sp.

The continental shelf edge community inhabits depths between 200 and 300m and is dominated by the genera *Bembrops* and *Antigonia*. The continental slope community, which includes the genera *Gleus* and *Citta*, is found below 400m depth. As a matter of convention, shrimps and crabs of estuaries and deltas are also included here. Only three (*Penaeus notialis*, *P. atlantica,* and *P. kerathurus*) out of six species of shrimps are found in the coastal waters of Sierra Leone. The species of crabs of commercial importance found in the SLRE are the entire genus Callinectes; *Callinectes pallidus*, *C. amnicola* and *C. maginatus*.

The crustaceans and molluscs consist of the shrimps, cuttlefish, and squid. Of the six shrimp species of commercial importance, *Penaeus notialis* accounts for about 96% of the landings and occurs on the Freetown peninsula, especially around Banana Island. *Penaeus kerathurtus* occurs along the southern coast. Both species inhabit the mangrove swamps, estuaries, and inner continental shelf to

a depth of 55m. Other species occur in deeper waters of 40-70m and above the continental slope. The inner shelf shellfish populations are assessed to be in good but declining condition.

In freshwater ecosystems, 16 fish families, comprising about 100 species, have been identified. The major fish species *include Alextes longipinnus, Epiplatys fasciolatus, Hepsetum odoe, Sarotheodon kingsleyi, Ctenopoma kingsleyi, Polypterus palmos, Hemichromis fasciatus, Tilapia sp., Clarias lazera, Clatias laevicps* and *Mormyrus macrophaalus.* There are also several species of catfish (*Bagrus bayad, Synodontis nigrita, Clarias platycephalas, Clarias lazera,* and *Chysichthys furcatus*) found in lakes, rivers, and lagoons (Payne, 1986). Although the practice of aquaculture has huge potential as a profitable commercial enterprise, it is limited, and fish species such as Tilapia, Mullets (Mugi and Liza), Claris, Chrysichthys, Penacus, and Scylla are commonly used feeder stocks.

B1.3.1.5 Butterflies and dragonflies

The status of butterflies in Sierra Leone remains unchanged since 2017, partly because of low level of research on invertebrate taxa. The African giant swallowtail butterfly *Papilio antimachus* (DD) reaches its westernmost limit in Sierra Leone. Systematic studies of butterfly diversity and distribution have been carried out in only four key locations – Gola Forest, Loma Mountains, the Bumbuna area, and the Western Area Peninsula Forest. These studies have shown that some 50 butterfly species in Sierra Leone are endemic to West Africa or to the Liberian sub-region. Not many of these species are listed in the IUCN Red List, but the following are worth mentioning as species that are endemic with rare occurrences in the country: *Papilio horribilis, Neurellipes staudingeri, Charaxes nobilis claudei, Euphaedra aberrans, Euphaedra afzelii, Acraea vesperalis, Melphina maximiliani* and *Kedestes protensa.*

ANNEX B2 — SPATIAL ANALYSIS AND PRIORITY BIODIVERSITY AREAS

B2.1 Purpose and Analytical Scope

This annex documents the spatial analysis underpinning Sierra Leone's updated National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035.

The spatial analysis directly supports implementation of Kunming–Montreal Global Biodiversity Framework (KM-GBF) Target 1 on biodiversity-inclusive spatial planning and Target 3 on area-based conservation, including protected areas and Other Effective Area-Based Conservation Measures (OECMs). At the national level, it informs Targets 1–3, 5, 9, and 10 of the NBSAP.

The analysis is designed as a decision-support framework rather than a full optimisation-based systematic conservation planning exercise. It integrates national spatial datasets, global biodiversity datasets, land-

use and vegetation change analysis (2000–2025), and structured stakeholder validation to produce a nationally coherent spatial prioritisation framework.

B2.2 Areas of Biodiversity Importance and Ecosystem Distribution

B2.2.1 Spatial Distribution and Location

Geospatial analysis reveals that areas of critical biodiversity importance in Sierra Leone are concentrated in three major ecoregions:

- Western Guinean Lowland Forests: Harbour the highest concentrations of endemic and threatened species
- Guinean Montane Forests (Loma and Tingi Hills): Refuge zones with high endemism and regional importance
- Guinean Mangroves: Critical coastal ecosystems for marine biodiversity and climate resilience

Figure 13: Terrestrial ecoregions and protected areas (WDPA-WDOECM) in Sierra Leone

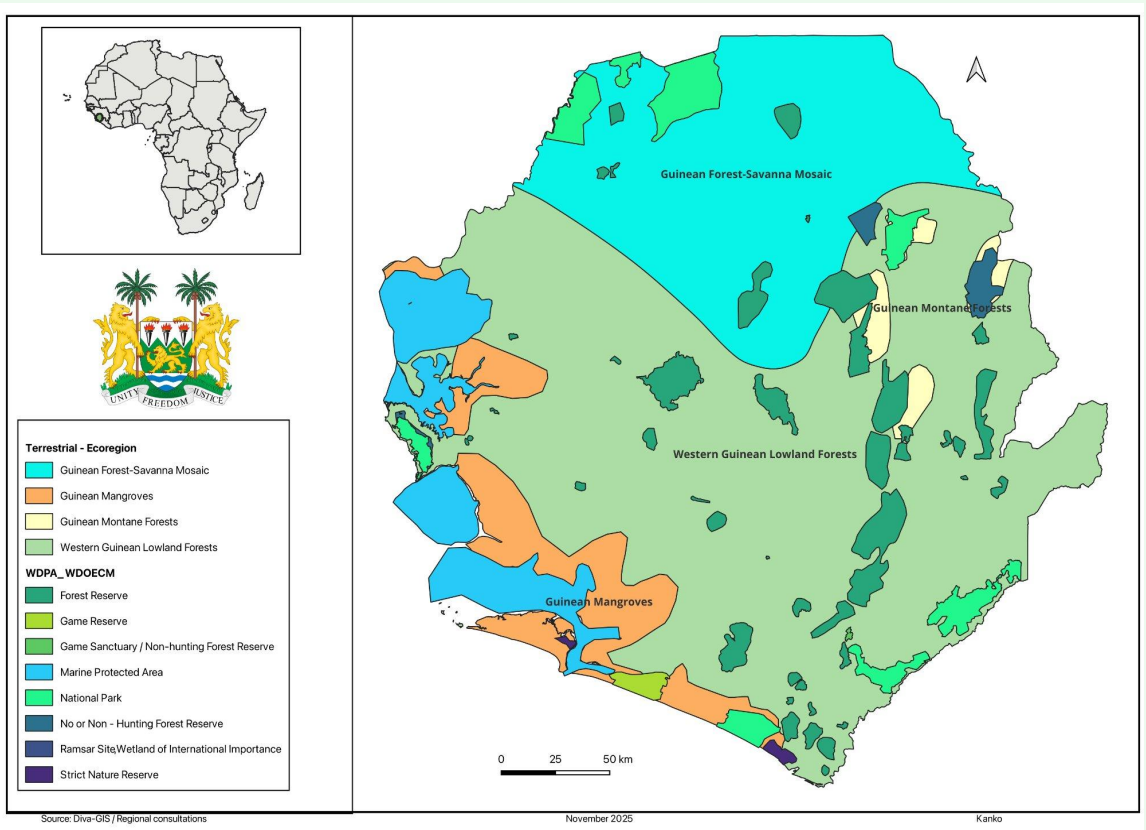


Table 21: Detailed Distribution of major Ecosystem

Ecoregion	Spatial Characteristics and Biodiversity Value
Guinean Lowland Forests	Located primarily in the South-Eastern Forest block. Significant overlap with Key Biodiversity Areas (KBAs). Maximum concentrations of threatened species according to the IUCN Red List.
Montane Forests (Loma-Tingi)	Mountain massifs in the North-East. Altitude >1000m. High floristic and faunistic endemism. Regional importance for transboundary ecological connectivity.
Coastal Mangroves	Scarcies, Sierra Leone River, Sherbro estuaries. 2020 extent: Global Mangrove Watch data. Breeding zones for fish and crustaceans. Critical coastal ecosystem services.
Western Area Peninsula	Peri-urban Forest corridor. Intense anthropogenic pressure (Freetown urbanisation). Internationally recognised KBAs. Biodiversity hotspot in urban context.

B2.2.2 Overlap with Protected Areas and KBAs

Spatial overlay analysis confirms that Key Biodiversity Areas (KBAs) significantly overlap with the three priority ecoregions, thus validating their national and regional conservation importance. This finding constitutes the scientific basis for targeted expansion of the protected area network in accordance with the Kunming-Montreal Global Biodiversity Framework.

B2.3 Priority Landscapes for Early Action (2026-2030)

B2.3.1 Spatial Prioritisation Criteria

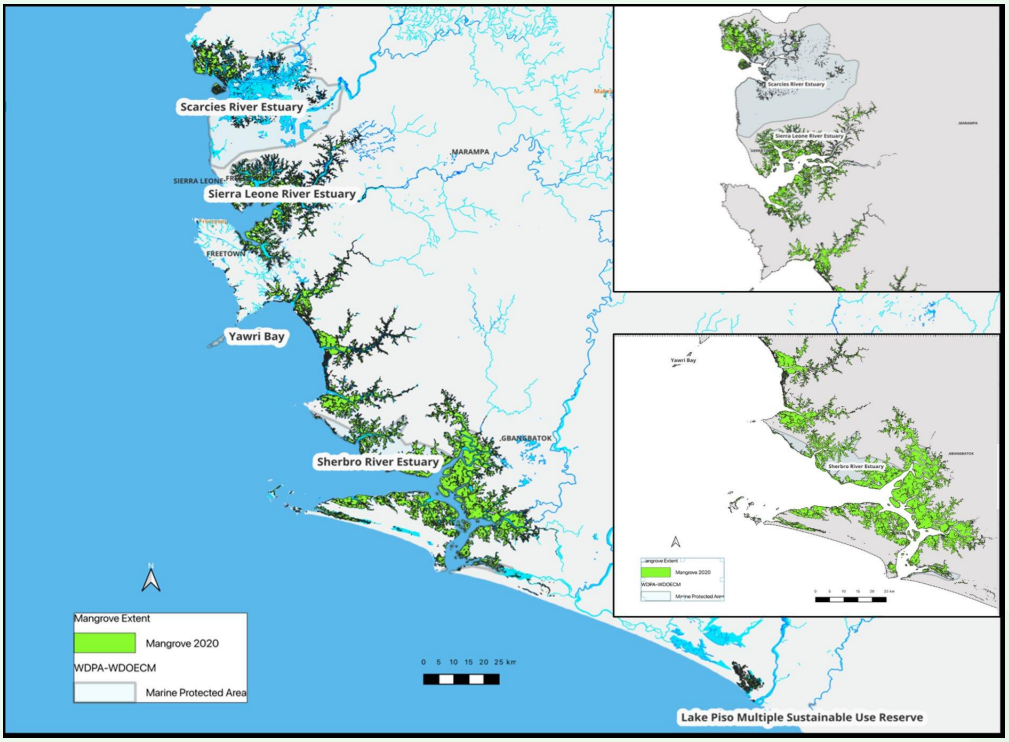
Prioritisation of terrestrial and marine landscapes is based on multi-criteria analysis integrating:

- Intrinsic ecological value (concentration of threatened species, endemism)
- Current degradation status (Sentinel-2 remote sensing, 2024-2025)
- Intensity of anthropogenic pressures (population density, extractive concessions)
- Restoration potential and socio-ecological benefits
- Contribution to GBF objectives (30x30, climate resilience)

B2.3.2 Priority Landscapes Identified

Priority Landscape	Spatial Justification and Recommended Actions 2026-2030
Scarcies Estuaries	Mangrove degradation: -12% (2010-2020). Extensive aquaculture pressure. Action: Restoration of 2,500 ha mangroves + participatory zoning. Co-benefits: artisanal fisheries, coastal resilience.
Sierra Leone River Estuary	Freetown urbanisation: 4% annual expansion. Estuarine pollution. Action: Peri-urban green corridors + marine protected areas (MPAs). Model: integrated conservation-development.
Sherbro Estuary	Exceptional marine biodiversity. Marine sand extraction. Action: Establishment of 15,000 ha MPA + participatory management plan. Contribution to marine 30x30.
Western Area Peninsula	Maximum land pressure. Advanced forest fragmentation. Action: Ecological connectivity + community OECMs. Urban green buffer zone.
South-Eastern Forest Block	Active/planned mining concessions overlapping KBAs. Action: Preventive spatial planning + strengthened EIAs. Wildlife corridors between PAs.

Figure 14: Mangrove extent (2020) and priority coastal landscapes for early action



These landscapes, combining high biodiversity value, increasing pressures, and restoration opportunities, constitute the optimal action window for 2026-2030 to reverse biodiversity loss in accordance with CBD commitments.

B2.4 Connectivity and Restoration Priorities

B2.4.1 Fragmentation Assessment

Connectivity analysis reveals increasing fragmentation affecting both forest and coastal systems simultaneously. Landscape metrics calculated from Sentinel-2 imagery show:

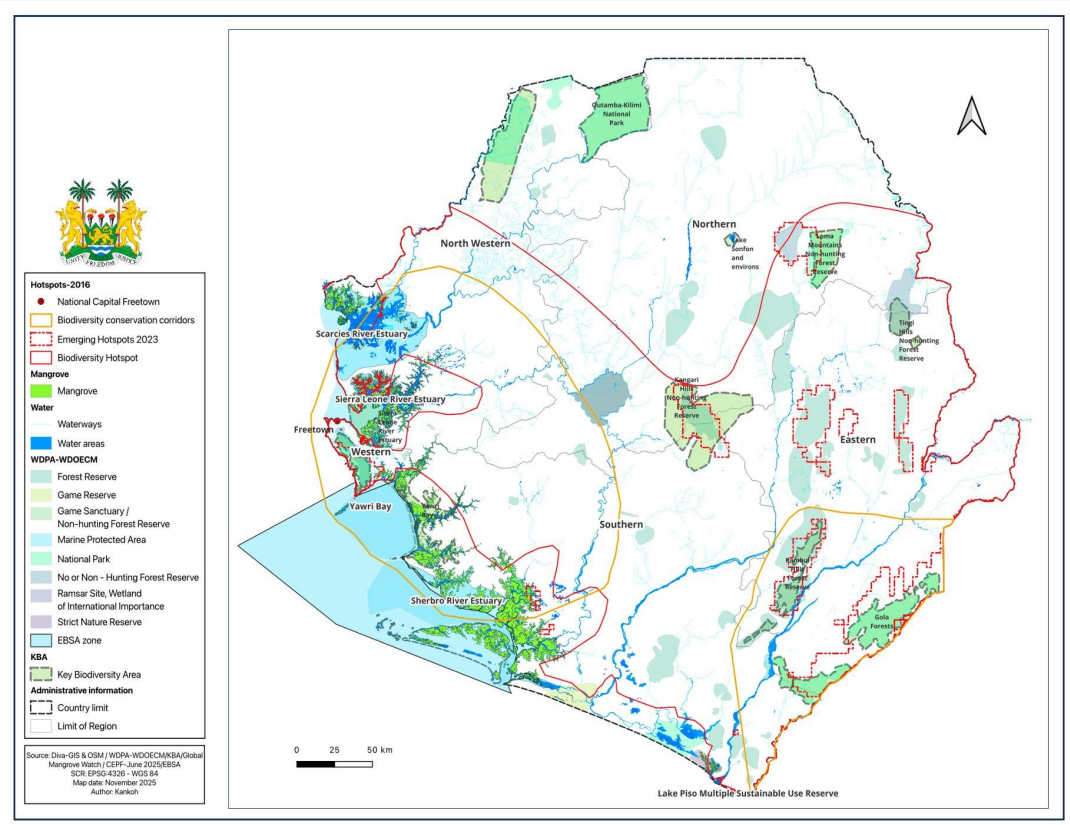
- Forest fragmentation: 23% reduction in mean forest patch size (2015-2025)
- Protected area isolation: 65% of PAs with compromised functional connectivity
- Anthropogenic barriers: Roads, agriculture, and mining areas create major ecological discontinuities

B2.4.2 Priority Ecological Corridors

Corridors identified through least-cost path analysis and graph theory:

Corridor	Characteristics and Ecological Functionality
South-East → Centre	Link from Gola-Tiwai forest block to central landscapes. Length: 85 km. Optimal width: 2-5 km. Target species: primates, forest elephants. Status: fragmented (agriculture).
Centre → Coast	Connection from central landscapes to coastal/mangrove ecosystems. Functionality: seasonal bird migrations. Status: Freetown urban pressure.
Loma-Tingi → South-East	Montane-lowland corridor. Importance: gene flow between isolated populations. Altitudinal gradient. Status: relatively intact but vulnerable (agricultural expansion).
Coastal Connectivity	Mangrove continuity between estuaries. Importance: fish nurseries, organic matter flux. Status: discontinuous (coastal development).

Figure 15: Key Biodiversity Areas (KBAs), marine protected areas, and ecological connectivity corridors



B2.4.3 Restoration Priorities

Priority restoration zones identified through multi-criteria spatial analysis:

- Degraded mangroves: 8,500 priority hectares (Scarcies, Sherbro estuaries). Approach: assisted natural regeneration + targeted replanting. Carbon sequestration potential: 2.1 $MtCO_2e$ over 10 years.
- Fragmented agricultural landscapes: 12,300 ha in priority corridors. Approach: agroforestry, natural regeneration, improved fallows. Beneficiaries: 15,000 farmers.
- Abandoned mining sites: 3,200 ha identified (remote sensing). Approach: progressive revegetation, native pioneer species. Complete rehabilitation: 15-20 years.

  These restoration interventions are critical to re-establishing landscape integrity and strengthening climate resilience, thereby contributing to GBF Targets 2 (restoration) and 8 (climate adaptation).

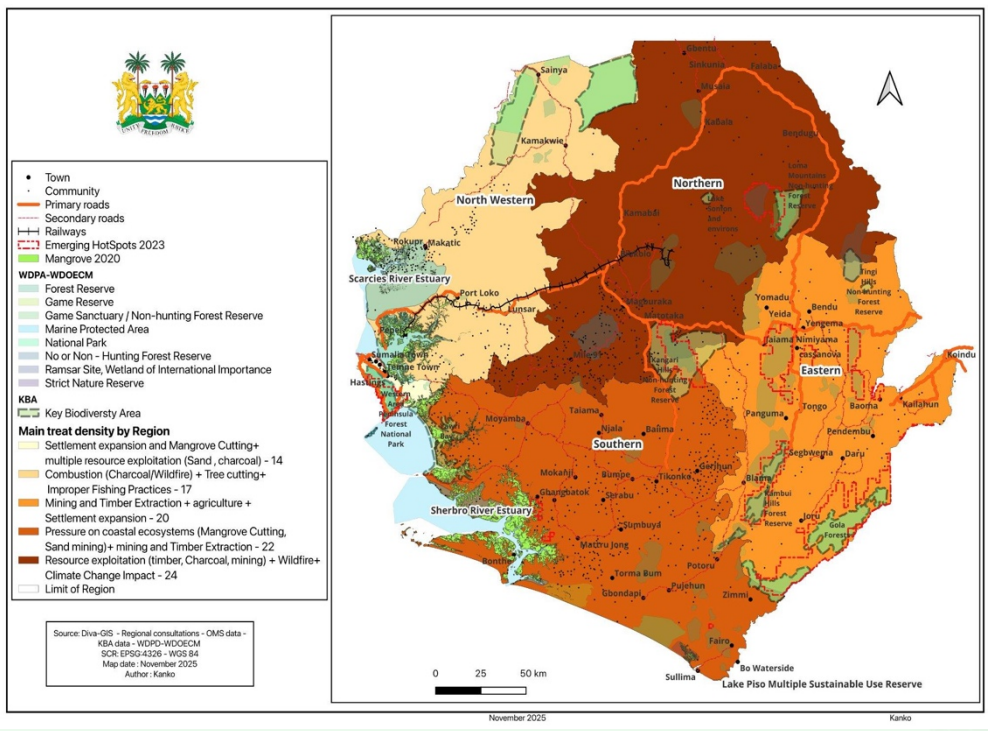
B2.5. Biodiversity-Development Conflicts

B2.5.1 Spatial Overlay Analysis

Overlay analysis between biodiversity values and development activities reveals significant spatial conflicts requiring strengthened territorial planning:

Pressure Type	Spatial Overlap	Priority Conflict Zones
Mining Concessions	18% of KBAs 22% PA buffer (5km) 4 PAs directly impacted	SE block (bauxite, diamond) Loma-Tingi (iron) Western Area (aggregate extraction)
Agricultural Expansion	35% forest conversion 2015-2025 Penetration of priority corridors	PA-agricultural zone interfaces SE forest block margins Mangrove perimeters (irrigated rice)
Urban Growth	Freetown: +4% annual Peri-urban pressure on Western Area KBAs	Western Area Peninsula Sierra Leone River Estuary Urban PA buffer zones
Infrastructure	New roads fragmenting corridors Electrical network expansion	SE-Centre corridors Access to isolated forest zones

Figure 16: Spatial distribution of major threats by region and overlap with conservation areas



B2.5.2 Cumulative Risk Analysis

High cumulative risk zones (≥3 simultaneous pressures) represent 12% of the national territory but include 28% of priority KBAs. Pressure is particularly intense around Freetown, where rapid urbanisation, combined with the extraction of construction materials an peri-urban agricultural expansion, directly threatens the coastal and forest ecosystems of the Western Area Peninsula.

B2.5.3 Planning Implications

These documented spatial conflicts underscore the urgency of strengthened mechanisms for:

- Integrated spatial planning: Territorially explicit zoning excluding incompatible developments from high biodiversity value zones
- Mitigation mechanisms: Biodiversity offsets, spatially operationalised avoid-reduce-compensate hierarchy
- Preventive zoning: Moratorium on new concessions in KBAs and priority corridors until spatial planning finalisation

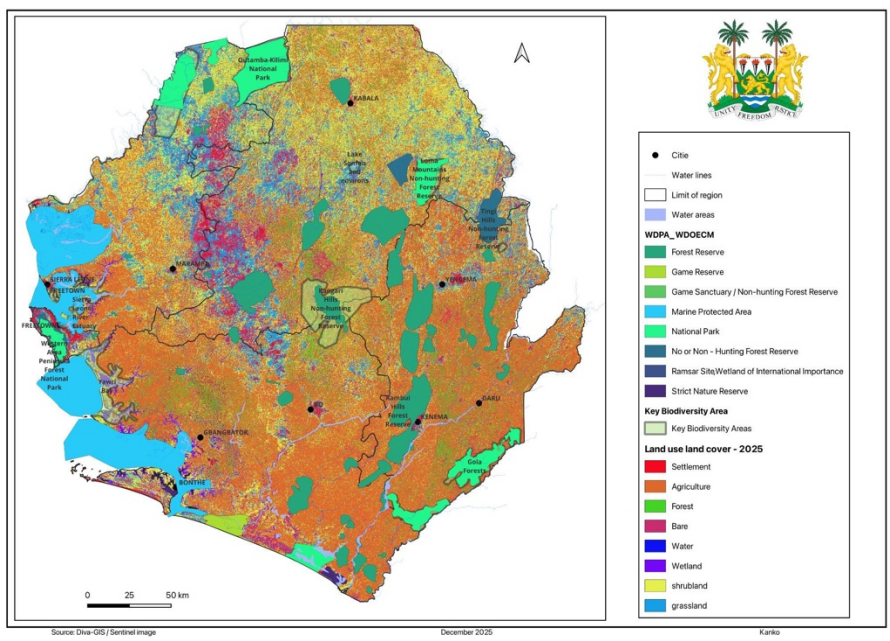
B2.6. Implications For Spatial Planning and the NBSAP

B2.6.1 Inadequacy of Current Protected Area Network

Ecological representativeness analysis reveals critical gaps in the national protected area network:

- Current territorial coverage: 7.2% terrestrial, 1.8% marine (well below the 30x30 target)
- Ecosystem representativeness: Mangroves (22% protected), montane forests (31% protected), lowland forests (4.5% protected) → Major imbalance
- Taxonomic gaps: 43% threatened species (IUCN) without documented occurrence in PAs

Figure 17: Land use and land cover (2025) in relation to protected areas and Key Biodiversity Areas



B2.6.2 Targeted Expansion Strategy

Spatial prioritisation for expansion of the protected area and OECM (Other Effective Area-based Conservation Measures) network is based on the Marxan/Zonation complementarity algorithm, integrating:

Strategic Component	Spatial Approach and Targets
Formal Protected Area Expansion	Target: +340,000 ha (7.2% → 15% by 2030). Priority zones: SE lowland forests, Loma-Tingi montane extensions, inter-PA corridors. Status: National parks, strict reserves.
OECM Establishment	Target: 15% additional territory (complementarity with Pas). Mechanisms: Community forests, sustainable forest concessions, Ramsar wetlands, sacred sites. Priority local governance.
Marine Protected Areas	Target: 30% territorial waters. Zones: Scarcies-Sherbro estuaries, offshore reefs, coastal nurseries. Model: Co-management with artisanal fishers.
Connectivity Corridors	Legal status: Special conservation zones. Width: 2-5 km depending on context. Land tenure: Mix State/community ownership. Restrictions: Sustainable use only.

B2.6.3 Integration into National Planning

Integration of these geospatial results into the revised NBSAP implies:

- Revision of land and forest laws and regulations: Legal recognition of OECMs, juridical status for corridors
- Sectoral planning: Biodiversity as a non-negotiable spatial constraint in mining, agriculture, and infrastructure schemes
- Decentralisation: Transfer of conservation competences to local authorities with GIS technical support
- Financing: Geo-localised ecosystem service payment mechanisms (carbon, water, pollination)

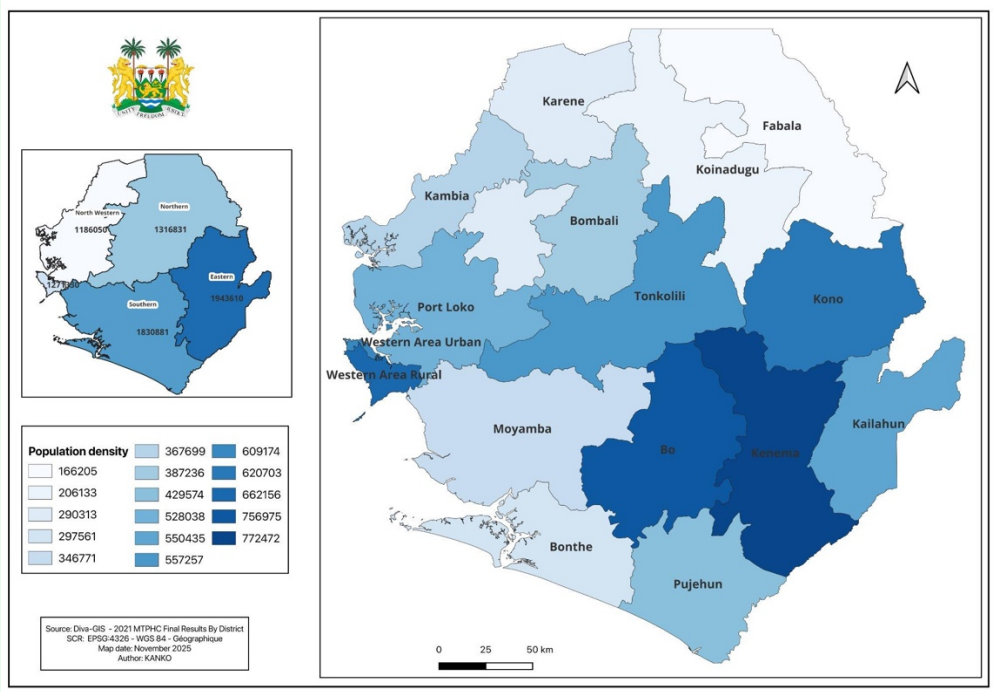
B2.7. Strategic Use of Spatial Analysis for EIA/SEA and Investment

B2.7.1 Operational Decision Support Tool

Biodiversity, threat, and population density maps constitute an operational decision support tool for Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs). The approach integrates:

Decision Component	Practical Application
Preliminary Screening	Biodiversity sensitivity maps (3 classes: critical, high, moderate). Rapid identification of exclusion zones. Upstream integration in project planning. Preventive avoidance of critical zones.
Geo-spatialised Scoping	Definition of project area of influence based on maps. Identification of relevant biodiversity issues through overlay. Sizing of field ecological studies proportionate to spatial issues.
Impact Analysis	Spatial quantification of direct/indirect/cumulative impacts. Zone of influence modelling (buffers, watersheds). Project ecological footprint mapping.
Mitigation Options	Route/layout optimisation via GIS multi-criteria analysis. Sizing of compensatory measures (surface ratio, ecological equivalence). Compensation zone location.
Monitoring-Evaluation	Remote sensing for land cover change monitoring. Spatially explicit indicators (fragmentation, connectivity). Early detection of deviations via temporal imagery.

Figure 18: Population density by district based on the 2021 Census



B2.7.2 Zoning for Investment Guidance

Spatial analysis enables the classification of territory into differentiated investment opportunity zones:

- GO Zones (low ecological impact): 32% of territory, concentrated outside KBA/PAs, population density >50 inhabitants/km². Opportunities: sustainable intensive agriculture, manufacturing industries, and infrastructure. Simplified EIA procedures.
- CAUTION Zones (moderate impact): 51% of territory, biodiversity-development interfaces. Opportunities: Agroforestry, ecotourism, and renewable energy. Strengthened EIAs with mandatory compensatory measures.
- NO-GO Zones (critical impact): 17% of territory, KBAs + PAs + corridors. Exclusion of extractive/heavy infrastructure developments. Only conservation-compatible investments (nature tourism, research, PES).

B2.7.3 National Geoportal Platform

To operationalise this decision tool, it is recommended to establish a National Biodiversity Geoportal hosting:

- Standardised GIS layers (KBAs, PAs, OECMs, corridors, restoration zones, pressures)
- Spatial query tools for project developers and consultancies
- Automated analysis modules (screening, impact calculation, compensation sizing)
- Georeferenced EIA/SEA report repository for national cumulative monitoring

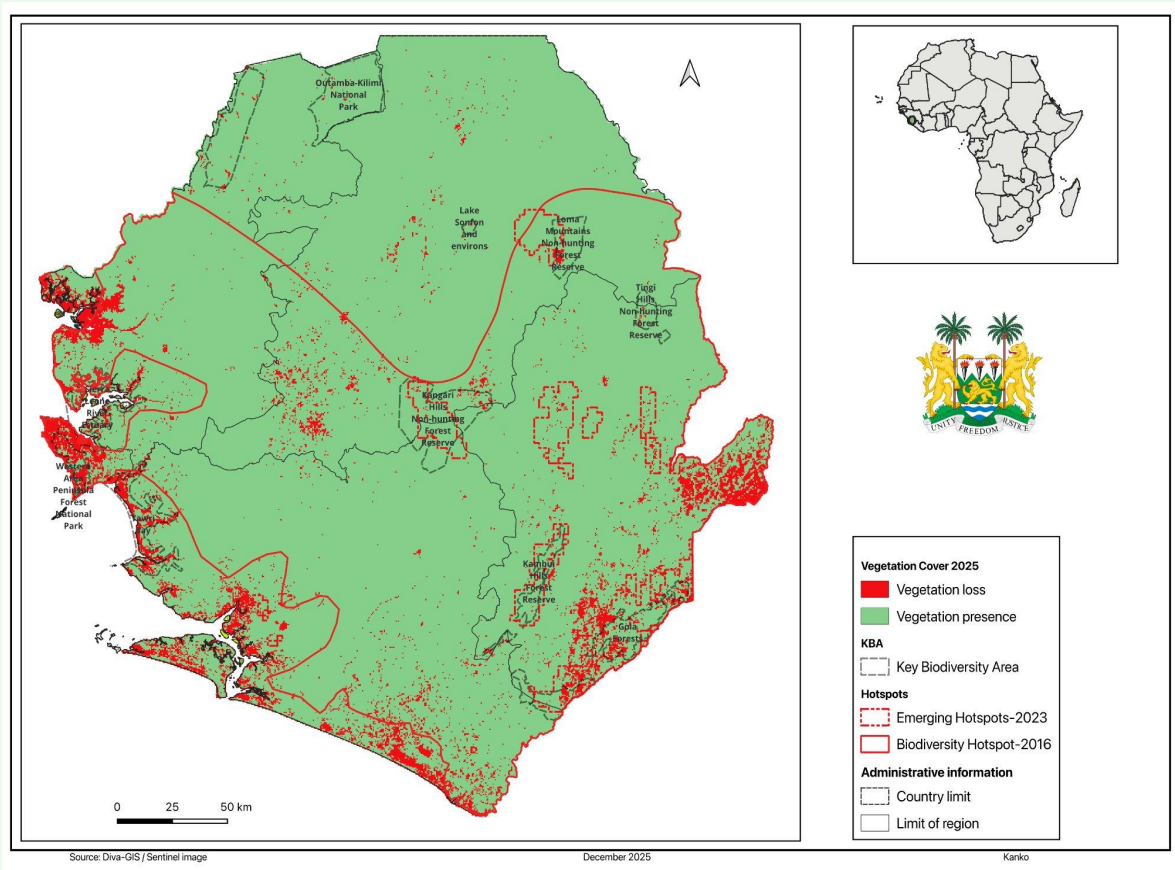
B2.8 Scenario Analyses: Biodiversity Trajectories 2026-2050

B2.8.1 Modelling Methodology

Biodiversity scenarios were modelled by coupling:

- Land use/cover change models (Land Change Modeler, Markov chains)
- Demographic projections (SSP2, 2.3% annual growth)
- Socio-economic scenarios (agricultural expansion, mining trajectories)
- Landscape metrics (fragmentation, connectivity, habitat quality)

Figure 19: Vegetation cover 2025 and vegetation loss hotspots



B2.8.2 Business-as-Usual Scenario (2026-2050)

Assumptions: Maintenance of current trends without a strengthened conservation policy

2050 Indicator	Quantitative Projection
Forest Cover Loss	-38% (2025-2050) Equivalent: 1.2 M ha Annual rate: -1.5%
Fragmentation	Mean forest patch size: -52% Mean patch distance: +180% Core habitat (>5km from edges): -67%
Mangrove Degradation	-28% mangrove area Main causes: aquaculture, fuelwood extraction, salinisation
Ecological Connectivity	8 of 11 priority corridors functionally broken Isolation of 73% of PAs Predicted local extinctions: forest megafauna
Climate Impact	Carbon sequestration capacity: -45% Diminished coastal resilience: +120% vulnerability to erosion/submersion

B2.8.3 Integrated Conservation Scenario (2026-2050)

Assumptions: Full implementation of revised NBSAP with PA/OECM expansion, targeted restoration, connectivity

2050 Indicator	Quantitative Projection
Forest Cover	Stabilisation or net gain +2% Restored zones: 125,000 ha Residual deforestation: -0.3% annual (concentrated outside protection zones)
Protected Area Network	30.2% territory under PA/OECM (exceeding 30x30 target) Representation: All ecosystems ≥20% Connectivity: 85% PAs in functional network
Mangrove Restoration	Net gain +18% (restoration exceeds losses) 15,500 ha mangroves restored Ecosystem services: +$45M/year (fisheries, coastal protection)
Climate Resilience	Carbon sequestration: +28% vs 2025 Coastal resilience: 35% reduction in coastal population vulnerability Ecosystem-based adaptation operational
Socio-economic Benefits	Green jobs: +12,000 Nature tourism: +$28M/year Valued ecosystem services: $180M/year

B2.8.4 Comparative Analysis and Tipping Points

Comparison of the two scenarios reveals critical tipping points:

- 2026-2030 Action Window: The next 5 years are decisive. Beyond that, certain degradation trajectories become irreversible (critical fragmentation thresholds).
- Priority Corridors: Their current functionality (though compromised) still allows restoration. Business-as-usual scenario: definitive rupture by 2035.
- Return on Investment: Every dollar invested in conservation 2026-2030 generates $4.2 in cumulative benefits 2030-2050 (ecosystem services, avoided degradation costs).

B2.9. Evidence-Based and Adaptive Approach

B2.9.1 Scientific Foundations and Traceability

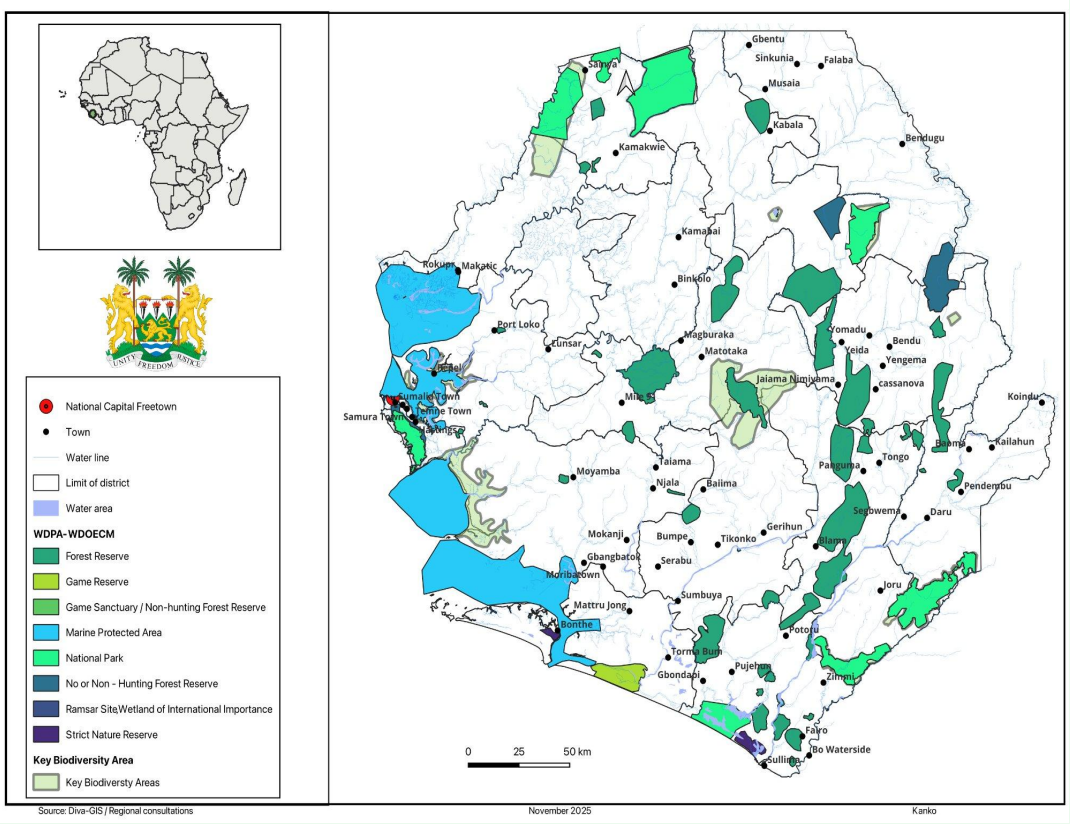
The methodological approach is based on verifiable geospatial datasets and reproducible analysis protocols:

Data Category	Primary Sources	Resolution / Temporality
Land Use/Cover	Sentinel-2 (ESA) Landsat 8-9 (USGS)	10-30m 2024-2025 (annual images) Time series 2015-2025
Coastal Ecosystems	Global Mangrove Watch Copernicus Marine Service	10-25m 2020 (mangroves) Annual update
Protected Areas	WDPA/WDOECM (UNEP-WCMC) National PA database	Vector (polygons) Monthly update
Key Biodiversity Areas	KBA Database (BirdLife/IUCN) National KBA assessments	Vector (polygons) Biennial revision
Socio-economic Data	Census 2021 (Stats SL) DHS surveys	District level Sub-district (projections)
Anthropogenic Pressures	Mining Cadastre Forestry concessions Infrastructure OSM	Vector Semi-annual updates

Spatial Resolution and Technical Standards:

- Resolution 10-100m depending on layer (optimised for national/sub-national scale)
- Reference system: WGS 84 (EPSG:4326) for international compatibility
- Complete ISO 19115 metadata for all layers
- Version archiving with a cryptographic hash (traceability, reproducibility)

Figure 20: Synthesis of protected areas (WDPA-WDOECM) and Key Biodiversity Areas in Sierra Leone



B2.9.2 Identified Limitations and Improvement Strategies

Transparency on methodological limitations:

Limitation	Impact	Improvement Strategy
Coastal Cloud Cover	Gaps in optical imagery of coastal wetlands	Radar integration (Sentinel-1) Dry season acquisitions Multi-temporal composites
Dataset Temporal Mismatch	Some layers non-contemporary (2020-2025)	Temporal harmonisation via predictive models Prioritisation of critical layer updates
Limited Species Data	Spatially explicit occurrences available for <30% threatened species	Targeted KBA inventory campaigns Citizen science (iNaturalist) Distribution models (MaxEnt)
Field Validation	Logistical constraints for exhaustive validation	Stratified sampling approach Local community partnerships Participatory validation

B2.9.3 Adaptive Management Framework

The evidence-based foundation enables truly adaptive biodiversity management:

- Revision Cycles: Biennial spatial analysis updates (synchronised with CBD reporting cycles)
- Continuous Monitoring: Automated remote sensing for change detection (deforestation, urban expansion). Early warnings of deviations from target trajectories.
- New Data Integration: Assimilation protocols for emerging data (eDNA, acoustics, drones, LiDAR if available)
- Strategic Adjustments: Revision of spatial priorities if new issues arise (invasive species, zoonoses, rapid climate changes)
- Organisational Learning: Field project feedback integrated into spatial models (e.g., geo-located restoration success rates → refinement of future priorities)

This framework ensures that the NBSAP and NR7 remain living documents, responsive to evolving pressures, climate risks, and land use changes, whilst maintaining compliance with CBD reporting requirements.

B2.10. Strategic Recommendations

B2.10.1 Priority Actions 2026-2030

Phase 1 (2026-2027) - Immediate Actions:

- Finalisation of the legal framework for OECMs and ecological corridors
- Deployment of National Biodiversity Geoportal
- Launch of 3,500 ha mangrove restoration (Scarcies-Sherbro)
- Moratorium on new concessions in KBAs

Phase 2 (2028-2030) - Consolidation:

- Expansion of 350,000 ha PA/OECM towards 30x30 target
- Restoration of 15,000 ha mangroves + 8,000 ha corridors
- Operationalisation of carbon and water PES

ANNEX B3 — POLICY, LEGAL, AND INSTITUTIONAL REVIEW (PIR)

B3.1 Purpose

This annex provides a substantive and analytical assessment of the policy, legal, and institutional framework governing biodiversity conservation and sustainable use in Sierra Leone.
It distils and synthesises findings from the full technical PIR while presenting sufficient depth for decision-makers who may not consult the technical volume.
The review:

- Assesses policy coherence and legal adequacy
- Evaluates institutional mandates and performance
- Identifies systemic constraints
- Proposes implementation-focused reforms
- Directly informs NBSAP Strategic Programmes (SP1–SP6)

B3.2 Analytical Scope and Methodology

The review covers:

1. Policy Frameworks — National development, climate, sector strategies
2. Primary Legislation — Environmental, forestry, wildlife, fisheries, land, mining, biosafety
3. Subsidiary Regulations and Operational Instruments
4. International Obligations — CBD, CITES, Cartagena Protocol, Nagoya Protocol
5. Institutional Mandates and Coordination Arrangements

6. Enforcement and Justice Chain Effectiveness

Methodology included:

- Desk review of laws and policies
- Institutional mandate mapping
- Cross-sector coherence assessment
- Stakeholder consultations
- Lessons from NBSAP 2017–2026 implementation review

B3.3 Policy and Legal Framework — Analytical Inventory

Sierra Leone possesses a broad biodiversity-relevant legal and policy base relevant to biodiversity. The challenge lies not in absence of laws, but in operationalisation, coordination, and enforcement.

Table 22: Biodiversity-Relevant Legal and Policy Instruments (Analytical Summary)

Sector	Key Instruments	Strengths	Operational Gaps	Relevance to SPs
Environment	Environmental Protection Act & EIA regulations	Strong oversight mandate	Limited post-approval compliance monitoring	SP1, SP4, SP5
Forestry & Wildlife	Forestry & PA legislation	PA legal basis established	Limited OECM recognition; weak landscape enforcement	SP2
Fisheries	Fisheries governance laws	Sustainable use provisions	Limited traceability and enforcement capacity	SP3
Land & Local Governance	Land tenure reform; decentralisation	Recognition of customary tenure	Weak biodiversity integration at district level	SP1, SP5
Mining & Extractives	Mining Act	EIA integration required	Mitigation hierarchy inconsistently applied	SP1, SP4
Climate & Development	MTNDP; climate policy	NbS recognised	Biodiversity not fully embedded in sector budgets	SP6

Key Analytical Finding:

The legal architecture is largely adequate at the framework level, but:

- Secondary regulations are incomplete
- Enforcement capacity is uneven
- Biodiversity is not embedded in fiscal and performance systems

B3.4 Institutional Mandate Analysis

Biodiversity governance spans multiple institutions with overlapping or complementary mandates.

Table 23: Institutional Mandate and Coordination Assessment

Institution	Formal Mandate	Operational Role in Biodiversity	Coordination Strength	Accountability Clarity	Risk Level
EPA-SL	Environmental regulation	National coordination & safeguards	Moderate	Clear	Medium
NPAA / Forestry	Site-level management	PA management	Moderate	Clear	Medium
Fisheries Authority	Sustainable fisheries	Marine biodiversity	Moderate	Clear	Medium
Local Councils	Local governance	By-laws & local enforcement	Weak	Diffuse	High
Justice & Security	Law enforcement	Wildlife crime	Fragmented	Weak chain coherence	High
MoF	Public finance	Budget tagging	Emerging	Improving	Medium

Key Finding:

Mandates are defined, but biodiversity accountability across sectors is not systematically performance-linked.

B3.5 Coherence and Systemic Gaps

1. Policy Coherence Gaps

- Biodiversity is not consistently integrated into sector performance indicators.
- Budget ceilings under MTNDP do not systematically reflect biodiversity targets.
- Infrastructure and extractive approvals are insufficiently enforced in the mitigation hierarchy.

2. Legal and Regulatory Gaps

Issue Area	Current Status	Gap	Reform Direction
ABS (Nagoya)	No comprehensive framework	Lack of Prior Informed Consent/ Mutually Agreed Terms (PIC/MAT) procedures	Enact ABS legislation
Biosafety	Partial regulation	No primary legislation	Adopt Biosafety Act
OECMs	No operational definition	No recognition procedures	Develop OECM regulation
Biodiversity Finance	No enabling fiscal instruments	Weak legal basis for innovative finance	Reform fiscal frameworks
Harmful Incentives	Not systematically reviewed	Subsidy reform absent	Integrate into SP6 reform

3. Enforcement and Justice Chain Gaps

- Limited wildlife crime prosecution success.
- Weak coordination between CITES MA, Customs, Police, and Judiciary.
- Limited forensic and investigative capacity.
- Low deterrence due to inconsistent penalties.

B3.6 Decentralisation and Local Governance Constraints

While decentralisation frameworks exist, biodiversity responsibilities are not:

- Explicitly codified in council mandates
- Backed by predictable fiscal transfers
- Supported by technical guidance

This weakens SP1, SP2, and SP5 implementation.

B3.7 Priority Reform Matrix

This section structures reform recommendations.

Table 24: Reform Prioritisation Matrix (2026–2035)

Reform Area	Strategic Programme Link	Short-Term (2026–2028)	Medium-Term (2029–2031)	Long-Term (2032–2035)
Cross-sector coordination	SP5	Formalise coordination mechanism	Performance-linked reviews	Institutionalisation
Mainstreaming into MTNDP	SP1, SP6	Budget tagging	Sector KPI integration	Full fiscal embedding
Enforcement strengthening	SP5	Justice-chain coordination	Prosecutorial training	Deterrence stabilisation
ABS framework	SP5	Draft policy & bill	Establish competent authority	DSI integration
Biosafety legislation	SP4	Draft & adopt Act	Operational guidelines	Regional harmonisation
Biodiversity finance	SP6	Finance reform roadmap	Innovative instruments	Trust fund capitalisation
Decentralised roles	SP5	Clarify mandates	Fiscal support mechanisms	Performance-linked transfers

B3.8 Implications for NBSAP Delivery

Without these reforms:

- SP2 investments are at risk of leakage due to enforcement gaps.
- SP3 sustainable production gains may be undermined by weak regulatory follow-up.
- SP6 finance reforms may not achieve domestic mobilisation targets.
- Targets 13, 17, 18 risk underperformance.

The NBSAP, therefore, integrates governance reform as an enabling backbone, not as a parallel agenda.

B3.9 Linkage to Strategic Programmes

Strategic Programme	PIR Relevance
SP1	Safeguards & spatial planning reform
SP2	PA and restoration enforcement
SP3	Sustainable use compliance
SP4	Pollution & biosafety legal strengthening
SP5	Governance, rights & justice reform
SP6	Finance reform & incentive restructuring

B3.10 Conclusion

Sierra Leone's biodiversity governance challenge is not legislative absence, but systemic under-implementation.

The updated NBSAP therefore:

- Avoids wholesale legal overhaul
- Prioritises targeted operational reforms
- Strengthens coordination and accountability
- Aligns biodiversity with development finance
- Embeds reform into programme architecture

This positions Sierra Leone to move from policy intent to measurable biodiversity outcomes.

ANNEX B4 — REVIEW OF NBSAP 2017–2026 PERFORMANCE

This annex presents a consolidated review of the performance of Sierra Leone's National Biodiversity Strategy and Action Plan (NBSAP) 2017–2026. It assesses progress against national strategic outputs derived from the Aichi Biodiversity Targets, examines implementation and monitoring arrangements, and distils key lessons to inform the design and implementation of the updated NBSAP 2026–2035 aligned with the Kunming–Montreal Global Biodiversity Framework (KM-GBF).

Overall, the review finds that while the NBSAP 2017–2026 articulated a comprehensive and technically sound vision for biodiversity conservation, implementation outcomes were uneven, with strong performance in policy articulation and selected site-based interventions, but limited achievement of strategic outputs at scale. Less than a tenth of planned actions were fully implemented as initially envisaged, reflecting structural and systemic constraints rather than lack of relevance or ambition.

B4.1 Target-by-Target Performance Summary

The NBSAP 2017–2026 translated the 20 Aichi Targets into 23 national strategic outputs, covering biodiversity conservation, sustainable use, governance, awareness, and capacity development. Progress varied significantly across thematic areas.

Notable achievements include expanding and upgrading protected areas, such as the declaration of Gola Rainforest National Park and the Western Area Peninsula Forest as national parks, developing management plans for key protected areas, and advancing wetland and mangrove conservation through targeted projects. These interventions contributed to improved site-level protection and increased national and international visibility for biodiversity conservation.

However, many strategic outputs related to mainstreaming biodiversity into sectoral policies, sustainable financing, pollution control, climate change integration, and equitable benefit-sharing showed limited or fragmented progress. Several emerging priorities—such as nature-based solutions, urban biodiversity, biodiversity finance, and climate–biodiversity linkages—were either weakly addressed or absent, reflecting the temporal misalignment between the NBSAP and evolving global frameworks.

B4.2 Implementation Bottlenecks

The review identifies several persistent bottlenecks that constrained effective implementation:

- **Financing constraints:** Implementation relied heavily on project-based donor funding, with no dedicated or predictable domestic financing mechanism for biodiversity. Many actions remained unfunded or partially funded, limiting scale and continuity.
- **Weak operational monitoring and evaluation (M&E):** Although the NBSAP included a large number of indicators, there was no operational M&E plan with baselines, targets, clear data responsibilities, or costed monitoring arrangements. The proposed biodiversity clearing-house mechanism was not operationalised, resulting in fragmented data systems and limited feedback into decision-making.
- **Institutional coordination gaps:** While institutional leads were identified, coordination across ministries, agencies, and local councils remained ad hoc. The absence of a dedicated implementation and monitoring secretariat weakened accountability and slowed cross-sectoral collaboration.
- **Limited mainstreaming and vertical integration:** Biodiversity considerations were insufficiently integrated into national development planning, sector strategies, and subnational implementation, reducing policy coherence and local ownership.
- **Capacity and enforcement challenges:** Constraints in technical capacity, staffing, and enforcement limited the effectiveness of biodiversity regulations, particularly amid growing pressures from agriculture, mining, urban expansion, and illegal wildlife exploitation.

B4.3 Key Lessons Learned

Several critical lessons emerge from the 2017–2026 experience:

- **Strategic clarity is not sufficient without delivery systems.** A well-articulated NBSAP must be accompanied by costed action plans, phased implementation schedules, and operational monitoring systems.
- **Biodiversity finance is essential.** Reliance on donor projects alone undermines sustainability; dedicated biodiversity finance mechanisms are required to support long-term implementation.
- **Monitoring must be designed for use, not just reporting.** Indicators need to be fewer, SMART, and embedded in institutional workflows, with clear data ownership and feedback loops.
- **Whole-of-government and whole-of-society engagement is critical.** Stronger involvement of sector ministries, local councils, communities, women, and youth enhances legitimacy, uptake, and impact.
- **Adaptive management matters.** Transparency about data gaps and implementation challenges enables learning and course correction rather than undermining credibility.

B4.4 Lessons-Learned Matrix

Table 25: Problem, Evidence, and Design Response in NBSAP 2026–2035

Problem Identified (2017–2026)	Evidence from Review	Design Response in NBSAP 2026–2035
Actions not costed or sequenced	Majority of actions unfunded or partially implemented; no phasing	Costed Programme Action Tables (Annex E1) and Phased Implementation Schedule (Annex E2)
Heavy reliance on donor projects	Fragmented, time-bound funding; weak sustainability	Biodiversity Finance Plan (Annex F1) and Costing by Phase (Annex F2); Trust Fund mainstreamed
Weak operational M&E	Indicators lacked baselines, targets, ownership	MEAL Framework (Annex D3) with Producer–Custodian–Reporter roles and SOPs
Too many indicators, low usability	Indicator overload reduced reporting quality	Tightened indicator set (Annex D2) aligned to KM-GBF headline/component indicators
Poor inter-ministerial coordination	Ad hoc collaboration; unclear mandates	Institutional Roles Matrix (Annex E3) and formal coordination mechanisms
Limited biodiversity mainstreaming	Weak integration into MTNDP, sectors, districts	Programme 4 (Governance & Integration) + MoPED alignment
Inadequate local ownership	Limited Council and community engagement	Programme 5 (Participation, Gender, CEPA) with decentralised roles
Data fragmentation	No functional clearing-house; siloed datasets	Knowledge & Data Sharing Framework (Annex G2)
Enforcement gaps (incl. wildlife trade)	Low prosecution success; weak compliance	Explicit CITES integration (Programme 4) + justice chain strengthening
Learning not institutionalised	Reviews not feeding back into decisions	Built-in review cycles (annual, mid-term, end-term) under MEAL

Key takeaway: *The updated NBSAP replaces aspirational breadth with delivery discipline, financing realism, and institutional accountability.*

B4.5 Implications for the Updated NBSAP (2026–2035)

The review underscores the necessity for the updated NBSAP to move decisively from strategy articulation to implementation discipline. This includes aligning national targets with the KM-GBF, embedding biodiversity within national development planning, establishing a robust MEAL system, mobilising sustainable finance, and strengthening institutional coordination.

By internalising these lessons, the NBSAP 2026–2035 is positioned to deliver more coherent, measurable, and impactful biodiversity outcomes, ensuring that national commitments translate into tangible benefits for ecosystems, livelihoods, and long-term sustainable development in Sierra Leone.

ANNEX C — SOCIAL, RIGHTS, AND INCLUSION ANNEXES

ANNEX C1 — GENDER, SOCIAL INCLUSION, AND IPLCS ANALYSIS

C1.1 Purpose and Policy Context

This annex presents a comprehensive Gender, Social Inclusion and Indigenous Peoples and Local Communities (IPLCs) to inform Sierra Leone's NBSAP 2026–2035 and its alignment with the Kunming–Montreal Global Biodiversity Framework (KM-GBF).

It responds directly to:

- KM-GBF Target 21 — Participation and access to justice
- Target 22 — Education and awareness
- Target 23 — Gender equality
- Target 13 — Access and Benefit-Sharing
- Target 19 — Resource mobilisation

It aligns with:

- National land tenure reform
- Gender equality legislation
- Decentralisation frameworks
- Annex B3 (Policy, Legal and Institutional Review)
- Annex F (Biodiversity Finance Plan)
- Annex D (Targets, Indicators and MEAL)

This analysis treats gender equality and social inclusion as structural drivers of biodiversity effectiveness, not peripheral safeguards.

C1.2 Analytical Framework

The assessment examined biodiversity governance through five interlinked lenses:

Dimension	Analytical Question
Access & Tenure	Who controls land, forests, fisheries and genetic resources?
Labour & Resource Use	Who uses biodiversity daily and in what ways?
Decision-Making Power	Who shapes rules and allocates benefits?
Benefit Distribution	Who captures economic returns?
Risk & Vulnerability	Who bears conservation costs or degradation impacts?

C1.3 Gendered Biodiversity Economy

Biodiversity use in Sierra Leone is deeply gendered. Women dominate subsistence and near-shore ecosystem use, while men dominate high-revenue extractive and commercial activities.

Table 26: Gendered Division of Biodiversity-Related Labour

Ecosystem	Women's Roles	Men's Roles	Economic Control Pattern	Biodiversity Risk Link
Forests	NTFPs, fuelwood, medicinal plants	Logging, charcoal	Men dominate timber markets	Deforestation & labour burden shifts
Mangroves	Oyster harvesting, fuelwood	Timber cutting	Men capture bulk revenue	Wetland degradation
Fisheries	Processing & trade	Offshore capture fishing	Men control vessels & capital	Overfishing pressure
Agriculture	Food crops, seed preservation	Cash crops, land clearing	Export value controlled by men	Habitat conversion

Interpretation

Women function as frontline biodiversity managers but lack formal recognition and tenure security. Conservation restrictions, if poorly designed, risk shifting ecological costs onto women without redistributing benefits.

Programme Anchoring

- SP3 — Sustainable Production, Use & Livelihoods
- SP5 — Governance, Rights & Participation

C1.4 Structural Gender and Inclusion Barriers

Table 27: Structural Constraints and Biodiversity Implications

Structural Barrier	Governance Effect	Biodiversity Consequence	Required Reform Lever
Limited land rights for women	Reduced tenure security	Weak restoration incentives	Tenure-sensitive spatial planning (SP1)
Limited access to finance	Under-capitalised enterprises	Informal resource exploitation	Gender-responsive finance windows (SP6)
Underrepresentation in governance bodies	Biased decisions	Exclusion from PA co-management	Participation mandates (SP5)
Weak disaggregated data	Invisible inequality	Poor adaptive management	Indicator reform (Annex D2)
GBV/SEAH risks	Participation barriers	Reduced governance legitimacy	Safeguard protocols (SP4, SP5)

Interpretation

These barriers weaken ecological effectiveness. Secure tenure, inclusive governance, and equitable access to finance are performance conditions for biodiversity outcomes.

C1.5 Youth and Biodiversity Dynamics

Sierra Leone's demographic structure amplifies both biodiversity risk and opportunity.

Table 28: Youth Risk–Opportunity Matrix

Risk Driver	Environmental Outcome	NBSAP Design Response
Unemployment	Charcoal, artisanal mining	Green job pipelines (SP3)
Informality	Unregulated extraction	SME formalisation support
Climate shocks	Livelihood instability	Climate-resilient enterprises
Limited leadership space	Exclusion from governance	Youth representation mechanisms

Interpretation

Youth-driven environmental pressure is economically driven. Green employment pathways under SP3 and SP6 convert demographic pressure into ecological opportunity.

C1.6 IPLCs, Tenure and Benefit-Sharing

IPLCs maintain rich ecological knowledge and customary governance systems. However, tenure insecurity and limited recognition within formal land-use systems weaken conservation incentives.

Table 29: Tenure and Rights Risk Assessment

Risk Area	Biodiversity Risk	Reform Link (Annex B3)
Customary tenure insecurity	Resistance to restoration	Tenure integration in spatial planning (SP1)
Concession overlap	Social conflict	FPIC operationalisation
OECM under-recognition	Weak community stewardship incentives	Regulatory recognition reforms
ABS absence	Elite capture of genetic benefits	PIC & MAT legislation

Interpretation

Tenure clarity and benefit-sharing are prerequisites for sustainable conservation investment.

C1.7 Social Safeguard Risk Screening

Table 30: Biodiversity Investment Risk and Mitigation

Intervention	Social Risk	Mitigation	Finance Condition
PA expansion	Access loss	Co-management agreements	Compensation budget line
Restoration	Increased labour burden	Paid participation schemes	Wage allocation
Fisheries closures	Short-term income loss	Transitional support	Adaptive livelihood funding
Carbon/NbS projects	Elite capture	Transparent benefit-sharing	Disclosure requirements

Interpretation

Safeguards must be budgeted and monitored. Social risk management is integrated into Annex F financing and Annex D3 MEAL systems.

C1.8 Institutional Readiness for Inclusion

Table 31: Institutional Inclusion Capacity Diagnostic

Institution	Current Strength	Capacity Gap	Programme Anchor
EPA-SL	Policy leadership	Disaggregated reporting	SP5
Forestry/NPAA	Community interface	Gender quotas	SP2
Fisheries Authority	Women processors recognised	Youth integration	SP3
Local Councils	Decentralised mandate	Budget autonomy	SP5
MoF	Budget tagging emerging	Inclusion-linked tracking	SP6

Interpretation

Institutional capacity constraints are operational, not legislative. SP5 and SP6 address these gaps.

C1.9 Gender-Responsive Biodiversity Finance

Inclusion must be financially traceable.

Table 32: Gender-Responsive Budget Tagging Model

Expenditure Area	Inclusion Tag	Reporting Requirement
Restoration funds	% women participants	Annual disaggregation
Green enterprises	Women/youth-owned share	SP6 finance dashboard
CTF-SL grants	IPLC allocation share	Public reporting
Community forestry	Youth employment share	MEAL-linked

C1.10 Strategic Integration Matrix

Linked annexes: D1 (National Targets), D2 (Indicators), E (Strategic Programmes), F (Finance), G (CEPA)

Table 33: Gender, Youth and IPLC Integration Matrix

Key Finding from Analysis	Impacted Groups	Relevant KM-GBF Targets	Key Indicator Codes (Annex D2)*	Design Response in NBSAP 2026–2035	Anchoring Strategic Programmes
Women are primary users and informal managers of forests, wetlands, mangroves and NTFPs but lack formal recognition	Women	T5, T9, T10, T21, T23	D2-21.1 (% women in biodiversity governance) D2-9.2 (income from biodiversity-based livelihoods, sex-disaggregated)	Institutionalise women's co-management rights and equitable benefit-sharing in sustainable use and restoration actions	SP3; SP5
Men dominate high-impact extractive and commercial activities linked to biodiversity loss	Men	T5, T10, T15	D2-5.1 (compliance with sustainable harvest rules) D2-15.1 (business biodiversity risk disclosure)	Target behaviour change, regulatory enforcement and private-sector accountability mechanisms	SP3; SP5; SP6
Youth unemployment drives environmentally destructive practices but youth show strong interest in green livelihoods	Youth (women & men)	T8, T9, T21, T22, T23	D2-9.3 (youth employment in nature-positive livelihoods) D2-22.2 (youth participation in biodiversity education)	Develop youth green jobs pathways, restoration brigades and biodiversity leadership programmes	SP3; SP5
IPLCs hold deep ecological knowledge but face insecure tenure and weak recognition	IPLCs	T1, T3, T13, T21	D2-21.2 (IPLC participation in planning) D2-13.1 (ABS agreements recognising IPLC rights)	Integrate tenure safeguards, FPIC and benefit-sharing into spatial planning and ABS framework	SP1; SP5
Benefits from biodiversity are unevenly shared; women and IPLCs receive lower economic returns	Women, IPLCs	T9, T13, T18, T19, T23	D2-9.2 (income distribution) D2-19.1 (biodiversity finance reaching local actors)	Embed equitable benefit-sharing and targeted access to finance in conservation and livelihood actions	SP3; SP6
Women and youth have limited voice in decision-making bodies	Women, Youth	T14, T21, T23	D2-21.1 (representation in governance bodies)	Mandate gender-balanced and youth-inclusive governance structures	SP5
Conservation and climate actions can increase women's labour burdens	Women	T8, T23	D2-23.1 (gender-responsive biodiversity action design)	Apply gender-responsive planning and workload assessment to restoration and NbS	SP1; SP4; SP5

Key Finding from Analysis	Impacted Groups	Relevant KM-GBF Targets	Key Indicator Codes (Annex D2)*	Design Response in NBSAP 2026–2035	Anchoring Strategic Programmes
GBV/SEAH risks insufficiently addressed in biodiversity programmes	Women, Girls	T21, T23	D2-23.2 (existence of safeguards & grievance mechanisms)	Integrate SEAH safeguards, codes of conduct and grievance redress into biodiversity governance	SP5
Traditional knowledge systems are eroding due to exclusion of youth and women	IPLCs, Youth, Women	T20, T21, T22	D2-20.2 (traditional knowledge documented with FPIC) D2-22.1 (knowledge dissemination)	Protect and transmit knowledge through inclusive KM systems and CEPA	SP5
Gender and IPLC data gaps limit accountability	All	T20, T22, T23	D2-20.1 (availability of sex-, age- and IPLC-disaggregated data)	Require disaggregated reporting across all programmes and integrate into MEAL	SP6

How to Read This Table

This matrix provides traceability from:

- Analytical finding →
- KM-GBF target →
- National target (Annex D1) →
- Indicator (Annex D2) →
- Programme action (Annex E) →
- Finance channel (Annex F)

It ensures that inclusion commitments are measurable, funded, and reportable.

C1.11 Monitoring and Accountability

All relevant indicators under Annex D2 require:

- Sex-disaggregation
- Age disaggregation
- IPLC participation metrics
- Finance distribution tracking

Reporting obligations are integrated into Annex H2 and aligned with Target 19 resource mobilisation reporting.

C1.12 Strategic Conclusion

Biodiversity governance in Sierra Leone is inseparable from:

- Gendered labour systems
- Youth economic vulnerability
- Customary tenure structures
- Power asymmetries in benefit distribution

The NBSAP 2026–2035, therefore, embeds inclusion across:

- SP1 — Spatial planning & tenure safeguards
- SP2 — Co-management & equitable PA governance
- SP3 — Inclusive value chains & green jobs
- SP4 — Safeguards & justice-chain strengthening
- SP5 — Governance, rights & participation reform
- SP6 — Gender-responsive finance and accountability

By integrating inclusion into governance, finance, and monitoring systems, Sierra Leone strengthens both ecological outcomes and social legitimacy.

ANNEX C2 — SAFEGUARDS AND RISK MANAGEMENT FRAMEWORK

Lead Institution: Environmental Protection Agency of Sierra Leone (EPA-SL)

Applicability: All NBSAP Programmes, Actions, Financing Instruments, and Partnerships

Reference Frameworks: Convention on Biological Diversity, Kunming–Montreal Global Biodiversity Framework

C2.1 EXECUTIVE SUMMARY

This Safeguards and Risk Management Framework provides the operational basis for ensuring that the implementation of Sierra Leone's updated National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035 is socially equitable, environmentally sound, rights-based, and accountable, in line with the requirements of the Convention on Biological Diversity and the Kunming–Montreal Global Biodiversity Framework (KM-GBF).

The Framework responds directly to CBD obligations related to participation, access to information and justice, gender equality, Indigenous Peoples and Local Communities (IPLCs) rights, environmental impact prevention, and transparent resource mobilisation, and addresses implementation gaps identified under the NBSAP 2017–2026.

Purpose and Scope

The Framework applies to all NBSAP programmes, actions, financing mechanisms, and partnerships, regardless of funding source. Its purpose is to systematically identify and manage social, environmental, institutional, financial, and reputational risks associated with biodiversity actions, while strengthening trust, legitimacy, and sustainability of outcomes.

It is fully integrated with:

- Programme design and action planning (Annex E)
- Monitoring, Evaluation, Accountability and Learning (Annex D)
- Biodiversity finance and partnerships (Annex F)
- Stakeholder engagement (Annex A2)
- Gender, youth, and IPLC analysis (Annex C1)
- Knowledge management and CEPA (Annex G)

Key Safeguards Requirements Addressed

The Framework operationalises the core safeguards expectations of the CBD and KM-GBF, particularly Targets 21, 22, and 23, by ensuring that:

- Participation and rights are respected through inclusive engagement, recognition of tenure and customary systems, and access to justice;
- Free, Prior, and Informed Consent (FPIC) is applied to all actions affecting IPLC lands, resources, livelihoods, or cultural heritage, with documented processes and the right to withhold consent;
- Gender equality and youth inclusion are mainstreamed across planning, implementation, benefit-sharing, and monitoring;
- Environmental risks such as maladaptive restoration, leakage, invasive species introduction, and infrastructure impacts are anticipated and mitigated;
- Grievance Redress Mechanisms (GRMs) are accessible, gender-sensitive, culturally appropriate, and time-bound, with escalation pathways to national and judicial levels;
- Safeguards screening is conducted prior to implementation of all actions, using a standardised risk screening tool with proportionate mitigation requirements;
- Financial integrity and accountability are maintained, including safeguards compliance for biodiversity finance instruments and the Conservation Trust Fund.

Institutional Responsibilities

The Environmental Protection Agency of Sierra Leone (EPA-SL) serves as the national safeguards oversight institution, responsible for standards, screening, compliance monitoring, and reporting. Sector ministries, agencies, and local councils are responsible for applying safeguards within their mandates, while civil society organisations support facilitation, monitoring, and community access. Financing entities are required to ensure safeguards compliance for all funded activities.

Monitoring, Reporting, and Learning

Safeguards performance is tracked through sex-, age-, and IPLC-disaggregated indicators, integrated into the national MEAL system and CBD reporting processes. Grievance data, risk trends, and mitigation outcomes are reviewed periodically to support adaptive management and continuous improvement.

Conclusion

This Safeguards and Risk Management Framework ensures that Sierra Leone's updated NBSAP delivers biodiversity outcomes that are effective, inclusive, and durable, while fully meeting the requirements of the CBD and KM-GBF on rights, equity, participation, transparency, and accountability. It transforms safeguards from a compliance obligation into a core enabling condition for successful biodiversity implementation and national ownership.

C2.2 INTRODUCTION

The implementation of biodiversity strategies and action plans under the Convention on Biological Diversity requires not only ambition and technical soundness, but also the systematic management of social, environmental, institutional, and reputational risks. Article 10, Article 14, Article 17, and Article 20 of the Convention, together with the Kunming–Montreal Global Biodiversity Framework (KM-GBF), place clear expectations on Parties to ensure that biodiversity actions are implemented in a manner that avoids harm, respects rights, promotes equity, and enhances transparency and accountability.

This Safeguards and Risk Management Framework has been developed to guide the implementation of Sierra Leone's updated National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035 in line with these obligations. It provides a coherent, nationally anchored system for identifying potential risks, applying proportionate mitigation measures, operationalising rights-based approaches, and addressing grievances that may arise during NBSAP implementation.

The Framework responds directly to lessons learned from the review of the NBSAP 2017–2026, which highlighted that while policy ambition was strong, implementation was constrained by weak operational safeguards, limited anticipatory risk management, insufficient attention to social impacts, and the absence of functional grievance and accountability mechanisms. These gaps undermined trust, reduced effectiveness, and limited the sustainability of biodiversity outcomes.

Accordingly, this Framework is designed not as a parallel or donor-driven instrument, but as an integral component of national biodiversity governance, embedded within the NBSAP's programmes (Annex E), monitoring and evaluation systems (Annex D), financing arrangements (Annex F), stakeholder engagement processes (Annex A2), gender and IPLC analysis (Annex C1), and knowledge and communication frameworks (Annex G).

C2.3 PURPOSE, SCOPE, AND APPLICATION

The purpose of this Framework is to ensure that all biodiversity actions undertaken under the NBSAP:

- Prevent or minimise adverse social and environmental impacts
- Respect the rights, livelihoods, and knowledge systems of women, youth, and Indigenous Peoples and Local Communities (IPLCs)
- Promote equitable participation and benefit sharing
- Manage institutional, financial, and reputational risks
- Strengthen accountability, transparency, and learning

The Framework applies to all six NBSAP Programmes (P1–P6), including actions related to protected areas, restoration, sustainable use, wildlife trade and CITES compliance, biodiversity finance, private sector engagement, research, monitoring, and public awareness. It also applies irrespective of financing source, including domestic public finance, development partner funding, private sector investment, and grants disbursed through the Sierra Leone Conservation Trust Fund.

C2.4 ALIGNMENT WITH CBD AND KM-GBF REQUIREMENTS

This Framework operationalises multiple KM-GBF targets and enabling conditions, particularly:

- **Target 21** (participation, rights-based approaches, and access to justice)
- **Target 22** (knowledge, education, and awareness)
- **Target 23** (gender equality and women's empowerment)
- **Target 14** (mainstreaming biodiversity across sectors)
- **Target 19** (transparent and accountable resource mobilisation)

It also supports CBD expectations on environmental impact assessment, public participation, access to information, and benefit-sharing, while remaining consistent with national laws and institutional mandates.

C2.5 SAFEGUARDS PRINCIPLES

Implementation of the NBSAP shall be guided by the following safeguards principles:

- **Do No Harm:** Biodiversity actions should not cause avoidable social or environmental harm.
- **Rights-Based Approach:** Tenure, access rights, customary governance systems, and cultural heritage must be respected.
- **Equity and Inclusion:** Women, youth, and IPLCs must participate meaningfully and benefit fairly.
- **Transparency and Accountability:** Decisions, financing, and outcomes must be documented and open to scrutiny.
- **Adaptive Management:** Risks and impacts must be monitored, reviewed, and addressed over time.

These principles are not abstract commitments; they are operationalised through concrete design features, indicators, and institutional responsibilities across the NBSAP.

C2.6 SOCIAL AND ENVIRONMENTAL RISK CONTEXT

Implementing biodiversity actions can lead to unintended impacts if safeguards are not applied systematically. In Sierra Leone's context, key social risks include restrictions on access to land, forests, fisheries, or wetlands; elite capture of benefits; increased labour burdens on women; exclusion of youth from emerging opportunities; tenure insecurity for IPLCs; and risks of gender-based violence or sexual exploitation and abuse in project contexts.

Environmental risks include maladaptive restoration that fails to restore ecological integrity; displacement of pressures into adjacent landscapes (leakage); introduction or spread of invasive alien species; and infrastructure or extractive developments that undermine conservation gains.

In addition, institutional and financial risks—such as weak coordination, limited capacity, enforcement bias, misuse of funds, and over-reliance on short-term donor financing—can undermine the credibility of implementation and social trust.

C2.7 RISK MITIGATION AND MANAGEMENT MEASURES

Rather than relying on stand-alone safeguards instruments, risk mitigation is embedded within the NBSAP's design and delivery systems. Participatory spatial planning reduces conflict over land and resource use; equitable benefit-sharing mechanisms support livelihoods and reduce resistance to conservation; gender-responsive planning and budgeting address differentiated impacts; and clear institutional roles and coordination mechanisms reduce governance risks.

All actions under Annex E are expected to undergo proportionate safeguards screening prior to implementation, with mitigation measures applied based on the scale and sensitivity of the intervention. Safeguards performance is monitored through indicators and review cycles defined in Annex D.

C2.8 FREE, PRIOR, AND INFORMED CONSENT (FPIC)

FPIC is a foundational safeguard for all NBSAP actions that may affect IPLC lands, resources, livelihoods, or cultural heritage. FPIC under the NBSAP is understood as a continuous process, not a one-time event, and is grounded in four core elements: freedom from coercion, prior engagement, accessible and culturally appropriate information, and the right to give or withhold consent.

FPIC processes will be facilitated by EPA-SL in collaboration with local councils and traditional authorities, documented appropriately, and linked to grievance redress mechanisms. Where consent is withheld, alternative approaches or sites must be explored.

C2.9 GRIEVANCE REDRESS MECHANISM

To uphold access to justice and accountability, the NBSAP establishes a tiered Grievance Redress Mechanism (GRM). Grievances may be raised at the community, district, or national levels, with escalation pathways to judicial or ombudsman institutions, as necessary. The GRM is designed to be accessible, culturally appropriate, gender-sensitive, confidential where required, and time-bound.

Grievance trends and resolutions will be analysed as part of MEAL reviews to inform adaptive management and systemic improvements.

C2.10 INSTITUTIONAL RESPONSIBILITIES

EPA-SL serves as the national safeguards oversight institution, responsible for setting standards, ensuring compliance, and reporting. Sector ministries and agencies are responsible for applying safeguards within their mandates. Local councils play a critical role in local monitoring and grievance handling, while civil society organisations provide facilitation, oversight, and support to communities. Financing institutions, including the Conservation Trust Fund, are responsible for ensuring compliance with safeguards for funded activities.

C2.11 MONITORING, REPORTING, AND LEARNING

Safeguards performance is monitored through sex-, age-, and IPLC-disaggregated indicators, periodic reviews, and reporting mechanisms aligned with CBD and national development reporting. Findings are used to improve implementation, strengthen institutional practice, and enhance accountability.

C2.12 DISCLOSURE AND TRANSPARENCY

This Framework will be publicly disclosed and integrated into communication, education, and public awareness activities. It will also inform donor agreements, private sector partnerships, and financing instruments to ensure consistency and compliance.

C2.13 CONCLUSION

By embedding safeguards and risk management within planning, financing, implementation, and monitoring systems, this Framework ensures that Sierra Leone's updated NBSAP delivers biodiversity outcomes that are effective, equitable, and sustainable, while meeting the expectations of the Convention on Biological Diversity and the Kunming–Montreal Global Biodiversity Framework.

References

- Convention on Biological Diversity. *Kunming–Montreal Global Biodiversity Framework* (2022)
- Sierra Leone NBSAP 2017–2026 Review
- Gender, Social Inclusion and IPLC Analysis (Annex C1)
- Stakeholder Engagement Synthesis Report (Annex A2)
- MEAL Framework and SOPs (Annex D3)
- Biodiversity Finance Plan (Annex F)

ANNEX C2: APPENDICES AND COMPLIANCE TOOLS

ANNEX C2 – APPENDIX A

♠ Safeguards Risk Screening Tool

Purpose

This Safeguards Risk Screening Tool provides a standardised, proportionate mechanism for identifying and managing potential social, environmental, institutional, and reputational risks associated with NBSAP actions before implementation.

It operationalises safeguards requirements under the Convention on Biological Diversity and the Kunming–Montreal Global Biodiversity Framework, particularly Targets 21–23.

The tool applies to:

- All actions listed in Annex E
- All financing modalities (public, donor, private, Trust Fund)
- National and sub-national implementation

C2.A1. Screening Process Overview

- Initial Screening – conducted during action planning
- Risk Classification – Low / Moderate / High
- Mitigation Planning – proportionate safeguards measures
- Approval & Disclosure – before implementation
- Monitoring & Review – through MEAL system

C2.A2. Safeguards Screening Checklist

Section A: Basic Action Information

Item	Description
Action Code (Annex E)	
Programme	
Implementing Institution(s)	
Location (District / Landscape)	
Financing Source	
Expected Duration	

Section B: Social Risk Screening

Risk Question	Yes / No	Notes / Required Action
Will the action restrict access to land, forests, fisheries or wetlands?		
Could livelihoods be negatively affected?		
Are IPLCs present or affected?		Trigger FPIC
Could women's labour burdens increase?		Gender-responsive redesign
Are youth excluded from benefits or jobs?		Youth inclusion measures
Is there a risk of elite capture?		Benefit-sharing safeguards
Are GBV/SEAH risks plausible?		Apply GBV/SEAH protocol

Section C: Environmental Risk Screening

Risk Question	Yes / No	Notes / Required Action
Could restoration introduce non-native species?		
Is there a risk of leakage to adjacent areas?		
Could infrastructure undermine biodiversity gains?		
Could the action affect critical habitats or species?		

Section D: Institutional & Financial Risks

Risk Question	Yes / No	Notes / Required Action
Are mandates unclear or overlapping?		
Is implementing capacity adequate?		
Are fiduciary risks present?		
Is financing short-term or uncertain?		

C2.A3. Risk Classification and Required Actions

Risk Level	Criteria	Required Safeguards
Low	Minimal, localised impacts	Standard monitoring
Moderate	Manageable impacts with mitigation	Safeguards plan + monitoring
High	Significant social/environmental risks	FPIC, detailed mitigation plan, EPA-SL clearance

C2.A4. Approval

Role	Name / Signature	Date
Implementing Institution		
EPA-SL Safeguards Focal Point		

ANNEX C2 – APPENDIX B

Grievance Redress Mechanism (GRM) – Process Flow

Purpose

The GRM ensures access to justice, accountability, and conflict resolution for any individual or group affected by NBSAP implementation, in line with KM-GBF Target 21.

C2.B1. GRM Process Flow (Narrative Diagram Description)

Step 1 – Grievance Submission

- Complaints submitted verbally or in writing
- Entry points:
    - Community leaders/committees
    - Local Council offices
    - EPA-SL (hotline, email, in-person)

Step 2 – Registration & Acknowledgement

- Grievance logged within 5 working days
- Complainant receives acknowledgement and case number

Step 3 – Screening & Classification

- Category: social, environmental, governance, GBV/SEAH
- Risk level: minor/serious/urgent

Step 4 – Resolution at Appropriate Level

- Community-level resolution where feasible
- District-level mediation if unresolved
- National-level review by EPA-SL if escalated

Step 5 – Decision & Communication

- Written/verbal decision communicated
- Corrective actions agreed and documented

Step 6 – Appeal (if required)

- Escalation to:
    - EPA-SL senior management
    - Judicial / Ombudsman institutions (as last resort)

Step 7 – Closure & Learning

- Case closed and archived
- Trends analysed through MEAL reviews

B2. GRM Principles

- Free and accessible
- Confidential and survivor-centred
- Gender- and youth-sensitive
- Culturally appropriate
- Time-bound

ANNEX C2 – APPENDIX C

Safeguards Compliance Mapping to KM-GBF Targets 21–23

Table 34: Safeguards Alignment with KM-GBF

KM-GBF Target	CBD Requirement	Safeguards Framework Response	Operational Evidence in NBSAP
Target 21 Participation & rights	Inclusive participation; access to justice	FPIC procedures; GRM; stakeholder engagement	Annex A2; Annex C2; Annex D3
Target 22 Knowledge & awareness	Access to information; knowledge sharing	CEPA strategy; KM framework; transparency	Annex G1; Annex G2
Target 23 Gender equality	Gender-responsive implementation	Gender analysis; gender-disaggregated indicators; safeguards screening	Annex C1; Annex D2; Annex C2
Target 14 Mainstreaming	Cross-sector safeguards integration	Institutional roles; risk screening	Annex E3; Annex C2
Target 19 Resource mobilisation	Accountable finance	Safeguards compliance for Trust Fund and donors	Annex F; Annex C2

ANNEX D — TARGETS AND MONITORING ANNEXES

ANNEX D1 — NATIONAL TARGETS (1–23): DETAILED DESCRIPTIONS

TARGET 1 — SPATIAL PLANNING AND LAND- AND SEASCAPE GOVERNANCE

(Aligned primarily with KM-GBF Target 1)

National Target Statement

By 2030, Sierra Leone will ensure that all terrestrial, inland water, coastal, and marine areas are covered by participatory, biodiversity-inclusive spatial planning and effective management processes that reduce habitat conversion, fragmentation, and degradation, while respecting customary land and resource rights.

Rationale and Scope

Target 1 addresses a primary structural driver of biodiversity loss in Sierra Leone: unplanned and weakly regulated land- and sea-use change. It is the "decision architecture" target—setting the rules, tools, and spatial evidence that determine *where and how* development occurs. The target operationalises biodiversity safeguards through spatial planning instruments, strengthened environmental assessment systems, and sub-national governance mechanisms that embed biodiversity priorities into routine public and private investment decisions.

Scope includes: (i) biodiversity-inclusive national and district land-use planning; (ii) marine spatial planning and coastal zoning; (iii) integration of biodiversity layers into planning systems and infrastructure siting; and (iv) enforceable safeguards through EIA/SEA and permitting processes, linked to compliance monitoring.

Implementation Pathway

Implementation focuses on moving from "consideration" of biodiversity to systematic, routine integration across planning tiers and sectors. Core delivery mechanisms include:

- Spatial decision-support (priority biodiversity areas, corridors, buffers, ecological sensitivity layers) to guide land/sea allocations (see Annex B2).
- Institutionalised safeguards through strengthened EIA/SEA screening, mitigation hierarchy application, and compliance follow-up (see Annex C2).
- Decentralised planning integration, ensuring district planning and local development processes apply agreed biodiversity criteria and respect customary tenure and resource-use systems.

This target is implemented primarily through Strategic Programme 1 (Biodiversity-inclusive spatial planning and safeguards), and enables delivery across all other programmes.

Baseline Notes (2026) — Current Condition

- No fully operational, integrated national biodiversity spatial plan is in place; spatial planning tools and plans exist but are fragmented, unevenly applied, and not consistently linked to biodiversity priorities.
- Environmental assessment (EIA) systems are present but inconsistently enforced, with variable compliance monitoring and follow-through.
- Marine spatial planning and coastal zoning are nascent, with limited coverage and limited operational linkage to sector decision-making.
- Biodiversity and ecosystem service considerations are not yet systematically embedded in national and sub-national investment screening, infrastructure siting, or sector planning processes.

2030 Milestone

Biodiversity-sensitive spatial planning is institutionalised and applied routinely across priority sectors and at all levels of government, with enforceable safeguards that reduce avoidable habitat conversion and fragmentation.

Assumptions

Implementation is feasible if: (i) political and administrative commitment supports enforcement of planning and assessment tools; (ii) district councils receive technical support, data access, and clear procedures; and (iii) communities and rights-holders are engaged meaningfully in decisions affecting land and resources.

Key Risks (and why they matter)

- Enforcement and compliance gaps can reduce spatial plans to advisory documents.
- High-pressure development dynamics (mining, roads, settlement expansion) can override biodiversity-sensitive siting decisions.
- Spatial data gaps (coverage, currency, interoperability) can weaken credibility and uptake across MDAs and investors.

TARGET 2 — ECOSYSTEM RESTORATION

(Aligned primarily with KM-GBF Target 3)

National Target Statement

By 2030, Sierra Leone will restore at least 30% of degraded terrestrial, inland water, coastal, and marine ecosystems, prioritising forests, wetlands, mangroves, riparian corridors, and degraded agricultural landscapes.

Rationale and Scope

Target 2 responds to ecosystem degradation as both a biodiversity crisis and a development risk—affecting water regulation, soil stability, fisheries productivity, disaster vulnerability, and rural livelihoods. The target emphasises restoration as an integrated national priority: ecological integrity, climate resilience, and livelihood co-benefits, rather than short-term greening or isolated project outputs.

Scope includes forest landscape restoration, watershed and riparian restoration, mangrove and coastal wetland recovery, post-mining rehabilitation, and biodiversity-compatible restoration within production landscapes.

Implementation Pathway

Restoration actions are implemented through a national prioritisation logic: restore where ecological function, connectivity, and social feasibility align. Implementation emphasises:

- prioritised restoration landscapes based on spatial evidence and risk (Annex B2);
- native species and structural diversity to rebuild ecosystem function;
- community stewardship and benefit pathways (jobs, NTFPs, sustainable value chains); and
- measurable restoration outcomes tracked through the MEAL system (Annex D3).

Target 2 is delivered primarily through Strategic Programme 2 (Protected, conserved, and connected ecosystems and species recovery), and is strongly linked to Strategic Programme 4 where restoration supports resilience, erosion control, flood mitigation, and coastal protection.

Baseline Notes (2026) — Current Condition

- Degradation of forests, wetlands, mangroves, and watersheds is widely observed, with restoration needs exceeding current response capacity.
- Restoration initiatives exist, but are project-based, geographically uneven, and not consolidated into a single national restoration baseline and monitoring system.
- Standards and monitoring approaches vary; vegetation regrowth is not consistently distinguished from recovery of native ecosystem structure and biodiversity integrity.

2030 Milestone

Priority degraded ecosystems are under coordinated restoration programming at scale, with restoration tracked through consistent indicators and linked to sustainable stewardship and financing pathways.

Assumptions

- Long-term financing windows (biodiversity, climate, REDD+, etc.) remain accessible and executable.
- Tenure and benefit arrangements support community participation and long-term protection of restored areas.
- Cross-sector collaboration reduces drivers of re-degradation (fire, logging, mining impacts, encroachment).

Key Risks

- Short project cycles can produce low-persistence restoration outcomes without long-term stewardship and enforcement.
- Tenure disputes and unclear land access can delay or undermine the security of restoration sites.
- Technical capacity constraints (species selection, site preparation, monitoring) can reduce ecological quality.

TARGET 3 — PROTECTED AND CONSERVED AREAS (30X30) AND OECMS

(Aligned primarily with KM-GBF Target 3)

National Target Statement

By 2030, at least 30% of Sierra Leone's terrestrial, inland water, coastal, and marine areas are conserved through effectively managed, ecologically representative, well-connected, and equitably governed systems of protected areas and other effective area-based conservation measures (OECMs).

Rationale and Scope

Target 3 anchors Sierra Leone's 30x30 commitment in a system-quality approach—not just expanding coverage, but also strengthening management effectiveness, representativeness, connectivity, and equity. It recognises that biodiversity persistence depends on functional conservation networks that include both statutory protected areas and credible community/governance-based conservation arrangements.

Scope includes: protected area expansion and strengthening; connectivity measures (corridors, buffers, ecological linkages); recognition and support of OECMs (including community-conserved areas, where applicable); and governance arrangements that respect rights, participation, and equitable benefit-sharing.

Implementation Pathway

Implementation operationalises 30x30 through:

- strengthening and resourcing existing protected areas as the foundation;
- identifying additional priority conservation areas using spatial evidence (Annex B2) and feasibility screening;
- establishing and recognising OECMs where governance effectiveness and biodiversity outcomes can be demonstrated; and
- tracking management effectiveness and governance quality through the MEAL framework (Annex D3), with safeguards applied (Annex C2).

Institutional note (for consistency with TWG input): The NPAA leads technical processes for protected area designation, management planning, and management effectiveness tracking, working with EPA-SL (for overall coordination and reporting), communities, traditional authorities, and relevant sector institutions to support ecological integrity, social inclusion, and sustainability. *(Formal titles and institutional naming can be finalised once EPA confirms the preferred formulations.)*

Target 3 is delivered primarily through Strategic Programme 2 and depends on enabling conditions from Strategic Programme 6 (finance, implementation systems, accountability).

Baseline Notes (2026) — Current Condition

- Protected area coverage remains below the 30% ambition, and management capacity varies across sites.
- Ecological representativeness is uneven; some ecosystems (e.g., wetlands, forest–savanna mosaics, coastal systems) are under-represented relative to biodiversity value and threat.
- OECMs are not yet consistently recognised and operationalised within national systems, despite the presence of areas with potential conservation outcomes under customary/community governance.

2030 Milestone

A strengthened and more representative protected and conserved area system is operational, with improved management effectiveness, functional connectivity, and recognised OECMs contributing measurably to conservation outcomes and equitable governance.

Assumptions

- Legal and institutional steps to recognise and support OECMs progress sufficiently to enable credible designation and tracking.
- Sustainable financing for protected area management improves (domestic and partner sources).
- Community governance and co-management arrangements are strengthened and rights safeguards applied consistently.

Key Risks

- Operational underfunding may limit management effectiveness even if area coverage expands.
- Human–wildlife conflict and local opportunity costs can undermine legitimacy without mitigation and benefit pathways.
- Weak enforcement can reduce conserved areas to "paper protection," particularly in high-pressure landscapes.

TARGET 4 — SUSTAINABLE USE AND MANAGEMENT OF WILD SPECIES

(Aligned primarily with KM-GBF Target 5)

National Target Statement

By 2030, Sierra Leone will ensure that the use, harvesting, and trade of wild species are sustainable, legal, safe, and effectively regulated, minimising impacts on biodiversity and ecosystems while safeguarding legitimate customary and community-based use.

Rationale and Scope

Overexploitation of wildlife, timber, and fisheries resources remains a significant and persistent driver of biodiversity decline. Unsustainable harvesting affects species populations, ecosystem integrity, food security, and livelihoods, while weak enforcement and informal trade channels increase pressure on already vulnerable systems.

This target addresses both ecological sustainability and governance effectiveness, ensuring that wild species use occurs within scientifically informed limits, is legally compliant, and respects customary sustainable use practices.

Scope includes terrestrial wildlife, forest products, inland fisheries, and marine fisheries, including both commercial and subsistence use.

Implementation Pathway

Implementation combines regulatory strengthening with community-based and co-management approaches. Priority measures include:

- Strengthened compliance and enforcement systems for wildlife, fisheries, and forestry sectors
- Science-informed harvest controls and monitoring mechanisms
- Improved traceability and legality verification for traded species
- Scaling community-based natural resource management systems

- Integration of sustainable use safeguards within value chains

This target is primarily delivered through:

- Strategic Programme 3 (Sustainable production, use, and livelihoods)
- Supported by Strategic Programme 5 (Governance, rights, inclusion) and Programme 6 (Implementation and accountability)

Baseline Notes (2026) — Current Condition

- Wildlife, fisheries, and forestry regulations exist, but enforcement capacity is uneven across sectors and regions.
- Illegal, unreported, and unregulated (IUU) fishing and informal wildlife trade persist.
- Community-based management initiatives exist but remain geographically limited and unevenly supported.
- Monitoring systems for sustainable harvest levels are incomplete or inconsistently applied.

2030 Milestone

Harvesting of priority wild species is governed by enforceable sustainability thresholds, compliance systems are operational and measurable, and community co-management models are scaled and integrated into national oversight systems.

Assumptions

1. Enforcement agencies receive sustained technical and logistical support.
2. Alternative livelihood and value-chain interventions reduce pressure on vulnerable species.
3. Regional cooperation strengthens control of cross-border illegal trade.

Key Risks

- Persistent illegal trade driven by regional and international demand.
- Insufficient field enforcement capacity and monitoring systems.
- Market incentives favouring short-term extraction over sustainability.

TARGET 5 — ECOSYSTEM RESTORATION

(Aligned primarily with KM-GBF Target 2)

National Target Statement

By 2030, Sierra Leone will restore at least 30% of degraded terrestrial, inland water, coastal, and marine ecosystems, prioritising forests, wetlands, mangroves, riparian corridors, and degraded agricultural landscapes.

Rationale and Scope

Ecosystem degradation undermines biodiversity, climate resilience, water regulation, agricultural productivity, and coastal stability. Restoration is therefore positioned not as a narrow environmental intervention, but as a cross-sector resilience strategy supporting climate adaptation, disaster risk reduction, and livelihood security.

The target emphasises functional ecological restoration, not simply tree planting or vegetation cover increase. Restoration must rebuild ecosystem structure, connectivity, and biodiversity integrity.

Scope includes degraded forests, watershed systems, riparian zones, mangrove belts, post-mining landscapes, and biodiversity-compatible restoration within production systems.

Implementation Pathway

Restoration is prioritised spatially (Annex B2) based on ecological importance, connectivity value, and feasibility. Implementation emphasises:

- Native species and structurally diverse restoration approaches
- Watershed and coastal resilience interventions
- Post-mining rehabilitation standards and enforcement
- Community stewardship and long-term site protection
- Integration of restoration into climate and development finance frameworks

Primary delivery is through:

- Strategic Programme 2 (Protected, conserved, and connected ecosystems)
- With strong linkage to Strategic Programme 4 (Climate resilience and ecosystem services)

Baseline Notes (2026) — Current Condition

- Forest, wetland, mangrove, and watershed degradation remains significant across multiple landscapes.
- Restoration efforts are project-based, fragmented, and not consolidated within a harmonised national monitoring framework.

- Restoration outcomes are inconsistently tracked, and vegetation regrowth is not systematically distinguished from ecological recovery.

2030 Milestone

Priority degraded ecosystems are under coordinated national restoration programming with consistent monitoring indicators, long-term stewardship mechanisms, and measurable ecological recovery outcomes.

Assumptions

- Restoration financing remains accessible and predictable.
- Tenure arrangements support restoration site security and stewardship.
- Cross-sector policies reduce drivers of re-degradation.

Key Risks

- Short funding cycles undermine ecological persistence.
- Land tenure conflicts delay implementation.
- Technical capacity gaps reduce ecological quality of restoration.

TARGET 6 — THREATENED SPECIES RECOVERY AND GENETIC DIVERSITY

(Aligned primarily with KM-GBF Target 4)

National Target Statement

By 2030, Sierra Leone will halt human-induced extinction of threatened species, improve the conservation status of priority species, and safeguard the genetic diversity of wild and domesticated species critical to ecosystem resilience and food security.

Rationale and Scope

Species decline results from habitat loss, overexploitation, wildlife crime, pollution, and climate impacts. Target 6 addresses biodiversity at the species and genetic level, complementing ecosystem-based targets.

The target covers:

- Globally and nationally threatened species
- Endemic and regionally significant species
- Species of high ecological or cultural importance
- Genetic diversity of crop wild relatives and domesticated species

Implementation Pathway

Priority actions include:

- Development and implementation of species recovery plans for selected high-risk species
- Strengthening wildlife law enforcement and prosecution capacity
- Targeted habitat protection within priority landscapes
- Community-based conservation initiatives for flagship and vulnerable species
- Ex situ conservation measures where necessary and scientifically justified

Delivery links primarily to:

1. Strategic Programme 2 (Ecosystems and species recovery)
2. Supported by Programme 5 (Governance and enforcement)

Baseline Notes (2026) — Current Condition

- Comprehensive national Red List assessments are incomplete or outdated.
- Wildlife trafficking and poaching pressures remain present in key landscapes.
- Species population monitoring is limited and inconsistent.
- Genetic diversity monitoring systems are underdeveloped.

2030 Milestone

Priority threatened species show stabilised or improving population trends; recovery plans are implemented for selected species; enforcement effectiveness improves; and genetic diversity safeguards are integrated into relevant sectors.

Assumptions

- Enforcement institutions are strengthened and supported.
- Regional cooperation enhances control of wildlife trafficking.
- Communities derive tangible benefits from species conservation.

Key Risks

- Continued illegal wildlife trade.
- Ongoing habitat loss and fragmentation.
- Insufficient species-level data for adaptive management.

TARGET 7 — POLLUTION REDUCTION

(Aligned primarily with KM-GBF Target 7)

National Target Statement

By 2030, Sierra Leone will significantly reduce pollution from major land- and sea-based sources to levels not harmful to biodiversity, ecosystem functions, and human well-being, including reductions in nutrient runoff, hazardous chemicals, pesticides, and plastic waste.

Rationale and Scope

Pollution is an accelerating driver of ecosystem degradation in terrestrial, freshwater, and coastal systems. Nutrient loading, agrochemicals, mining effluents, untreated waste, and plastics degrade habitats, reduce water quality, harm aquatic biodiversity, and undermine fisheries and public health.

This target addresses both source control and systemic waste management improvements, recognising pollution as a cross-sector governance issue rather than solely an environmental problem.

Scope includes agricultural runoff, industrial discharge, mining-related contamination, urban solid waste, plastics (including marine litter), and hazardous chemical management.

Implementation Pathway

Implementation focuses on prevention, regulation, compliance, and behavioural change:

- Strengthened enforcement of environmental quality standards and effluent controls
- Integrated solid waste and plastics management systems
- Sustainable agricultural input management (fertiliser and pesticide controls)
- Monitoring systems for priority water bodies and coastal zones
- Public awareness and private sector compliance incentives

Delivery primarily occurs through:

- Strategic Programme 4 (Pollution control, ecosystem services, climate resilience)
- Supported by Programme 1 (Safeguards and spatial planning) and Programme 6 (Compliance and accountability)

Baseline Notes (2026) — Current Condition

15. Waste management infrastructure remains limited, particularly outside major urban centres.
16. Monitoring of water quality and chemical discharge is uneven and under-resourced.
17. Plastic pollution is increasing in coastal and urban areas.
18. Agricultural chemical use is expanding with limited systematic tracking or extension guidance.

2030 Milestone

Pollution levels in priority ecosystems decline measurably; enforcement of environmental quality standards improves; waste systems expand in coverage and effectiveness; and key pollution hotspots show demonstrable recovery.

Assumptions

- Environmental regulations are consistently applied and enforced.
- Investment in waste and sanitation infrastructure increases.
- Cross-sector collaboration improves between environment, health, agriculture, and local authorities.

Key Risks

- Rapid urbanisation outpaces infrastructure expansion.
- Weak monitoring and enforcement capacity.
- Limited financing for waste management systems.

TARGET 8 — INVASIVE ALIEN SPECIES (IAS)

(Aligned primarily with KM-GBF Target 6)

National Target Statement

By 2030, Sierra Leone will identify, prioritise, and manage invasive alien species and pathways, preventing new introductions and reducing impacts on biodiversity, agriculture, fisheries, and ecosystem services.

Rationale and Scope

Invasive alien species threaten native biodiversity, reduce agricultural productivity, disrupt freshwater systems, and impose long-term economic costs. Early detection and pathway management are more cost-effective than post-establishment eradication.

This target prioritises risk prevention, border control, surveillance, and rapid response, with a focus on high-risk ecosystems and economically sensitive sectors.

Scope includes terrestrial, freshwater, and marine IAS affecting biodiversity and productive systems.

Implementation Pathway

Implementation focuses on:

- Establishing a national IAS inventory and risk prioritisation framework
- Strengthening border biosecurity and quarantine systems
- Early detection and rapid response mechanisms
- Site-based management in ecologically sensitive areas

- Public awareness and sector coordination (environment, agriculture, fisheries, trade)

Delivery links primarily to:

- Strategic Programme 4 (Pollution and resilience)
- With governance support under Programme 5

Baseline Notes (2026) — Current Condition

5. No comprehensive national IAS inventory or prioritisation framework exists.
6. Biosecurity controls are under-resourced and fragmented.
7. Technical capacity for rapid response and long-term IAS management is limited.

2030 Milestone

A functional IAS governance system is operational, priority invasive species are managed or controlled in key sites, and prevention systems reduce new high-risk introductions.

Assumptions

- Cross-sector coordination strengthens (trade, agriculture, environment).
- Regional cooperation improves management of transboundary IAS pathways.
- Technical capacity and diagnostic tools expand.

Key Risks

- Delayed detection allowing establishment and spread.
- High costs of eradication once species are widespread.
- Weak border and quarantine enforcement.

TARGET 9 — ECOSYSTEM-BASED CLIMATE ACTION AND RESILIENCE

(Aligned primarily with KM-GBF Targets 8 and 11)

National Target Statement

By 2030, Sierra Leone will minimise climate-related impacts on biodiversity and enhance ecosystem resilience through ecosystem-based mitigation and adaptation measures integrated into national and sub-national planning.

Rationale and Scope

Climate change intensifies coastal erosion, flooding, drought, and ecosystem stress. Biodiversity-rich ecosystems—forests, mangroves, wetlands, and watersheds—are critical buffers against climate risks.

This target integrates biodiversity conservation with climate adaptation and mitigation, promoting nature-based solutions that reduce risk while delivering co-benefits for livelihoods and food systems.

Scope includes ecosystem-based adaptation (EbA), watershed protection, mangrove restoration, forest conservation, and integration of biodiversity into climate planning instruments.

Implementation Pathway

Key measures include:

- Mainstreaming ecosystem-based approaches into climate and disaster risk planning
- Protecting and restoring climate-resilient ecosystems (mangroves, upland forests, riparian corridors)
- Linking biodiversity and climate finance programming
- Monitoring ecosystem resilience indicators

Delivery occurs through:

- Strategic Programme 4 (Resilience and ecosystem services)
- With strong linkages to Programme 2 (Restoration) and Programme 1 (Spatial safeguards)

Baseline Notes (2026) — Current Condition

- Climate impacts are increasingly visible in coastal zones and watershed systems.
- Nature-based solutions are recognised in policy but not yet systematically mainstreamed.
- Biodiversity-climate integration remains partial in planning and budgeting frameworks.

2030 Milestone

Ecosystem-based approaches are embedded in climate and disaster risk frameworks; priority climate-vulnerable ecosystems show improved resilience indicators; and biodiversity-climate financing alignment improves.

Assumptions

- Climate finance mechanisms remain accessible.
- Inter-ministerial coordination improves.
- Ecosystem-based approaches are prioritised over purely grey infrastructure solutions.

Key Risks

- Preference for short-term engineered solutions.
- Limited technical capacity for ecosystem-based design.
- Weak monitoring of resilience outcomes.

TARGET 10 — NATURE'S CONTRIBUTIONS TO PEOPLE (ECOSYSTEM SERVICES)

(Aligned primarily with KM-GBF Target 11)

National Target Statement

By 2030, Sierra Leone will safeguard, restore, and enhance ecosystem services essential for human well-being—including water regulation, soil fertility, pollination, fisheries productivity, coastal protection, and disaster risk reduction—through integrated ecosystem management approaches.

Rationale and Scope

Biodiversity underpins economic productivity and social stability through ecosystem services. Degradation of watersheds, wetlands, forests, and coastal ecosystems directly reduces service provision, increasing vulnerability and economic loss.

This target reframes biodiversity as a development asset, ensuring ecosystem services are recognised, valued, and incorporated into planning and investment decisions.

Scope includes watershed protection, mangrove and coastal ecosystem maintenance, soil and pollinator protection in agricultural landscapes, and integration of ecosystem services into public investment appraisal.

Implementation Pathway

Implementation emphasises:

- Ecosystem service valuation and integration into development planning
- Protection of critical service-providing ecosystems (watersheds, mangroves, forests)
- Promotion of nature-based solutions in infrastructure planning
- Community stewardship and benefit-sharing mechanisms

Primary delivery through:

- Strategic Programme 4 (Ecosystem services and resilience)
- Supported by Programme 1 (Spatial integration) and Programme 3 (Sustainable production)

Baseline Notes (2026) — Current Condition

- Ecosystem services are widely relied upon but insufficiently quantified or valued in policy decisions.
- Degradation of watersheds and mangroves is reducing service provision.
- Limited systematic valuation data exists to inform cost-benefit decisions.

2030 Milestone

Critical ecosystem service areas are identified, safeguarded, and integrated into development planning, with measurable improvements in service provision indicators in priority landscapes.

Assumptions

- Development planners integrate ecosystem service considerations.
- Cross-sector collaboration improves.
- Nature-based solutions are recognised as cost-effective investments.

Key Risks

- Short-term development pressures override service protection.
- Insufficient valuation data weakens decision influence.
- Limited maintenance of restored ecosystems.

TARGET 11 — URBAN AND PERI-URBAN BIODIVERSITY

(Aligned primarily with KM-GBF Target 12)

National Target Statement

By 2030, Sierra Leone will increase the area, quality, connectivity, and accessibility of green and blue spaces in urban and peri-urban areas, integrating biodiversity into urban planning to enhance climate resilience, public health, and social well-being.

Rationale and Scope

Rapid urban expansion is a major driver of wetland loss, coastal degradation, and encroachment into forest and riparian systems, particularly in the Western Area and growing secondary cities. Urban biodiversity is directly linked to flood regulation, temperature moderation, air quality, recreation, and public health.

This target recognises urban ecosystems not as residual land but as critical infrastructure supporting resilience and equity.

Scope includes wetlands, mangroves, urban forests, riparian corridors, coastal buffers, parks, and informal green spaces within urban growth zones.

Implementation Pathway

Implementation emphasises:

- Integration of biodiversity into urban land-use and physical planning frameworks
- Protection of wetlands, floodplains, and coastal buffers from encroachment
- Restoration of degraded urban ecosystems
- Inclusion of biodiversity in housing, infrastructure, and transport planning
- Local authority capacity strengthening

Delivery primarily occurs under:

7. Strategic Programme 1 (Spatial planning and safeguards)
8. With support from Programme 4 (Ecosystem services and resilience)
9. And governance backing under Programme 5

Baseline Notes (2026) — Current Condition

- Urban expansion often occurs without biodiversity-sensitive planning.
- Informal settlements increasingly encroach on wetlands and flood-prone areas.
- Dedicated urban biodiversity strategies are limited.
- Local councils have constrained technical capacity for ecological planning.

2030 Milestone

Urban planning instruments integrate biodiversity criteria; key wetlands and green spaces are legally safeguarded; and measurable improvements in urban ecosystem coverage and quality are recorded in priority cities.

Assumptions

- Urban authorities adopt biodiversity-inclusive planning tools.
- Public awareness of ecosystem benefits increases.
- Coordination between national and local authorities strengthens.

Key Risks

- Competing land-use pressures in rapidly expanding cities.
- Weak enforcement of urban planning regulations.
- Limited financing for green infrastructure.

TARGET 12 — ACCESS AND BENEFIT SHARING (ABS)

(Aligned primarily with KM-GBF Target 13)

National Target Statement

By 2030, Sierra Leone will operationalise fair and equitable sharing of benefits arising from the utilisation of genetic resources and associated traditional knowledge, in accordance with national legislation and international obligations.

Rationale and Scope

Genetic resources and traditional knowledge represent ecological, cultural, and economic value. Weak operationalisation of ABS frameworks risks loss of benefits to custodians and undermines sovereign rights over biological resources.

This target strengthens institutional coordination, awareness, and compliance mechanisms to ensure benefits—monetary and non-monetary—flow appropriately to the State and to Indigenous Peoples and Local Communities (IPLCs).

Scope includes research access, commercial utilisation, traditional knowledge protection, and international compliance.

Implementation Pathway

Implementation focuses on:

- Clarifying institutional mandates and procedures for ABS approval
- Developing operational guidelines and compliance tracking
- Strengthening awareness among researchers and private sector actors
- Ensuring Free, Prior and Informed Consent (FPIC) procedures
- Building national capacity for negotiation and benefit-sharing agreements

Delivery is linked primarily to:

- Strategic Programme 5 (Governance, rights, and inclusion)
- With financial and institutional support under Programme 6

Baseline Notes (2026) — Current Condition

- ABS legal provisions exist but are weakly operationalised.
- Institutional coordination remains fragmented.
- Awareness among users and communities is limited.
- Documentation of traditional knowledge is incomplete.

2030 Milestone

ABS procedures are functional; benefit-sharing agreements are transparently managed; and IPLCs are meaningfully engaged in access decisions.

Assumptions

- Institutional mandates are clarified and resourced.
- Regional and international cooperation strengthens compliance.
- Research institutions cooperate in reporting and disclosure.

Key Risks

- Limited enforcement capacity.
- Inadequate benefit-sharing mechanisms.
- Risk of unauthorised access or biopiracy.

TARGET 13 — MAINSTREAMING BIODIVERSITY ACROSS GOVERNMENT AND SECTORS

(Aligned primarily with KM-GBF Target 14)

National Target Statement

By 2030, biodiversity and its multiple values are fully integrated into national and subnational policies, plans, public investment decisions, sector strategies, and budgeting processes across government and key economic sectors.

Rationale and Scope

Biodiversity loss is driven largely by decisions taken outside the environment sector. This target addresses structural drivers by embedding biodiversity into development planning, infrastructure design, extractive sector regulation, agriculture, fisheries, finance, and local governance systems.

Mainstreaming requires institutional reform, planning tools, and accountability mechanisms.

Scope includes integration into Medium-Term National Development Plan processes, sector policies, public investment screening, environmental assessment systems, and budget tagging.

Implementation Pathway

Implementation prioritises:

1. Biodiversity screening tools within public investment frameworks
2. Strengthened Strategic Environmental Assessment (SEA) systems
3. Biodiversity budget tagging and expenditure tracking

4. Inter-ministerial coordination mechanisms
5. Capacity-building for sector ministries

Delivery primarily occurs through:

- Strategic Programme 5 (Governance and policy integration)
- Supported by Programme 6 (Finance and accountability)

Baseline Notes (2026) — Current Condition

- Biodiversity is partially reflected in sector strategies but inconsistently operationalised.
- SEA and environmental safeguards are unevenly applied.
- Biodiversity budget tracking mechanisms are limited.
- Cross-sector coordination is ad hoc.

2030 Milestone

Biodiversity criteria are systematically integrated into planning and investment processes; cross-sector coordination mechanisms are institutionalised; and biodiversity expenditure tracking is operational.

Assumptions

- Political leadership supports cross-sector integration.
- Planning and finance institutions adopt biodiversity tools.
- Reliable data and indicators are available to inform decisions.

Key Risks

- Sectoral silos and competing economic priorities.
- Limited technical capacity for integration.
- Weak accountability and follow-through mechanisms.

TARGET 14 — BUSINESS, FINANCE, AND BIODIVERSITY ACCOUNTABILITY

(Aligned primarily with KM-GBF Target 15)

National Target Statement

By 2030, Sierra Leone will encourage and enable businesses and financial institutions to assess, disclose, manage, and reduce biodiversity-related risks and impacts, while increasing biodiversity-positive investments.

Rationale and Scope

Private sector activities significantly influence biodiversity outcomes, particularly in mining, agriculture, fisheries, infrastructure, and finance. Voluntary corporate responsibility alone is insufficient; transparency and risk management mechanisms are required.

This target positions biodiversity as a material risk and investment consideration within corporate governance and financial decision-making.

Scope includes risk disclosure, supply chain accountability, environmental compliance, and biodiversity-positive finance instruments.

Implementation Pathway

Implementation focuses on:

- Developing guidance for biodiversity risk assessment and disclosure
- Strengthening regulatory oversight of high-impact sectors
- Promoting sustainable supply chains
- Encouraging biodiversity-positive finance mechanisms
- Improving consumer and investor transparency

Delivery occurs through:

1. Strategic Programme 6 (Finance, implementation, accountability)
2. With governance support under Programme 5

Baseline Notes (2026) — Current Condition

- Biodiversity risk disclosure is not standard practice.
- ESG awareness is emerging but unevenly applied.
- Regulatory enforcement varies across sectors.
- Financial sector engagement on biodiversity is limited.

2030 Milestone

Major sectors adopt biodiversity risk assessment practices; regulatory frameworks support disclosure; and biodiversity-positive investment instruments increase.

Assumptions

- Regulatory frameworks evolve to support disclosure.
- Financial institutions integrate biodiversity risk tools.
- Market incentives favour sustainable practices.

Key Risks

- Limited private sector buy-in.
- Weak regulatory enforcement.
- Data gaps on biodiversity impacts and dependencies.

TARGET 15 — BIODIVERSITY DATA, MONITORING, AND KNOWLEDGE SYSTEMS

(Aligned primarily with KM-GBF Target 21)

National Target Statement

By 2030, Sierra Leone will establish and operationalise an integrated national biodiversity data, monitoring, and knowledge system that supports planning, implementation, reporting, and adaptive management under the NBSAP.

Rationale and Scope

Effective biodiversity governance depends on reliable data and knowledge systems. Currently, biodiversity data are fragmented across institutions, datasets are inconsistently updated, and monitoring systems are not harmonised. This constrains evidence-based planning, weakens reporting credibility, and limits adaptive management.

This target strengthens the institutional backbone for biodiversity intelligence, ensuring decision-makers, implementers, and communities have access to relevant, up-to-date information.

Scope includes species monitoring, ecosystem condition tracking, spatial data systems, traditional knowledge documentation (where appropriate), digital platforms, and reporting tools.

Implementation Pathway

Implementation focuses on:

- Consolidation of biodiversity datasets into a coordinated national framework

- Strengthening biodiversity indicators and monitoring protocols
- Digitalisation and interoperability of data systems
- Linkage of biodiversity data to planning and budgeting processes
- Regular national reporting and adaptive feedback loops

Delivery occurs primarily through:

- Strategic Programme 6 (Finance, implementation, monitoring, and accountability)
- With technical support under Programme 5 (Governance and knowledge integration)

Baseline Notes (2026) — Current Condition

- Biodiversity data are dispersed across agencies, projects, and partners.
- Monitoring systems are uneven and not consistently linked to policy decisions.
- Spatial datasets require updating and harmonisation.
- National reporting systems depend heavily on project-level data contributions.

2030 Milestone

A functional national biodiversity knowledge platform is operational, monitoring indicators are standardised, and reporting systems support adaptive implementation across targets.

Assumptions

- Institutions cooperate in data sharing and harmonisation.
- Digital infrastructure and technical skills are strengthened.
- Long-term financing for monitoring systems is sustained.

Key Risks

- Data fragmentation persists across agencies.
- Limited technical capacity for system maintenance.
- Weak incentives for routine data updating.

TARGET 16 — SUSTAINABLE CONSUMPTION AND WASTE REDUCTION

(Aligned primarily with KM-GBF Target 16)

National Target Statement

By 2030, Sierra Leone will promote sustainable consumption patterns, reduce waste generation and food loss, and decrease biodiversity-related ecological footprints across key value chains.

Rationale and Scope

Indirect drivers of biodiversity loss are closely linked to consumption patterns, inefficiencies in food systems, and unmanaged waste. Food loss, overconsumption of natural resources, and plastics contribute to ecosystem degradation and pollution.

This target addresses demand-side pressures, complementing production-side reforms under Target 10.

Scope includes food loss reduction, plastics and waste management, resource efficiency, behavioural change campaigns, and circular economy approaches.

Implementation Pathway

Implementation emphasises:

- Public awareness and behaviour change programmes
- Improved waste segregation and recycling systems
- Reduction of post-harvest losses in agricultural value chains
- Policy incentives encouraging sustainable consumption
- Promotion of circular economy principles

Delivery primarily through:

- Strategic Programme 3 (Sustainable production and livelihoods)
- With strong linkage to Programme 4 (Pollution reduction)

Baseline Notes (2026) — Current Condition

- Food loss and waste remain significant across agricultural supply chains.
- Waste management systems are limited and unevenly distributed.
- Public awareness of sustainable consumption is low.
- Recycling and circular economy initiatives are nascent.

2030 Milestone

Waste volumes and food loss decline measurably in priority sectors; public awareness improves; and circular economy practices expand in urban and peri-urban areas.

Assumptions

- Public education campaigns are sustained.
- Waste management infrastructure improves.
- Market incentives favour sustainable practices.

Key Risks

- Rapid urbanisation increases waste faster than systems expand.
- Limited financing for infrastructure.
- Behaviour change interventions lack continuity.

TARGET 17 — BIOSAFETY AND BIOTECHNOLOGY GOVERNANCE

(Aligned primarily with KM-GBF Target 17)

National Target Statement

By 2030, Sierra Leone will strengthen biosafety governance to manage risks associated with biotechnology, ensuring safe handling, transfer, and use of living modified organisms (LMOs) in accordance with national legislation and international obligations.

Rationale and Scope

Biotechnology offers economic and agricultural opportunities but may pose risks to biodiversity, ecosystems, and human health if not properly regulated. Effective biosafety governance ensures precautionary, science-based oversight while enabling responsible innovation.

Scope includes regulatory systems for LMOs, risk assessment capacity, institutional coordination, and public awareness mechanisms.

Implementation Pathway

Implementation focuses on:

- Strengthening regulatory frameworks and enforcement mechanisms
- Clarifying institutional mandates for biosafety oversight
- Building technical capacity for risk assessment and monitoring
- Improving public awareness and stakeholder engagement
- Strengthening regional and international cooperation

Delivery occurs primarily through:

- Strategic Programme 5 (Governance, rights, and policy coherence)

- Supported by Programme 6 (Capacity and implementation systems)

Baseline Notes (2026) — Current Condition

- Biosafety regulatory provisions exist but institutional capacity is limited.
- Risk assessment expertise and laboratory capacity are constrained.
- Public awareness of biotechnology risks and safeguards is low.
- Inter-agency coordination requires strengthening.

2030 Milestone

A functional biosafety governance system is operational, risk assessments are conducted systematically, and oversight institutions demonstrate improved coordination and compliance.

Assumptions

- Technical and financial support strengthens regulatory institutions.
- Regional cooperation enhances risk management standards.
- Public trust in biosafety governance improves.

Key Risks

- Rapid technological advances outpace regulatory adaptation.
- Limited technical expertise.
- Weak institutional coordination.

TARGET 18 — HARMFUL INCENTIVES AND SUBSIDY REFORM

(Aligned primarily with KM-GBF Target 18)

National Target Statement

By 2030, Sierra Leone will identify, reform, and phase out incentives harmful to biodiversity while scaling up positive incentives that support conservation, restoration, and sustainable use, ensuring socially equitable transitions.

Rationale and Scope

Economic incentives shape land use, production systems, and investment patterns. Harmful subsidies in agriculture, fisheries, energy, or extractive sectors can unintentionally drive habitat loss and overexploitation. Reforming these incentives is critical to addressing structural drivers of biodiversity decline.

Scope includes identification of harmful incentives, policy reform processes, social safeguard measures, and introduction of biodiversity-positive fiscal instruments.

Implementation Pathway

Implementation emphasises:

- Comprehensive assessment of incentives and subsidy impacts
- Cross-ministerial reform dialogue
- Integration of biodiversity criteria into fiscal policy
- Social safeguard measures for affected groups
- Scaling positive incentives (e.g., conservation-linked finance, sustainable production incentives)

Delivery primarily through:

- Strategic Programme 6 (Finance and accountability)
- In coordination with Programme 5 (Governance integration)

Baseline Notes (2026) — Current Condition

- Comprehensive assessments of biodiversity-harmful incentives are limited.
- Biodiversity-positive incentives exist but are fragmented and small-scale.
- Fiscal and economic reform discussions rarely integrate biodiversity considerations.
- Political sensitivity surrounds subsidy reform processes.

2030 Milestone

Harmful incentives are identified and progressively reformed; positive biodiversity incentives are scaled; and reform processes include social safeguards and transparency mechanisms.

Assumptions

- Cross-ministerial cooperation enables reform.
- Social protection measures mitigate adverse impacts.
- Data systems improve assessment of fiscal impacts on biodiversity.

Key Risks

- Political resistance to subsidy reform.
- Social backlash if transition measures are weak.
- Limited fiscal space for scaling positive incentives.

TARGET 19 — BIODIVERSITY FINANCE AND RESOURCE MOBILISATION

(Aligned primarily with KM-GBF Target 19)

National Target Statement

By 2030, Sierra Leone will substantially increase, diversify, and effectively manage financial resources for biodiversity conservation and sustainable use from domestic, international, public, and private sources.

Rationale and Scope

Implementation of the NBSAP requires sustained and predictable financing beyond short-term project cycles. Biodiversity finance in Sierra Leone remains highly donor-dependent, fragmented, and weakly integrated into national public financial management systems.

This target focuses not only on increasing financial flows but on strengthening the systems that mobilise, allocate, track, and account for biodiversity expenditure.

Scope includes domestic budget allocations, biodiversity budget tagging, international finance, climate-biodiversity linkages, private investment, and innovative financing mechanisms.

Implementation Pathway

Implementation emphasises:

- Biodiversity finance gap analysis and periodic updates
- Integration of biodiversity into national budget processes and expenditure tracking
- Alignment of climate and biodiversity finance streams
- Development of innovative financing mechanisms where feasible
- Strengthening fiduciary and absorption capacity

Delivery primarily through:

- Strategic Programme 6 (Finance, implementation, monitoring, accountability)
- In coordination with the Ministry of Finance and the relevant sector MDAs

Baseline Notes (2026) — Current Condition

- Biodiversity financing is largely project-based and externally driven.
- Domestic budget allocations for biodiversity are limited and not consistently tracked.
- Private sector investment in biodiversity remains minimal.
- Expenditure tracking systems are underdeveloped.

2030 Milestone

Biodiversity finance is diversified and integrated into national financial systems, with measurable increases in domestic allocation, improved tracking, and enhanced absorption and accountability mechanisms.

Assumptions

- Public financial management systems integrate biodiversity tagging.
- International financing windows remain accessible.
- Institutional capacity for financial oversight improves.

Key Risks

- Competing national priorities constrain fiscal space.
- Weak absorption and execution capacity limit effective use of funds.
- Continued over-reliance on external donors.

TARGET 20 — CAPACITY BUILDING, TECHNOLOGY TRANSFER, AND INSTITUTIONAL STRENGTHENING

(Aligned primarily with KM-GBF Target 20)

National Target Statement

By 2030, Sierra Leone will strengthen human, institutional, and technological capacities across all levels of governance to enable effective and sustained implementation of the NBSAP.

Rationale and Scope

Capacity constraints—technical, institutional, and logistical—remain a central barrier to effective biodiversity governance. Strengthening capacity must move beyond ad hoc training to institutionalised systems development.

Scope includes national and sub-national institutions, enforcement agencies, local councils, communities, academia, and civil society.

Implementation Pathway

Implementation focuses on:

- Institutional capacity assessments and prioritised strengthening plans
- Continuous professional development and technical training
- Strengthening enforcement and compliance capacity

- Technology transfer and digital tool adoption
- South–South and regional cooperation

Delivery primarily through:

- Strategic Programme 6
- With cross-cutting integration across all Strategic Programmes

Baseline Notes (2026) — Current Condition

- Capacity gaps exist across institutions and sectors.
- High staff turnover undermines continuity.
- Monitoring and enforcement systems lack technical and logistical resources.
- Technology platforms are unevenly adopted.

2030 Milestone

Institutional performance improves measurably across key biodiversity functions, with sustained technical capacity and operational systems in place.

Assumptions

- Long-term investment in institutional strengthening is prioritised.
- Partnerships with academia and regional bodies are expanded.
- Retention mechanisms reduce staff turnover.

Key Risks

- Fragmented capacity-building initiatives.
- Insufficient long-term funding.
- Brain drain and institutional instability.

TARGET 21 — INCLUSIVE PARTICIPATION, RIGHTS, AND ACCESS TO JUSTICE

(Aligned primarily with KM-GBF Target 22)

National Target Statement

By 2030, Sierra Leone will ensure full, effective, inclusive, and gender-responsive participation of Indigenous Peoples and Local Communities (IPLCs), women, youth, and vulnerable groups in biodiversity decision-making, while strengthening access to information and environmental justice.

Rationale and Scope

Equitable governance is foundational to durable biodiversity outcomes. Without inclusive participation and respect for rights, conservation measures risk conflict, inequity, and limited legitimacy.

Scope includes participatory planning, grievance redress mechanisms, environmental information access, and strengthening customary governance systems.

Implementation Pathway

Implementation prioritises:

- Institutionalised participatory planning frameworks
- Grievance redress and environmental justice mechanisms
- Strengthening community governance and representation
- Legal literacy and awareness programmes
- Gender-responsive decision-making systems

Delivery primarily through:

- Strategic Programme 5 (Governance, rights, inclusion)
- Supported by cross-cutting safeguards under Annex C2

Baseline Notes (2026) — Current Condition

- Participation mechanisms exist but are uneven in quality and influence.
- Women, youth, and IPLCs remain under-represented in formal decision-making processes.
- Access to environmental justice is constrained by limited legal literacy and institutional reach.

2030 Milestone

Participatory mechanisms are institutionalised, grievance systems are functional, and representation of marginalised groups improves measurably across biodiversity governance processes.

Assumptions

- Legal and institutional reforms support inclusive governance.
- Civil society capacity strengthens.
- Awareness of rights increases.

Key Risks

- Tokenistic participation without substantive influence.
- Power imbalances at local levels.
- Limited legal literacy.

TARGET 22 — BIODIVERSITY KNOWLEDGE, EDUCATION, AND AWARENESS (CEPA)

(Aligned primarily with KM-GBF Target 21)

National Target Statement

By 2030, Sierra Leone will ensure that biodiversity values, knowledge systems, and conservation practices are integrated into formal education, public awareness initiatives, research programmes, and policy processes.

Rationale and Scope

Behaviour change, stewardship, and policy coherence require broad biodiversity literacy across society. Education and communication systems are central to sustaining long-term conservation outcomes.

Scope includes formal curricula, vocational training, research networks, media engagement, traditional knowledge documentation, and public awareness campaigns.

Implementation Pathway

Implementation emphasises:

- Integration of biodiversity into national education curricula
- Strengthening research and data-sharing platforms
- National CEPA strategy implementation
- Documentation and safeguarding of traditional ecological knowledge
- Public awareness campaigns linked to behavioural change objectives

Delivery primarily through:

- Strategic Programme 5 (Knowledge and participation)
- Supported by Programme 6 (Monitoring and reporting systems)

Baseline Notes (2026) — Current Condition

- Biodiversity content in formal curricula is limited.
- Research capacity exists but coordination is weak.
- Traditional knowledge documentation is incomplete.
- Public awareness campaigns are sporadic and project-based.

2030 Milestone

Biodiversity education is institutionalised within curricula; CEPA activities are coordinated nationally; and biodiversity literacy improves across stakeholder groups.

Assumptions

- Education authorities prioritise curriculum reform.
- Research institutions strengthen collaboration.
- Sustained funding supports outreach

Key Risks

- Limited funding for education and research.
- Loss of traditional knowledge across generations.
- Weak coordination among knowledge institutions.

TARGET 23 — IMPLEMENTATION, MEAL, REPORTING, AND ACCOUNTABILITY

(Aligned primarily with KM-GBF Target 23)

National Target Statement

By 2030, Sierra Leone will operationalise a robust implementation, monitoring, evaluation, accountability, and learning (MEAL) system that tracks progress across all NBSAP targets, supports adaptive management, and fulfils national and CBD reporting obligations.

Rationale and Scope

Implementation credibility depends on measurable progress, transparent reporting, and adaptive learning. Fragmented monitoring and weak accountability systems undermine effectiveness.

This target establishes the performance management architecture of the NBSAP.

Scope includes national indicators, institutional reporting mechanisms, periodic reviews, adaptive management processes, and CBD reporting systems

Implementation Pathway

Implementation focuses on:

- Standardised indicators and reporting templates
- Clear institutional roles and reporting responsibilities
- Periodic performance reviews
- Public transparency mechanisms
- Adaptive management processes informed by monitoring results

Delivery occurs through:

- Strategic Programme 6 (Implementation, monitoring, accountability)

- In coordination with all sectoral MDAs

Baseline Notes (2026) — Current Condition

- Monitoring systems are fragmented and inconsistently applied.
- Reporting relies heavily on project-level data contributions.
- Institutional accountability mechanisms are uneven.
- Learning loops between monitoring and planning are weak.

2030 Milestone

A functioning national MEAL system tracks NBSAP implementation, supports adaptive adjustments, and ensures timely, credible reporting to the CBD and national stakeholders.

Assumptions

- Institutions commit to routine reporting.
- Data systems are harmonised.
- Leadership supports transparency and accountability.

Key Risks

- Weak compliance with reporting responsibilities.
- Data quality gaps.
- Limited resourcing for long-term monitoring.

ANNEX D2 — TARGET–INDICATOR CROSSWALK

Indicator Typology Used

- **H — Headline Indicator** (Adopted from KM-GBF global monitoring framework)
- **C — Component Indicator** (KM-GBF aligned, nationally operationalised)
- **N — National Complementary Indicator** (Sierra Leone–specific, CBD-permitted)

Table 35: D2A — TARGETS 1–12

Nat. Target	KM-GBF Target	Indicator (Type – refined wording)	Indicator Definition (CBD-aligned)	Required Disaggregation	Data Sources / Methods	Institutional Roles (Producer / Custodian / Reporter)	Reporting Frequency
T1 Spatial planning & land/sea use	1	**D2-1.1 Proportion of land and sea area under biodiversity-inclusive spatial planning** (C)	Percentage of national terrestrial and marine territory covered by legally approved spatial plans that explicitly integrate biodiversity priorities, ecological zoning, and environmental safeguards.	District; ecosystem type; terrestrial/ marine	Approved national and district plans; GIS overlays; SEA/EIA registry	**Producer:** MLGRD, sector MDAs, District Councils • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual

		D2-1.2 Rate of loss of natural ecosystems (H)	Annual net change in extent of natural ecosystems (ha/year), disaggregated by ecosystem type.	Ecosystem; district	Remote sensing; NFMS; national land-cover datasets	**Producer:** Forestry/ Environment MDAs • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual (national synthesis), biennial verification
		D2-1.3 Proportion of major development projects applying the mitigation hierarchy (N)	Percentage of licensed projects demonstrating documented application of avoidance, minimisation, restoration, and offset measures in accordance with EIA requirements.	Sector; district	EIA/ESIA approvals; compliance audits	**Producer:** EPA-SL • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual
T2 Ecosystem Restoration	2	**D2-2.1 Area under restoration** (H)	Total hectares of degraded ecosystems under active restoration or assisted natural regeneration aligned with national restoration criteria.	Ecosystem; district	Project registries; GIS; field verification	**Producer:** Forestry/Env. MDAs • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual
		D2-2.2 Restoration effectiveness (C/N)	Proportion of monitored restoration sites achieving defined ecological benchmarks (e.g., native species composition, canopy cover recovery, soil stability indicators).	Ecosystem; project type	Permanent plots; restoration M&E	**Producer:** Implementers • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Biennial

T3 Protected & conserved areas	3	**D2-3.1 Proportion of land and sea area conserved** (H)	Percentage of national territory covered by legally designated protected areas and formally recognised OECMs.	Ecosystem; PA/OECM category	PA/OECM registry; GIS	**Producer:** PA authority • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual
		D2-3.2 Protected area management effectiveness (C)	Average management effectiveness score (METT/IMET or nationally adopted tool) across protected area network.	Protected area; management unit	METT/IMET assessments	**Producer:** PA authority • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Biennial
T4 Species & genetic diversity	4	**D2-4.1 National Red List Index** (H)	Aggregate trend in extinction risk across assessed species groups using nationally adapted Red List methodology.	Taxon	National Red List; IUCN	**Producer:** EPA-SL/Experts • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Every 3–4 years
		D2-4.2 Population trends of selected indicator species (C)	Abundance or occupancy trends for priority indicator species reflecting ecosystem health.	Species; PA	Surveys; SMART; community monitoring	**Producer:** PA authority • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual–biennial
T5 Sustainable use and trade	5	**D2-5.1 Proportion of wild species trade that is legal and sustainable** (C)	Percentage of sampled trade records compliant with permit, traceability, and sustainability standards.	Taxon; sector	CITES permits; fisheries traceability	**Producer:** Wildlife/Fisheries auth. • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual

T6 Invasive alien species	6	**D2-6.1 Rate of invasive alien species establishment** (H)	Number of newly established priority invasive alien species or measurable expansion of existing priority IAS per reporting period.	Species; pathway	Border records; surveys	**Producer:** Quarantine agencies • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Biennial
T7 Pollution	7	**D2-7.1 Pollution pressure index relevant to biodiversity** (C)	Composite index of pollution indicators (nutrient loading, plastics density, chemical contaminants) in priority ecosystems.	Ecosystem; pollutant type	Water quality; waste audits	**Producer:** Sector MDAs • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual
T8 Climate and biodiversity	8	**D2-8.1 Ecosystems under ecosystem-based adaptation / NbS** (C)	Area of ecosystems actively managed under ecosystem-based adaptation or nature-based solution frameworks.	Ecosystem; district	Project registries; GIS	**Producer:** Env./Climate MDAs • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual
T9 Biodiversity-based livelihoods	9	**D2-9.1 People benefiting from biodiversity-based livelihoods** (C)	Number of individuals deriving measurable income or subsistence benefits from biodiversity-based enterprises.	Sex; youth; district	Programme M&E; surveys	**Producer:** Sector MDAs • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Annual
T10 Sustainable production systems	10	**D2-10.1 Area under biodiversity-friendly**	Area of agriculture, aquaculture, fisheries, and forestry under verified	Sector; ecosystem	Extension records; certification	**Producer:** MoA/Fisheries/Forestry • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Biennial

		production practices (H/C)	biodiversity-friendly management standards.				
T11 Ecosystem services	11	**D2-11.1 Ecosystem service condition index** (C)	Composite indicator reflecting condition of priority ecosystem services (water regulation, coastal protection, soil stability).	Ecosystem; district	Remote sensing; hydrology	**Producer:** Sector MDAs • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Biennial
T12 Urban biodiversity	12	**D2-12.1 Urban green and blue space per capita** (C)	Square metres of accessible green/blue space per urban resident in designated cities.	City; district	Urban GIS; plans	**Producer:** Councils • **Custodian:** EPA-SL • **Reporter:** EPA-SL	Biennial

Table 36: D2B — TARGETS 13–23

Nat. Target	KM-GBF Target	Indicator (Type – refined wording)	Indicator Definition (CBD-aligned)	Required Disaggregation	Data Sources	Institutional Roles (Producer / Custodian / Reporter)	Frequency
T13 Access and Benefit Sharing (ABS)	13	**D2-13.1 Access and Benefit-Sharing agreements operationalised** (C)	Number of access and benefit-sharing agreements implemented with documented benefit-sharing outcomes.	Community; benefit type	ABS permits; contracts	Producer: ABS focal bodies • Custodian: EPA-SL • Reporter: EPA-SL	Annual
T14 Mainstreaming	14	**D2-14.1 Biodiversity integrated into sector policies and plans** (C)	Percentage of new or revised sector policies incorporating biodiversity safeguards and objectives.	Sector; national/ subnational	Policy reviews	Producer: MoPED/MDAs • Custodian: EPA-SL • Reporter: EPA-SL	Annual

Nat. Target	KM-GBF Target	Indicator (Type – refined wording)	Indicator Definition (CBD-aligned)	Required Disaggregation	Data Sources	Institutional Roles (Producer / Custodian / Reporter)	Frequency
T15 Business and finance accountability	15	**D2-15.1 Companies disclosing biodiversity risks and impacts** (C)	Number or proportion of high-impact companies publicly disclosing biodiversity risks and mitigation measures.	Sector	ESG reports; regulator filings	Producer: Regulators • Custodian: EPA-SL • Reporter: EPA-SL	Annual
T16 Consumption and waste	16	**D2-16.1 Reduction in food loss and waste** (C)	Percentage reduction in post-harvest food loss and waste across priority value chains relative to baseline.	Value chain node	Surveys; audits	Producer: MoA/Trade • Custodian: EPA-SL • Reporter: EPA-SL	Biennial
T17 Biosafety	17	**D2-17.1 Biosafety regulatory functionality score** (C)	Composite score reflecting operational biosafety regulatory framework and compliance systems.	—	Regulatory audits	Producer: Biosafety authority • Custodian: EPA-SL • Reporter: EPA-SL	Annual
T18 Harmful incentives	18	**D2-18.1 Harmful incentives identified and reformed** (C)	Number of biodiversity-harmful incentives identified and reformed or phased out.	Sector	Policy/ budget reviews	Producer: MoF/MoPED • Custodian: EPA-SL • Reporter: EPA-SL	Annual
T19 Biodiversity Finance	19	**D2-19.1 Total biodiversity-related finance mobilised** (H)	Total financial flows directed toward biodiversity conservation and sustainable use from domestic and international sources (USD).	Source; instrument; public/private	INFF; budgets; donors	Producer: MoF/MoPED • Custodian: EPA-SL • Reporter: EPA-SL	Annual
T20 Capacity	20	**D2-20.1 Institutional capacity score for**	Composite institutional capacity index derived from periodic assessments.	Institution	Capacity scorecards	Producer: MDAs • Custodian: EPA-SL • Reporter: EPA-SL	Biennial

Nat. Target	KM-GBF Target	Indicator (Type – refined wording)	Indicator Definition (CBD-aligned)	Required Disaggregation	Data Sources	Institutional Roles (Producer / Custodian / Reporter)	Frequency
		NBSAP implementation (C)					
T21 Participation and justice	21	**D2-21.1 Participation and access to justice index** (C)	Composite measure of stakeholder participation quality and operational grievance mechanisms.	Sex; youth; IPLC; district	Consultation logs; GRMs	Producer: Councils/CSOs • Custodian: EPA-SL • Reporter: EPA-SL	Annual
T22 Knowledge and awareness	22	**D2-22.1 Biodiversity knowledge and awareness score** (C)	Percentage of surveyed population demonstrating biodiversity literacy benchmarks.	Sex; age; district	KAP surveys	Producer: Stats SL/MoE • Custodian: EPA-SL • Reporter: EPA-SL	Every 3 years
T23 Gender	23	**D2-23.1 Gender-responsive biodiversity implementation index** (C)	Percentage of biodiversity programmes integrating gender-responsive planning, budgeting, and reporting.	Institution; programme	Programme reviews	Producer: MDAs • Custodian: EPA-SL • Reporter: EPA-SL	Annual

ANNEX D3 — NBSAP MONITORING, EVALUATION, ACCOUNTABILITY, AND LEARNING (MEAL) FRAMEWORK

D3.1 Purpose and Scope

This MEAL Framework establishes the institutional architecture, reporting chain, and adaptive management mechanisms through which Sierra Leone will implement, track, review, and refine the NBSAP (2026–2035).

The framework enables Sierra Leone to:

- Monitor progress against the 23 National Biodiversity Targets
- Evaluate implementation effectiveness across Strategic Programmes
- Ensure transparency and institutional accountability
- Support adaptive management and evidence-based planning
- Fulfill national reporting obligations and CBD requirements

The framework applies to:

- All national MDAs responsible for biodiversity-related functions
- Sub-national authorities (districts and municipalities)
- State and non-state actors contributing to NBSAP outcomes
- Development partners and implementing agencies, where relevant

The MEAL system is binding for institutions assigned indicator responsibilities under Annex D2.

D3.2 Guiding Principles

The NBSAP MEAL system is governed by six principles:

1. **Alignment:** Fully aligned with the KM-GBF monitoring framework and national development planning systems.
2. **Subsidiarity**: Data are generated as close as possible to implementation level, with national consolidation.
3. **Inclusivity:** Indicators are disaggregated, where relevant, by sex, youth, IPLCs, geography, and ecosystem type.
4. **Transparency:** Summary reports and key indicators are publicly accessible.

5. **Learning Orientation:** Monitoring is designed to inform adaptation and improve policy effectiveness, not solely compliance.
6. **Proportionality:** Monitoring intensity is matched to ecological risk, strategic priority, and institutional capacity.

D3.3 Results and Indicator Architecture

a. Results Chain

The MEAL system follows a nested results hierarchy:

Level	Description
Impact	Halting and reversing biodiversity loss by 2030
Outcomes	Achievement of the 23 National Biodiversity Targets
Outputs	Strategic Programme outputs and institutional reforms
Activities	Annual and multi-year implementation actions

Annex D2 indicators operate primarily at the Outcome level, with selected indicators capturing Output-level performance.

b. Indicator Typology

Indicators are defined in Annex D2 and classified as:

- Headline (H) — KM-GBF global reporting indicators
- Component (C) — Nationally operationalised GBF-aligned indicators
- National Complementary (N) — Sierra Leone–specific performance measures

Headline indicators serve CBD reporting requirements. Component and National indicators support domestic performance tracking and policy refinement.

D3.4 Data Collection and Management

a. Data Sources

Data Type	Examples
Administrative	Permits, inspections, enforcement records, budget allocations
Biophysical	Remote sensing, NFMS, SMART, field surveys
Socio-economic	Household surveys, livelihood assessments
Governance	Participation records, grievance logs
Financial	Budget tagging, INFF data, donor tracking

Data integration will prioritise interoperability across ministries and digital harmonisation.

b. Data Quality Assurance

All biodiversity data must meet the minimum standards of:

- Accuracy
- Consistency
- Timeliness
- Traceability

EPA-SL will issue periodic MEAL Technical Guidance Notes specifying:

- Standardised indicator definitions
- Data collection methodologies
- Verification protocols
- Reporting templates

Independent validation may be conducted for high-risk or high-visibility indicators.

D3.5 Institutional Roles and Accountability Chain

a. National MEAL Governance Structure

Function	Institution
Overall MEAL coordination & CBD reporting	EPA-SL
Planning integration	MoPED
Financial tracking	Ministry of Finance
Sector data production	Relevant MDAs
Official statistics & surveys	Statistics Sierra Leone
Sub-national reporting	District & Municipal Councils
Independent analytical input	Academia, CSOs, research institutions

EPA-SL serves as the national custodian of biodiversity indicator data.

b. Indicator Accountability Chain

For each indicator in Annex D2:

- Data Producer — Generates primary data
- Data Custodian — Validates, stores, consolidates (EPA-SL)
- National Reporter — Submits national synthesis and CBD reporting (EPA-SL)

Institutional performance under this chain will be reviewed during annual implementation assessments.

D3.6 Monitoring and Review Cycles

a. Routine Monitoring

Product	Frequency	Purpose
Indicator updates	Annual	Progress tracking
Compliance monitoring	Continuous	Safeguards & enforcement
Programme performance review	Annual	Implementation adjustment

b. Strategic Reviews

Review	Timing	Output
Mid-term Review	2027	Course correction & target recalibration
End-term Evaluation	2030	Outcome & impact assessment
Thematic Reviews	As needed	Deep-dive diagnostics (e.g., finance, PAs, gender)

Mid-term and end-term reviews may involve independent evaluators.

D3.7 National and International Reporting

a. National Reporting Products

Product	Audience	Frequency
Annual State of Biodiversity Summary	Cabinet, Parliament, public	Annual
NBSAP Implementation Report	MDAs & partners	Annual
Biodiversity Finance Summary	MoF & partners	Annual
District Biodiversity Briefs	Local authorities	Biennial

Reports will synthesise D2 indicators rather than reproduce raw datasets.

b. CBD Reporting

CBD reporting obligations will be fulfilled through:

- National Reports (NR7, NR8)
- Online Reporting Tool submissions
- COP performance assessments

Headline indicators form the backbone of CBD submissions.

D3.8 Accountability and Transparency Mechanisms

Accountability mechanisms include:

- Public disclosure of summary reports
- Parliamentary briefings where required
- Grievance redress mechanisms linked to Target 21
- Independent mid-term and end-term evaluations

EPA-SL will maintain a National Biodiversity Information and Reporting Portal to host:

- Indicator dashboards
- Spatial visualisations
- Public summaries of national progress

D3.9 Learning and Adaptive Management

Learning is institutionalised through:

- Annual inter-MDA MEAL reflection sessions
- Integration of monitoring findings into annual work planning
- Policy feedback loops to MoPED and Cabinet
- Cross-learning with regional and international initiatives

Core learning questions include:

- Which interventions deliver the strongest biodiversity outcomes relative to cost?
- Where are trade-offs emerging between development and conservation objectives?
- Which governance arrangements demonstrate strongest local legitimacy and effectiveness?

Adaptive adjustments may include reallocation of resources, regulatory reform, or indicator refinement.

D3.10 Capacity Development for MEAL

Priority actions include:

- Training for MDAs and councils on indicator protocols
- Strengthening GIS and remote sensing capacity
- Developing gender- and IPLC-responsive monitoring tools
- Supporting research partnerships and innovation

These actions align directly with:

- Target 20 (Capacity Building)
- Target 19 (Finance Mobilisation)

ANNEX E — ACTION PLAN AND IMPLEMENTATION DETAILS

ANNEX E1 — PROGRAMME ACTION TABLES

Investment Architecture Overview (2026–2035)

E1.0 NATIONAL BIODIVERSITY INVESTMENT ARCHITECTURE (2026–2035)

The NBSAP 2026–2035 is structured as a phased, investment-ready biodiversity portfolio aligned with:

- The Kunming–Montreal Global Biodiversity Framework (KM-GBF)
- Sierra Leone's NDC 3.0
- The Medium-Term National Development Plan (MTNDP)
- BioFin biodiversity finance methodology
- Target 19 (Resource Mobilisation)

The costing approach integrates:

- Unit-cost benchmarking (e.g., restoration per hectare)
- Institutional strengthening multipliers
- Phased scale-up logic (2026–30 and 2031–35)
- Enabling system investments
- Public–private co-financing assumptions

The NBSAP is therefore presented not as a static budget, but as a strategic biodiversity investment architecture.

1. Total Indicative Investment Envelope (2026–2035)

Estimated Total NBSAP Investment Requirement: USD 127.3 million (10-year horizon)

This represents the scale of investment required to:

- Halt and reverse biodiversity loss
- Deliver 30×30 commitments
- Restore degraded ecosystems
- Transform production systems
- Strengthen governance and compliance
- Build sustainable biodiversity finance systems

2. Strategic Programme Allocation

Strategic Programme	10-Year Envelope (USD)	% Share
SP1 Biodiversity-Inclusive Spatial Planning and Safeguards	5.3M	4%
SP2 Protected, Conserved & Connected Ecosystems and Species Recovery	50M	39%
SP3 Sustainable Production, Use, and Livelihoods	28M	22%
SP4 Pollution Control, Ecosystem Services & Climate Resilience	18M	14%
SP5 Governance, Rights, Inclusion, Knowledge & Participation	14M	11%
SP6 Finance, Implementation, Monitoring & Accountability	12M	10%

This allocation reflects international biodiversity finance benchmarks, with ecological investments (SP2) forming the portfolio backbone.

3. Phased Investment Structure

The NBSAP is implemented in two phases:

Phase I (2026–2030): Systems Establishment and Initial Scale-Up

Approx. USD 70 million (55%)

Focus:

- Legal and institutional strengthening
- Restoration and 30×30 acceleration
- Pilot-to-scale transition
- Finance architecture development

Phase II (2031–2035): Scaling, Consolidation and Performance Optimisation

Approx. USD 57 million (45%)

Focus:

- Landscape-scale implementation
- Full production system transformation
- Institutional maturity and sustainability
- Performance-based financing expansion

4. Indicative Financing Mix (Target 19 Alignment)

The investment envelope assumes a diversified financing strategy:

Source	Indicative Share	Estimated Contribution
Domestic Public Finance	25%	~32M
International Climate & Biodiversity Finance (GEF, GCF, AF, etc.)	45%	~57M
Private Sector & Blended Finance	15%	~19M
Trust Funds & Innovative Mechanisms	10%	~13M
Community & Co-Financing	5%	~6M

This diversified structure reduces donor dependency and aligns with BioFin financing reform principles.

5. Costing Assumptions

Key costing assumptions include:

- Restoration cost benchmarks aligned with NDC per-hectare estimates.
- Protected area expansion and management costed using regional averages.
- Governance and planning investments are benchmarked at 5–10% of the total portfolio.
- Monitoring, finance architecture, and institutional systems are costed proportionally to portfolio scale.
- Scaling factor applied for Phase II expansion.

All costs are indicative and subject to annual refinement through the NBSAP MEAL system (Annex D3) and Biodiversity Finance Plan (Strategic Programme 6).

6. Strategic Implications

This investment architecture:

- Positions Sierra Leone to credibly deliver 30×30 commitments.
- Aligns biodiversity and climate investments under NDC 3.0.
- Supports MTNDP environmental sustainability pillars.
- Provides a structured platform for donor engagement.
- Anchors Annex F (Finance Strategy) in a coherent portfolio model.
- Strengthens negotiation leverage in international biodiversity finance discussions.

STRATEGIC PROGRAMME 1: BIODIVERSITY-INCLUSIVE SPATIAL PLANNING AND SAFEGUARDS

Total Envelope: USD 5.3 million

Table 37: Strategic Programme 1 (SP1) Investment Matrix

Action Code	Action Description	Nat. Targets	Lead Institution	Phase I 2026–30	Phase II 2031–35	Total (USD)	Cap / Rec	Primary Financing Source	Linked Indicator (D2)
SP1-A1	Develop & operationalise national biodiversity-inclusive spatial planning framework	T1, T14	EPA-SL	1,000,000	200,000	1,200,000	Capital (system + legal reform)	Domestic Public Finance	D2-1.1
SP1-A2	Integrate biodiversity safeguards into national & district plans	T1, T14	MoPED	700,000	300,000	1,000,000	Recurrent (institutional integration)	Domestic Public Finance	D2-1.1
SP1-A3	Strengthen mitigation hierarchy application in EIA/SEA	T1, T14	EPA-SL	800,000	300,000	1,100,000	Mixed	Domestic Public Finance	D2-1.3
SP1-A4	Establish national spatial biodiversity data & decision-support platform (MEAL-linked)	T1, T20	EPA-SL	1,500,000	500,000	2,000,000	Capital (digital infrastructure)	International Climate & Biodiversity Finance	D2-1.2

SP1 Phase Distribution

- Phase I: 4.0M| Phase II: 1.3M
- Strong front-loading because systems must be established early.

STRATEGIC PROGRAMME 2: PROTECTED, CONSERVED, AND CONNECTED ECOSYSTEMS AND SPECIES RECOVERY

Total Envelope: USD 50 million

This is restoration-heavy and scale-based, so phasing varies significantly per action.

Table 38: Strategic Programme 2 (SP2) Investment Matrix

Action Code	Action Description	Nat. Targets	Lead Institution	Phase I 2026–30	Phase II 2031–35	Total (USD)	Cap / Rec	Primary Financing Source	Linked Indicator (D2)
SP2-A1	Expand PA network & recognise OECMs (30×30)	T3	NPAA	3,000,000	1,000,000	4,000,000	Capital	International Biodiversity Finance	D2-3.1
SP2-A2	Improve PA management effectiveness (METT/IMET scale-up)	T3, T4	NPAA	2,500,000	2,500,000	5,000,000	Recurrent-heavy	Domestic + External Co-financing	D2-3.2
SP2-A3	Establish ecological corridors & connectivity agreements	T1, T3	EPA-SL	2,000,000	2,000,000	4,000,000	Capital	International Biodiversity Finance	D2-1.1

SP2-A4	Large-scale ecosystem restoration (forest, mangrove, wetlands)	T2, T8, T11	Forestry MDA	15,000,000	15,000,000	30,000,000	Capital	Climate Finance (NDC-aligned)	D2-2.1
SP2-A5	Community-led conservation & OECM support	T3, T21, T23	Councils	1,800,000	1,200,000	3,000,000	Mixed	Trust Fund / Blended	D2-3.1
SP2-A6	Strengthen enforcement in PAs & biodiversity hotspots	T4, T5	NPAA	2,500,000	1,500,000	4,000,000	Recurrent	Domestic Public Finance	D2-4.2

SP2 Phase Distribution

Phase I: 26.8M | Phase II: 23.2M

This reflects:

- Early expansion & restoration surge
- Continued scaling & maintenance

STRATEGIC PROGRAMME 3: SUSTAINABLE PRODUCTION, USE, AND LIVELIHOODS

Total Envelope: USD 28 million

Table 39: Strategic Programme 3 (SP3) Investment Matrix

Action Code	Action Description	Nat. Targets	Lead Institution	Phase I 2026–30	Phase II 2031–35	Total (USD)	Cap / Rec	Primary Financing Source	Linked Indicator (D2)
SP3-A1	Promote biodiversity-friendly & climate-smart agriculture (agroecology scale-up)	T10, T7, T8	Ministry of Agriculture	6,000,000	4,000,000	10,000,000	Mixed (extension + demonstration capital)	International Climate & Biodiversity Finance	D2-10.1
SP3-A2	Strengthen sustainable fisheries management & compliance (gear, closed seasons, traceability)	T5, T10, T8	Fisheries Authority	3,500,000	2,500,000	6,000,000	Recurrent-heavy	International Climate & Biodiversity Finance	D2-5.1
SP3-A3	Scale community forestry & sustainable forest management systems	T5, T10, T21	Forestry Authority	3,000,000	2,000,000	5,000,000	Mixed	International Biodiversity Finance	D2-10.1
SP3-A4	Develop & scale biodiversity-based value chains (NTFPs, ecotourism,	T9, T11, T15, T23	Trade / Tourism Authorities	3,000,000	2,000,000	5,000,000	Capital + enterprise support	Private Sector / Blended Finance	D2-9.1

	bio-enterprises)								
SP3-A5	Strengthen access to green finance, certification & market systems for biodiversity-positive producers	T9, T15, T19	Ministry of Finance / Trade	1,200,000	800,000	2,000,000	Capital (financial instruments)	Blended / Private Sector	D2-9.1

SP3 Phase Distribution

Phase I: 16.7M | Phase II: 11.3M

Front-loaded to:

- Establish extension systems
- Reform fisheries compliance
- Build initial value chains

Scaling and market deepening occur in Phase II.

STRATEGIC PROGRAMME 4: POLLUTION CONTROL, ECOSYSTEM SERVICES, AND CLIMATE RESILIENCE

Total Envelope: USD 18 million

Table 40: Strategic Programme 4 (SP4) Investment Matrix

Action Code	Action Description	Nat. Targets	Lead Institution	Phase I 2026–30	Phase II 2031–35	Total (USD)	Cap / Rec	Primary Financing Source	Linked Indicator (D2)
SP4-A1	Strengthen national pollution control standards & compliance systems	T7, T14	EPA-SL	1,500,000	500,000	2,000,000	Recurrent-heavy (regulatory systems)	Domestic Public Finance	D2-7.1
SP4-A2	Improve solid waste management & reduce plastic leakage in priority urban/coastal areas	T7, T12, T16	Councils	3,000,000	2,000,000	5,000,000	Capital (infrastructure support)	Blended / Development Finance	D2-7.1
SP4-A3	Promote sustainable regulation of agricultural chemicals & hazardous substances	T7, T10	Ministry of Agriculture	1,200,000	800,000	2,000,000	Recurrent (inspection + training)	Domestic + Climate Co-finance	D2-7.1
SP4-A4	Establish national invasive alien species (IAS) inventory & prioritisation system	T6, T20	EPA-SL	1,200,000	300,000	1,500,000	Capital (diagnostic systems)	International Biodiversity Finance	D2-6.1

SP4-A5	Strengthen border biosecurity & early detection systems	T6, T17	Biosecurity Authority	1,500,000	500,000	2,000,000	Capital + Recurrent	International Biodiversity Finance	D2-6.1
SP4-A6	Implement priority IAS control & ecosystem rehabilitation measures	T6, T2	EPA-SL	1,800,000	1,200,000	3,000,000	Capital	Climate & Biodiversity Finance	D2-6.1
SP4-A7	Integrate ecosystem-based adaptation (EbA) & nature-based solutions (NbS) into climate adaptation planning	T8, T11, T14	Climate / Environment MDA	1,500,000	1,000,000	2,500,000	Mixed	Climate Finance (NDC-aligned)	D2-8.1

SP4 Phase Distribution

Phase I: 11.7M | Phase II: 6.3M

Front-loaded to:

- Establish regulatory & IAS systems
- Integrate NbS into planning
- Upgrade waste systems

Phase II focuses on scaling and sustained compliance.

STRATEGIC PROGRAMME 5: GOVERNANCE, RIGHTS, INCLUSION, KNOWLEDGE & PARTICIPATION

Total Envelope: USD 14 million

Table 41Strategic Programme 5 (SP5) Investment Matrix

Action Code	Action Description	Nat. Targets	Lead Institution	Phase I 2026–30	Phase II 2031–35	Total (USD)	Cap / Rec	Primary Financing Source	Linked Indicator (D2)
SP5-A1	Strengthen national biodiversity governance & inter-ministerial coordination mechanisms	T14, T20	EPA-SL	1,500,000	700,000	2,200,000	Recurrent-heavy	Domestic Public Finance	D2-14.1
SP5-A2	Strengthen CITES Management & Scientific Authorities (incl. NDF systems)	T4, T5, T20	CITES Authorities	1,500,000	1,000,000	2,500,000	Mixed	International Biodiversity Finance	D2-5.1
SP5-A3	Enhance investigation, prosecution & adjudication of biodiversity & wildlife crime	T5, T21	Ministry of Justice	1,500,000	1,000,000	2,500,000	Recurrent	Domestic + External Co-financing	D2-21.1
SP5-A4	Integrate biodiversity into formal education, training & research systems	T22, T11	Ministry of Education	1,800,000	700,000	2,500,000	Capital + Recurrent	International Biodiversity Finance	D2-22.1

SP5-A5	Mainstream gender equality & inclusive participation across NBSAP programmes	T23, T21	Gender Ministry	1,200,000	800,000	2,000,000	Recurrent	International Biodiversity Finance	D2-23.1
SP5-A6	Strengthen access to justice, grievance redress & public biodiversity transparency platforms	T21, T22	EPA-SL	1,000,000	300,000	1,300,000	Capital (digital + systems)	Domestic Public Finance	D2-21.1
SP5-A7	Establish citizen science & community monitoring systems linked to MEAL	T20, T22	EPA-SL	700,000	300,000	1,000,000	Mixed	Trust Fund / Blended	D2-22.1

SP5 Phase Distribution

Phase I: 9.2M | Phase II: 4.8M

Front-loaded to:

- Establish governance mechanisms
- Strengthen CITES systems
- Reform justice chain
- Integrate education modules

Phase II consolidates institutional maturity.

STRATEGIC PROGRAMME 6: FINANCE, IMPLEMENTATION, MONITORING & ACCOUNTABILITY

Total Envelope: USD 12 million

Table 42: Strategic Programme 6 (SP6) Investment Matrix

Action Code	Action Description	Nat. Targets	Lead Institution	Phase I 2026–30	Phase II 2031–35	Total (USD)	Cap / Rec	Primary Financing Source	Linked Indicator (D2)
SP6-A1	Develop & operationalise National Biodiversity Finance Plan (aligned with INFF & MTNDP)	T19, T14	Ministry of Finance	1,500,000	500,000	2,000,000	Capital (system design)	International Biodiversity Finance	D2-19.1
SP6-A2	Strengthen biodiversity budget tagging & expenditure tracking across MDAs	T19, T14	Ministry of Finance	1,200,000	800,000	2,000,000	Mixed	Domestic Public Finance	D2-19.1
SP6-A3	Mobilise climate & biodiversity finance pipelines (GEF, GCF, AF, etc.)	T19, T8	EPA-SL	1,500,000	1,500,000	3,000,000	Recurrent (pipeline development)	International Climate Finance	D2-19.1
SP6-A4	Engage private sector & financial institutions in biodiversity risk disclosure & positive investment	T15, T19	Trade / Investment Authority	1,200,000	800,000	2,000,000	Mixed	Private Sector / Blended	D2-15.1

SP6-A5	Pilot & scale innovative financing mechanisms (PES, offsets, trust fund strengthening, green bonds)	T18, T19	Ministry of Finance	1,200,000	1,300,000	2,500,000	Capital (instrument development)	Blended / Trust Fund	D2-18.1
SP6-A6	Operationalise national biodiversity MEAL dashboard, reporting portal & transparency systems	T20, T21	EPA-SL	1,000,000	500,000	1,500,000	Capital + Recurrent	Domestic + External Co-financing	D2-20.1

SP6 Phase Distribution

Phase I: 7.6M | Phase II: 4.4M
Front-loaded to:

- Establish finance architecture
- Integrate tagging systems
- Develop donor pipelines
- Launch transparency systems

Phase II focuses on scaling financing instruments and pipeline expansion.

FINAL PORTFOLIO SUMMARY (ALL 6 PROGRAMMES)

Strategic Programme	Envelope (USD)	% Share
SP1	5.3M	4%
SP2	50M	39%
SP3	28M	22%
SP4	18M	14%
SP5	14M	11%
SP6	12M	10%

Total NBSAP Envelope (2026–2035): USD 127.3 million

ANNEX E2 — IMPLEMENTATION SCHEDULE (2026–2035)

Time Horizon: 2026–2035

- **Phase I (2026–2030):** KM-GBF implementation period; institutional establishment and large-scale delivery
- **Phase II (2031–2035):** Consolidation, financial sustainability, and post-2030 continuity

Financial Anchoring (Annex F2):

- Phase I envelope: **USD 79.1 million**
- Phase II envelope: **USD 48.2 million**
- Total NBSAP envelope: **USD 127.3 million**

E2.1 Phasing Logic

Implementation follows three sequencing principles:

1. **Foundation First (2026–2027)**

- Governance and coordination platforms operationalised
- Biodiversity finance systems and budget tagging established
- Spatial planning frameworks adopted
- Baseline data, inventories, and MEAL systems strengthened

2. **Scale and Deepen (2028–2030)**

- Expansion of protected and conserved areas
- Large-scale ecosystem restoration
- Enforcement and compliance strengthened
- Sustainable production systems scaled nationally
- Private and climate finance mobilisation intensified

3. **Consolidate and Sustain (2031–2035)**

- Institutionalisation of governance systems
- Increased domestic finance share
- Trust fund capitalisation and blended finance scaling
- Long-term ecological outcome consolidation
- Post-2030 biodiversity performance assessment

E2.2 Programme-Level Phasing Matrix (SP1–SP6 Aligned)

SP1 — Biodiversity-Inclusive Spatial Planning & Safeguards

Key Actions / Milestones	2026–2030	2031–2035	Notes
Spatial planning framework & safeguards integration (P1-A1, A2)	✓	Ongoing	Periodic updates aligned with MTNDP cycles
Ecological corridors & connectivity (P1-A5)	✓	Ongoing	Maintenance and enforcement
Environmental safeguards & mitigation hierarchy integration	✓	✓	Permanent regulatory function

Financial Alignment: Front-loaded (Phase I dominant; ~USD 3.5M of 5.3M total)

SP2 — Protected, Conserved & Connected Ecosystems & Species Recovery

Key Actions / Milestones	2026–2030	2031–2035	Notes
Protected area expansion & OECM recognition (P1-A3, A7)	✓	Ongoing	Legal consolidation post-2030
PA management effectiveness & enforcement (P1-A4, A8)	✓	✓	Long-term operational
Ecosystem restoration (P1-A6)	✓	✓	Long restoration horizons
Species recovery and habitat restoration	✓	✓	Ecological cycles beyond 2030
Conservation monitoring systems (P1-A9)	✓	✓	Integrated with MEAL

Financial Alignment: Largest envelope (~USD 50M; climate-aligned)

SP3 — Sustainable Production, Use & Livelihoods

Key Actions / Milestones	2026–2030	2031–2035	Notes
Sustainable harvest guidelines (P2-A1)	✓	Ongoing	Refinement based on data
Trade regulation & traceability incl. CITES (P2-A2)	✓	✓	Permanent
Climate-smart agriculture & agroecology (P2-A3)	✓	✓	Progressive scaling
Sustainable fisheries & aquaculture (P2-A4)	✓	✓	Stock recovery cycles
Community forestry & forest management (P2-A5)	✓	Ongoing	Institutionalisation
Value chains & biodiversity enterprises (P2-A6, A7)	✓	✓	Market maturation
Community governance & benefit sharing (P2-A8)	✓	Ongoing	Embedded locally
Sustainable production indicators in MEAL (P2-A9)	✓	✓	Continuous

Financial Alignment: ~USD 28M envelope; strong NDC 3.0 co-benefits

SP4 — Pollution Control, Ecosystem Services & Climate Resilience

Key Actions / Milestones	2026–2030	2031–2035	Notes
Pollution standards & enforcement (P3-A1, A3)	✓	✓	Continuous compliance
Waste management & plastic reduction (P3-A2)	✓	✓	Infrastructure dependent
IAS inventory & prioritisation (P3-A4)	✓	Update cycles	Refresh every 3–5 years
Biosecurity & early detection (P3-A5)	✓	✓	Permanent vigilance
IAS control & eradication (P3-A6)	✓	✓	Long-term
EbA / NbS integration (P3-A7)	✓	Ongoing	Scaling & mainstreaming
Climate–biodiversity risk monitoring (P3-A8)	✓	✓	MEAL-linked
Capacity building (P3-A9)	✓	Ongoing	Institutional renewal

Financial Alignment: ~USD 18M; highly climate-co-finance eligible

SP5 — Governance, Rights, Inclusion, Knowledge & Participation

Key Actions / Milestones	2026–2030	2031–2035	Notes
Inter-ministerial coordination (P4-A1)	✓	✓	Permanent
CITES MA & Scientific Authority strengthening (P4-A2, A3)	✓	✓	Species cycles
Trade enforcement & wildlife crime prosecution (P4-A4, A5)	✓	✓	Institutionalised
CBD–CITES–MEAL integration (P4-A6)	✓	✓	Continuous
Access to justice & grievance systems (P4-A7)	✓	✓	Rights-based
Institutional capacity development (P4-A8)	✓	Ongoing	Staff renewal
Education & awareness (P5-A1, A3)	✓	✓	Long-term
Gender mainstreaming & participation (P5-A4, A5)	✓	✓	Embedded
Citizen science & transparency (P5-A7, A8)	✓	✓	Continuous

Financial Alignment: ~USD 14M; foundational to accountability

SP6 — Finance, Implementation, Monitoring & Accountability

Key Actions / Milestones	2026–2030	2031–2035	Notes
Biodiversity Finance Plan & INFF alignment (P6-A1)	✓	Update cycle	Review 2031
Budget tagging & expenditure tracking (P6-A2)	✓	✓	Annual
International finance mobilisation (P6-A3)	✓	✓	Pipeline-based
Private sector disclosure & engagement (P6-A4)	✓	✓	Market uptake
Innovative finance mechanisms (P6-A5)	✓	✓	Scaling
Partnerships & donor coordination (P6-A6, A7)	✓	✓	Continuous
Finance transparency & reporting (P6-A8)	✓	✓	Annual
MEAL finance dashboards	✓	✓	Continuous

Financial Alignment: ~USD 12M; enabling architecture

E2.3 Cross-Cutting Milestones (Finance-Anchored)

Milestone	Timing
NBSAP implementation fully operational	2026
Biodiversity budget tagging system operational	2026
Finance Reform Roadmap mid-review	2029
Mid-term NBSAP Review (aligned with MTNDP MTR)	2028–2029
KM-GBF 2030 target assessment	2030
Phase II financing recalibration	2031
Post-2030 consolidation phase begins	2031
End-term evaluation	2035

E2.4 Phase–Finance–Results Linkage

- Phase I corresponds to system establishment and approximately 62% of total NBSAP financing (USD 79.1M).
- Phase II corresponds to consolidation and approximately 38% of total financing (USD 48.2M).
- All monitoring and reporting milestones align with Annex D3 MEAL cycles.
- Resource mobilisation milestones align with Annex F1 Biodiversity Finance Strategy.

ANNEX E3 — INSTITUTIONAL ROLES AND RESPONSIBILITIES MATRIX

Feeds into: Part V, Section 13 (Institutional Arrangements)

Scope: All six Strategic Programmes (SP1–SP6)

Timeframe: 2026–2035

E3.1 Purpose

This matrix clarifies institutional mandates, coordination responsibilities, and reporting obligations for implementing the NBSAP (2026–2035).

It ensures coherence across:

- Programme implementation (Annex E1)
- Monitoring and indicator accountability (Annex D2)
- MEAL system (Annex D3)
- Biodiversity finance architecture (Annex F1–F2)
- MTNDP planning and national performance systems

The matrix distinguishes:

- Strategic coordination
- Programme leadership
- Data production
- Financial oversight
- Enforcement and compliance
- Accountability and reporting

E3.2 Institutional Roles Matrix (SP1–SP6 Aligned)

A. Core Coordinating and Oversight Institutions

Institution	Strategic Programme(s)	Primary Roles	Coordination Responsibilities	Reporting Responsibilities
Environmental Protection Agency of Sierra Leone (EPA-SL)	SP1–SP6	• National NBSAP coordination • Policy oversight • Safeguards & technical standards • MEAL custodian	• Convene inter-ministerial coordination • Align sector actions • Ensure SP coherence	• National NBSAP reports • CBD reporting (NR7/NR8) • MEAL dashboards
Ministry of Planning and Economic Development (MoPED)	SP1, SP5, SP6	• Development planning integration • Results framework alignment	• Align NBSAP with MTNDP • Support donor coordination platforms	• MTNDP performance reports • Cabinet briefs
Ministry of Finance (MoF)	SP6 (cross-cutting)	• Biodiversity finance mobilization • Budget tagging • Public financial reform	• Integrate biodiversity into MTEF • Engage IFIs and donors	• Biodiversity finance reports • Expenditure tracking

B. Conservation and Natural Resource Authorities

Institution	Strategic Programme(s)	Primary Roles	Coordination Responsibilities	Reporting Responsibilities
National Protected Areas Authority (NPAA)	SP2	• PA designation & management • Species protection	• Coordinate with Councils & communities	• PA effectiveness reports • Species & enforcement data
Forestry Department	SP2, SP3	• Forest management & restoration • Community forestry	• Coordinate restoration & landscape planning	• Forest condition & restoration reports
Fisheries Authority	SP3	• Sustainable fisheries & aquaculture	• Engage communities &	• Stock assessments & compliance reports

			enforcement agencies	
Ministry of Agriculture	SP3, SP4	• Agroecology • Pesticide regulation • Climate-smart agriculture	• Extension systems • Farmer engagement	• Sustainable agriculture indicators
Environmental Health / Waste Authorities	SP4	• Waste management • Pollution control	• Urban coordination & enforcement	• Pollution indicators

C. Governance, Compliance, and International Obligations

Institution	Strategic Programme(s)	Primary Roles	Coordination Responsibilities	Reporting Responsibilities
CITES Management Authority	SP3, SP5	• CITES permitting • Wildlife trade oversight	• Coordinate Customs, Police, Judiciary	• CITES annual reports • Trade data
CITES Scientific Authority	SP3	• Non-Detriment Findings (NDFs) • Scientific advice	• Engage research institutions	• NDF documentation
Customs & Border Agencies	SP3	• Wildlife trade inspections	• Joint operations	• Seizure reports
Police & Law Enforcement	SP5	• Wildlife crime investigation	• Inter-agency task forces	• Case statistics
Ministry of Justice / Judiciary	SP5	• Prosecution & adjudication	• Case tracking coordination	• Prosecution outcomes

D. Knowledge, Education, Gender & Social Inclusion

Institution	Strategic Programme(s)	Primary Roles	Coordination Responsibilities	Reporting Responsibilities
Ministry of Education	SP5	• Curriculum integration • Teacher training	• Education reforms alignment	• Education performance reports
Ministry of Gender and Children's Affairs (MoGCA)	SP5	• Gender mainstreaming	• Gender-responsive budgeting coordination	• Gender performance reports
Statistics Sierra Leone	SP6 (cross-cutting)	• Data quality assurance • Survey integration	• Align biodiversity indicators with national stats	• Survey-based indicators
Universities & Research Institutions	SP2, SP4, SP5	• Research & data generation	• Scientific collaboration & peer review	• Research outputs & datasets
Civil Society Organisations (CSOs)	SP1–SP6	• Community engagement • Service delivery • Advocacy	• Facilitate participation & safeguards	• Programme-level data

E. Local Government Institutions

Institution	Strategic Programme(s)	Primary Roles	Coordination Responsibilities	Reporting Responsibilities
Local Councils (District & Municipal)	SP1–SP5	• Local implementation • Community engagement • By-law enforcement	• Coordinate local actors & CSOs	• District implementation data
Traditional Authorities	SP2, SP3, SP5	• Community-level governance	• Land-use agreements & restoration participation	• Community compliance inputs

F. Finance, Private Sector and Partnerships

Institution	Strategic Programme(s)	Primary Roles	Coordination Responsibilities	Reporting Responsibilities
Conservation Trust Fund – Sierra Leone (CTF-SL)	SP6 (supports SP1–SP5)	• Mobilise & manage long-term biodiversity finance • Grant-making	• Align funding windows with NBSAP priorities	• Financial performance reports
Investment Promotion / Trade Agencies	SP3, SP6	• Private sector mobilisation	• PPP coordination	• Investment data
Financial Institutions	SP6	• Green finance • ESG integration	• Engage businesses & investors	• Finance flow data
Development Partners	SP1–SP6	• Technical & financial support	• Align programmes with NBSAP	• Donor reporting (MEAL-aligned)

E3.3 Accountability Chain (Aligned with Annex D3)

Institutional roles align with the MEAL chain:

- **Data Producers:** Sector MDAs, Councils, CSOs, Research institutions
- **Data Custodian:** EPA-SL
- **National Reporter:** EPA-SL (to MoPED, Cabinet, CBD)
- **Financial Oversight:** MoF (budget tagging & finance tracking)
- **Independent Finance Instrument:** CTF-SL (fiduciary oversight)

Performance tracking uses:

- Action codes (P#-A#) — Annex E1
- Indicators (D2-#.#) — Annex D2
- Review cycles — Annex D3
- Finance monitoring — Annex F

E3.4 Institutional Reform Interface

Institutional strengthening actions under:

- SP5 (Governance & Inclusion)
- SP6 (Finance & Accountability)

Directly support:

- Inter-ministerial coordination maturity
- Biodiversity budget tagging
- CITES institutionalisation
- Climate–biodiversity policy integration
- Long-term fiscal sustainability

ANNEX F — FINANCING ANNEXES

ANNEX F1 — BIODIVERSITY FINANCE PLAN (BIOFIN)

EXECUTIVE SUMMARY

Biodiversity Finance Strategy (2026–2035)

Sierra Leone's National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035 requires a total estimated investment of USD 127.3 million over ten years to halt and reverse biodiversity loss, strengthen ecosystem resilience, and deliver climate-aligned development.

This Biodiversity Finance Strategy provides the institutional and financial architecture required to mobilise, manage, and track these resources in alignment with:

- The Kunming–Montreal Global Biodiversity Framework
- Sierra Leone's NDC 3.0
- The Medium-Term National Development Plan (MTNDP)
- The Integrated National Financing Framework (INFF)

1. Total Investment Requirement

Strategic Programme	Envelope (USD)
SP1 — Spatial Planning & Safeguards	5.3M
SP2 — Protected & Connected Ecosystems	50M
SP3 — Sustainable Production & Livelihoods	28M
SP4 — Pollution & Climate Resilience	18M
SP5 — Governance & Inclusion	14M
SP6 — Finance & Accountability Systems	12M
TOTAL (2026–2035)	**127.3M**

Approximately 75% of the portfolio is climate-aligned and eligible for international climate finance.

2. Biodiversity Finance Gap

Under current financing trends, Sierra Leone is projected to mobilise approximately USD 60–70 million over ten years.

This leaves an estimated finance gap of USD 55–65 million, particularly in:

- Protected area management and expansion
- Large-scale ecosystem restoration
- Enforcement and compliance (including CITES)
- Monitoring and MEAL systems
- Community-led and gender-responsive interventions

3. Financing Mix Strategy

To close the gap, a diversified financing structure is proposed:

Source	Target Share
Domestic Public Finance	25%
International Biodiversity & Climate Finance	45%
Private Sector & Blended Finance	15%
Trust Fund & Innovative Instruments	10%
Community Co-financing	5%

Climate-aligned biodiversity finance will be the primary mobilisation lever during Phase I (2026–2030), while domestic allocations and private investment will increase proportionally in Phase II (2031–2035).

4. Reform Agenda

The strategy is supported by a sequenced reform roadmap that includes:

- Biodiversity budget tagging and expenditure tracking
- Integration of biodiversity into MTEF and MTNDP ceilings
- Strengthening of environmental fiscal instruments

- Climate–biodiversity project pipeline development
- Conservation Trust Fund capitalisation
- Private sector biodiversity risk disclosure frameworks
- Development of innovative financing instruments (PES, offsets, bonds)

SP6 establishes the finance tracking systems, dashboards, and reporting architecture necessary to ensure transparency and accountability.

5. Phased Mobilisation Plan

Phase I (2026–2030): System Establishment & Scaling

- Front-loaded climate finance mobilisation
- Institutional reforms and tagging systems
- Restoration and 30×30 expansion
- Pipeline development and trust fund strengthening

Phase II (2031–2035): Consolidation & Sustainability

- Increased domestic financing share
- Scaling of private and blended finance
- Institutionalised monitoring and fiscal reforms

6. Governance & Accountability

Financial implementation is governed through:

- Ministry of Finance public financial management systems
- Biodiversity budget tagging mechanisms
- EPA-SL coordination and MEAL integration
- Conservation Trust Fund fiduciary oversight
- Annual biodiversity finance reporting

All financing flows are linked to measurable indicators (Annex D2) and the national MEAL system (Annex D3).

Strategic Conclusion

The Biodiversity Finance Strategy transforms the NBSAP from a policy document into a structured national investment framework.

It:

- Makes the USD 127.3M envelope credible and phased
- Aligns biodiversity with climate and development finance
- Reduces long-term donor dependency
- Strengthens fiscal transparency and accountability
- Anchors Target 19 in operational systems

With disciplined implementation, Sierra Leone can close its biodiversity finance gap and secure resilient ecosystems that underpin economic development, climate stability, and community well-being.

F1.1 Purpose and Scope

This Biodiversity Finance Plan (BioFin) establishes the financing architecture required to implement Sierra Leone's National Biodiversity Strategy and Action Plan (NBSAP) 2026–2035.

It:

- Quantifies total financing needs in accordance with Annex E1.
- Assesses the current biodiversity expenditure baseline.
- Identifies the biodiversity finance gap.
- Proposes a diversified financing mix aligned with:
    - Kunming–Montreal Global Biodiversity Framework (KM-GBF)
    - Sierra Leone's NDC 3.0
    - Medium-Term National Development Plan (MTNDP)
    - Integrated National Financing Framework (INFF)
- Defines institutional roles for finance mobilisation, tracking, and accountability.

The Plan covers:

- All six Strategic Programmes (SP1–SP6)
- National and sub-national public expenditure
- External and climate finance
- Private and blended finance
- Trust funds and innovative financing mechanisms

F1.2 Estimated Biodiversity Financing Needs (2026–2035)

Based on the Programme Action Tables (Annex E1), the total investment requirement for full NBSAP implementation is:

TOTAL REQUIRED INVESTMENT: USD 127.3 million (2026–2035)

Programme Distribution

Strategic Programme	Envelope (USD)
SP1 — Biodiversity-inclusive spatial planning & safeguards	5.3M
SP2 — Protected, conserved & connected ecosystems & species recovery	50M
SP3 — Sustainable production, use & livelihoods	28M
SP4 — Pollution control, ecosystem services & climate resilience	18M
SP5 — Governance, rights, inclusion, knowledge & participation	14M
SP6 — Finance, implementation, monitoring & accountability	12M

Ecological transformation (SP2 + SP3) represents approximately 61% of total needs, reflecting the scale of restoration, sustainable production reform, and species recovery.

Phase I (2026–2030) is more capital-intensive due to system establishment and scaling of restoration and governance reforms.

These figures are indicative planning estimates based on benchmarking against NDC 3.0 investment levels and BioFin costing methodologies. They provide strategic envelopes rather than rigid line-item budgets.

F1.3 Current Biodiversity Expenditure Baseline

F1.3.1 Public Domestic Finance

Biodiversity-related expenditure currently occurs across multiple institutions, including:

- Environmental regulation and safeguards (EPA-SL)
- Forestry and protected area management
- Fisheries and marine oversight
- Agricultural extension
- Local council environmental functions

However:

- Biodiversity spending is not systematically tagged.
- Expenditure is fragmented across sectoral budgets.
- Capital investments are often donor-driven.
- Recurrent funding for enforcement and monitoring is insufficient.

Preliminary indicative analysis suggests biodiversity-aligned public expenditure remains modest relative to required investment levels.

F1.3.2 External Finance

External biodiversity-related finance is characterised by:

- Project-based donor funding (GEF, bilateral donors, NGOs)
- Time-bound grants
- Limited pipeline predictability
- Weak integration with national budgeting systems

While external funding has been essential, it has not provided sustained financing for long-term institutional strengthening.

F1.3.3 Private and Community Finance

Private biodiversity investment remains limited but emerging, including:

- Sustainable value chains
- ESG-linked investments
- Small-scale eco-enterprises

Enabling frameworks for biodiversity-positive private capital remain underdeveloped.

F1.4 Biodiversity Finance Gap

Based on:

- Total requirement: 127.3M
- Estimated baseline trajectory (public + external): approximately 60–70M over 10 years

Estimated Finance Gap: Approximately USD 55–65 million

The gap is most acute in:

- Protected area management and expansion
- Large-scale ecosystem restoration
- Enforcement and compliance (including CITES)
- Long-term MEAL and monitoring systems
- Community-led and gender-responsive implementation

The financing gap is especially pronounced in Phase I (2026–2030), when institutional systems and large-scale implementation must be established.

F1.4A Quantified Biodiversity Finance Gap (2026–2035)

Table 43: Biodiversity Financing Needs and Gap

Component	Amount (USD, 2026–2035)	Notes
Total NBSAP Investment Requirement	127.3 million	Based on Annex E1 (SP1–SP6)
Estimated Baseline Public & External Financing (Business-as-Usual Trajectory)	60–70 million	Fragmented domestic allocations + project-based donor flows
Estimated Financing Gap	≈ 55–65 million	Requires structural mobilisation reforms

Interpretation

- Approximately 45–50% of total financing needs remain unfunded under current trends.
- The gap is most pronounced in:
    - Protected area expansion and management
    - Large-scale ecosystem restoration
    - Enforcement and CITES compliance
    - Long-term MEAL and monitoring systems
- The financing gap is front-loaded, with Phase I (2026–2030) requiring heavier mobilisation.

F1.4B Proposed Biodiversity Financing Mix (2026–2035)

To close the financing gap and ensure sustainability, a diversified financing structure is proposed.

Table 44: Strategic Financing Mix

Financing Source	Target Share (%)	Estimated Contribution (USD)	Strategic Rationale
Domestic Public Finance	25%	≈ 32M	Strengthens national ownership; aligned with MTNDP & INFF
International Biodiversity & Climate Finance	45%	≈ 57M	Leverages NDC 3.0 alignment; GEF, GCF, Adaptation Fund
Private Sector & Blended Finance	15%	≈ 19M	Risk-sharing & ESG alignment; sustainable value chains
Trust Funds & Innovative Instruments	10%	≈ 13M	Conservation Trust Fund; PES; offsets; bonds
Community & Local Co-financing	5%	≈ 6M	Enhances local ownership and sustainability

Key Strategic Implications

- Climate finance is a major entry point for biodiversity funding due to ecosystem-based adaptation and restoration.
- Domestic allocations must gradually increase to reduce long-term donor dependency.
- Private sector mobilisation will focus on sustainable production (SP3) and risk disclosure (SP6).
- Trust fund capitalisation is critical for protected area sustainability.

Biodiversity Finance Snapshot (2026–2035)

- **Total Required:** USD 127.3M
- **Current Baseline Trajectory:** ~60–70M
- **Estimated Gap:** ~55–65M
- **Primary Lever:** Climate-aligned biodiversity finance
- **Domestic Share Target:** 25%
- **Private/Innovative Share Target:** 25% combined

F1.4C Programme-Level Financing Source Mapping (2026–2035)

Table 45: Financing Source Alignment by Strategic Programme

Strategic Programme	Envelope (USD)	Primary Financing Source	Secondary Sources	Capital vs Recurrent Profile	Mobilisation Strategy Logic
SP1 Biodiversity-inclusive spatial planning & safeguards	5.3M	Domestic Public Finance	Climate Finance (EbA planning), Donor TA	Capital-heavy (systems & mapping)	Public-sector led planning reform; moderate external co-financing
SP2 Protected, conserved & connected ecosystems & species recovery	50M	International Climate & Biodiversity Finance	Trust Fund, Domestic allocations	Capital-intensive (restoration + PA expansion)	Largest climate-aligned portfolio; restoration & 30x30 leverage GEF/GCF
SP3 Sustainable production, use & livelihoods	28M	Blended Finance & Climate Finance	Private sector, Development banks	Mixed (capital + livelihood recurrent support)	Agriculture & fisheries reform attractive to blended finance instruments
SP4 Pollution control, ecosystem services & climate resilience	18M	Climate Finance	Domestic regulatory budgets	Mixed; infrastructure + regulatory systems	Strong NDC alignment; eligible for adaptation and resilience windows

SP5 Governance, rights, inclusion, knowledge & participation	14M	Domestic Public Finance	Donor governance grants	Recurrent-heavy (capacity, training, systems)	Institutional reform & social safeguards anchored in state systems
SP6 Finance, implementation, monitoring & accountability	12M	International Technical Assistance + Domestic Finance	Blended finance for innovative mechanisms	Capital (systems) + recurrent (reporting & pipelines)	Finance architecture investment unlocks entire portfolio

Programme-Level Financing Architecture Snapshot

- **75%** of NBSAP investment is climate-aligned.
- **25%** requires strong domestic institutional anchoring.
- Private and blended finance are concentrated in SP3.
- Trust Fund mechanisms are central to SP2 sustainability.
- SP6 unlocks full portfolio mobilisation.

F1.4D Phased Financing Mobilisation Plan (2026–2035)

The NBSAP financing strategy is sequenced across two implementation phases to reflect institutional readiness, capital intensity, and mobilisation realism.

Phase I: System Establishment & Scaling (2026–2030)

Estimated Share of Total Envelope: ≈ 60–65% of total investment (USD 75–83M)

Strategic Characteristics:

- Capital-intensive period.
- Institutional reforms and finance systems established.
- Restoration and PA expansion initiated.
- Climate finance pipeline front-loaded.
- Budget tagging and tracking operationalised.

Financing Priorities:

Financing Lever	Phase I Focus
Climate Finance	Large-scale mobilisation for restoration, EbA, sustainable production
Domestic Finance	Budget tagging reform; gradual allocation increases
Trust Fund	Initial capitalisation and governance strengthening
Private Sector	Pilot blended instruments and sustainable value chains
Technical Assistance	Institutional strengthening under SP6

Key Mobilisation Milestones (2026–2030):

- National Biodiversity Finance Plan operationalised.
- First wave of climate-funded restoration projects approved.
- Biodiversity budget tagging system institutionalised.
- Conservation Trust Fund strengthened.
- MEAL financial dashboards launched.

Phase I is the most financially demanding period and determines long-term success.

Phase II: Consolidation, Scaling & Sustainability (2031–2035)

Estimated Share of Total Envelope: ≈ 35–40% of total investment (USD 44–52M)

Strategic Characteristics:

- Reduced capital intensity.
- Increased domestic share.
- Expanded private sector participation.
- Institutionalised monitoring and compliance systems.
- Trust Fund and innovative mechanisms matured.

Financing Priorities:

Financing Lever	Phase II Focus
Domestic Finance	Increased proportional contribution
Private Sector	Scaling of biodiversity-positive investments
Trust Fund	Performance-based disbursement
Climate Finance	Targeted ecosystem and resilience scaling
Innovative Instruments	PES, offsets, green bonds operational

Phase II reduces donor dependency and strengthens fiscal sustainability.

Phase Distribution by Strategic Programme

Table 46: Phase Distribution Overview

Strategic Programme	Phase I Share	Phase II Share	Rationale
SP1	High (front-loaded)	Moderate	Spatial planning systems established early
SP2	Very High	High	Restoration and PA expansion front-loaded but sustained
SP3	High	High	Sustainable production reform ongoing
SP4	High	Moderate	Pollution & resilience systems established early
SP5	Moderate	Moderate	Governance and inclusion continuous
SP6	High	Moderate	Finance architecture built early

Financing Logic Summary

1. Phase I requires aggressive mobilisation of climate finance.
2. Domestic finance must increase gradually across both phases.
3. Private and innovative finance scale more strongly in Phase II.
4. SP6 investments in Phase I unlock overall portfolio sustainability.

F1.5 Biodiversity Finance Reform Roadmap (2026–2035)

The Biodiversity Finance Reform Roadmap sets out the policy, regulatory, fiscal, and institutional reforms required to operationalise Target 19 and close the biodiversity finance gap.

Reforms are sequenced across two phases to reflect institutional readiness and macro-fiscal realities.

F1.5.1 Reform Pillars

The roadmap is structured around five reform pillars:

1. Public Finance Integration
2. Expenditure Tracking & Transparency
3. Incentive & Fiscal Reform
4. Climate & Biodiversity Finance Mobilisation
5. Private & Innovative Finance Enablement

Table 47: Biodiversity Finance Reform Timeline

Reform Area	Reform Action	Phase I (2026–2030)	Phase II (2031–2035)	Lead Institution
Public Finance Integration	Establish biodiversity budget tagging system	Design & pilot	Full institutionalisation	Ministry of Finance
Public Finance Integration	Integrate biodiversity into MTEF & MTNDP ceilings	Sector integration	Budget share scaling	MoF / MoPED
Transparency	Publish annual Biodiversity Finance Report	Launch report	Consolidated public dashboard	EPA-SL / MoF
Transparency	Develop biodiversity finance tracking portal	Build system	Expand analytics	EPA-SL
Fiscal Reform	Review harmful incentives (Target 18)	Diagnostic study	Reform implementation	MoF

Fiscal Reform	Strengthen environmental levies & penalties	Regulatory review	Revenue optimisation	MoF / EPA-SL
Climate Mobilisation	Establish climate–biodiversity project pipeline facility	Operationalise	Scale portfolio	EPA-SL
Climate Mobilisation	Accreditation & readiness strengthening	Capacity support	Direct access scaling	EPA-SL / MoF
Private Finance	Develop biodiversity risk disclosure guidance	Framework design	Regulatory integration	Trade / Financial Regulators
Private Finance	Pilot blended finance instruments	Pilot instruments	Scale & mainstream	MoF / Partners
Innovative Finance	Strengthen Conservation Trust Fund capitalisation	Capital mobilisation	Performance-based disbursement	CTF-SL
Innovative Finance	Develop PES / offset regulatory framework	Draft regulations	Implementation & enforcement	EPA-SL

F1.5.2 Reform Sequencing Logic

Phase I (2026–2030): Foundation & System Building

Focus:

- Establish finance tracking systems.
- Integrate biodiversity into national fiscal planning.
- Build climate finance pipelines.
- Pilot innovative instruments.
- Strengthen fiduciary credibility.

This phase prioritises institutional reform over revenue generation.

Phase II (2031–2035): Scaling & Fiscal Consolidation

Focus:

- Increase domestic allocation share.
- Implement harmful incentive reforms.
- Scale private and blended finance.
- Institutionalise innovative instruments.
- Strengthen long-term financial sustainability.

Phase II shifts from mobilisation to optimisation and sustainability.

F1.5.3 Reform Impact Pathway

If fully implemented, the reform roadmap will:

- Reduce the biodiversity finance gap by 40–50%.
- Increase domestic contribution share.
- Improve expenditure efficiency.
- Reduce donor dependency risks.
- Strengthen fiscal transparency.
- Improve investment absorption capacity.
- Enhance private sector confidence.

F1.5.4 Risk & Mitigation Considerations

Risk	Mitigation Strategy
Fiscal constraints	Phased integration into MTEF
Institutional capacity gaps	SP6 technical assistance
Political resistance to reform	Evidence-based diagnostics
Private sector hesitation	Risk-sharing instruments
Fragmented coordination	Central finance coordination under MoF

F1.6 Financing Instruments & Solutions

Building on the reform roadmap, Sierra Leone will deploy a portfolio of complementary financing instruments structured across five solution pillars.

These instruments are aligned with SP6 and Target 19.

A. Strengthening Domestic Public Finance

Key instruments:

- Biodiversity budget tagging across MDAs.
- Integration of biodiversity into MTEF and MTNDP ceilings.
- Incremental increases in allocations to:
    - EPA-SL
    - Protected Area Authority
    - Local councils
- Reform of harmful incentives (Target 18).
- Strengthening environmental levies and enforcement penalties.

Objective:

Improve fiscal transparency, domestic ownership, and long-term sustainability.

B. International Climate & Biodiversity Finance

Alignment with NDC 3.0 creates eligibility for:

- Ecosystem restoration finance
- Climate-smart agriculture
- Ecosystem-based adaptation (EbA)
- Nature-based solutions (NbS)

Funding windows include:

- GEF
- GCF
- Adaptation Fund
- MDBs
- Bilateral climate programmes

A coordinated national pipeline under SP6 is critical.

C. Conservation Trust Fund (CTF-SL)

The Conservation Trust Fund provides:

- Long-term capitalisation
- Performance-based grant disbursement
- Pooled domestic and donor resources
- Fiduciary independence

Strengthening capital base and governance is a strategic priority.

D. Private Sector & Blended Finance

Priority instruments:

- Biodiversity risk disclosure frameworks (Target 15).
- Sustainable value chain investments.
- Blended finance and risk-sharing tools.
- Public–private partnerships.
- Biodiversity certification and market incentives.

Private mobilisation will scale particularly under SP3 and SP4.

E. Innovative Financing Instruments

Medium- to long-term options include:

- Payments for Ecosystem Services (PES)
- Biodiversity offsets (with safeguards)
- Green and blue bonds
- Results-based financing
- Debt-for-nature opportunities (subject to fiscal viability)

F1.7 Investment Prioritisation Framework

Where fiscal constraints arise, prioritisation will follow transparent ecological and socio-economic criteria.

Priority hierarchy:

1. Ecosystems facing irreversible loss.
2. Climate co-benefit interventions (NDC-aligned).
3. Enforcement and compliance systems.
4. Community-led and gender-responsive interventions.
5. Monitoring, data and knowledge systems.

This ensures resource allocation protects ecological integrity while maintaining development coherence.

F1.8 Governance and Financial Accountability

Financial implementation is governed through:

- Ministry of Finance public financial management systems.
- Biodiversity budget tagging mechanisms.
- EPA-SL coordination and MEAL reporting (Annex D3).
- Conservation Trust Fund fiduciary oversight.
- Annual biodiversity finance reporting aligned with Annex D2 indicators.

SP6 operationalises:

- Finance tracking dashboards.
- Transparency portals.
- Annual biodiversity finance reports.
- CBD-aligned financial disclosure.

Accountability is integrated into the national MEAL architecture.

ANNEX F2 — COSTING SUMMARY BY PROGRAMME AND PHASE

Time Horizon: 2026–2035

Implementation Phases

- Phase I: 2026–2030 (System establishment and scale-up)
- Phase II: 2031–2035 (Consolidation and sustainability)

Institutional Anchors

- Coordination & reporting: Environmental Protection Agency of Sierra Leone (EPA-SL)
- Public finance alignment: Ministry of Finance (MoF) and Ministry of Planning and Economic Development (MoPED)

F2.1 Costing Methodology and Assumptions

Costing Basis

The costing framework is derived from:

- Action-level cost estimates in Annex E1
- Benchmarking against NDC 3.0 investment scales
- BioFin methodology for biodiversity finance planning
- Institutional absorptive capacity considerations

Costs represent indicative investment envelopes for strategic planning, not line-item budget appropriations.

Phasing Assumptions

Phase I (2026–2030):

- Front-loaded capital intensity
- Institutional strengthening
- Climate finance mobilisation
- Protected area expansion and restoration scale-up
- Finance system establishment (SP6)

Phase II (2031–2035):

- Consolidation and scaling
- Increased domestic finance contribution
- Expansion of private and blended finance
- Institutionalised monitoring and governance systems

Financing Assumptions

- Blended financing across domestic, external, private and trust fund sources.
- Climate-aligned investments prioritised in Phase I.
- Domestic share increases in Phase II.
- Conservation Trust Fund plays an increasing role in long-term sustainability.
- No double counting across programmes.

F2.2 Programme-Level Costing (USD Millions)

Table 48: Strategic Programme Costing (2026–2035)

Strategic Programme	Phase I	Phase II	Total
SP1 — Biodiversity-inclusive spatial planning & safeguards	3.5	1.8	5.3
SP2 — Protected, conserved & connected ecosystems & species recovery	32.0	18.0	50.0
SP3 — Sustainable production, use & livelihoods	17.0	11.0	28.0
SP4 — Pollution control, ecosystem services & climate resilience	11.0	7.0	18.0
SP5 — Governance, rights, inclusion, knowledge & participation	8.0	6.0	14.0
SP6 — Finance, implementation, monitoring & accountability	7.6	4.4	12.0
TOTAL NBSAP COST	**79.1**	**48.2**	**127.3**

F2.3 Share of Total NBSAP Financing by Programme

Table 49: Programme Share of Total Envelope

Strategic Programme	Share of Total
SP1	4%
SP2	39%
SP3	22%
SP4	14%
SP5	11%
SP6	10%
Total	100%

Interpretation

- 61% (SP2 + SP3) addresses direct drivers of biodiversity loss.
- 25% supports governance, inclusion, and finance architecture.
- 10% is dedicated to financing, monitoring, and accountability systems.
- The portfolio is strongly climate-aligned (≈75% eligible for climate windows).

F2.4 Phase Financing Profile

Table 50: Phase Financial Distribution

Phase	Total (USD M)	Approx. Annual Average
Phase I (2026–2030)	79.1	~15.8M/year
Phase II (2031–2035)	48.2	~9.6M/year

Interpretation

- Phase I is more capital-intensive.
- Phase II reflects consolidation and fiscal sustainability.
- Phasing reduces macro-fiscal shock and aligns with absorptive capacity.

F2.5 Capital vs Recurrent Investment Profile

Estimated Composition Across Portfolio

Category	Approximate Share
Capital Investments	~60%
Recurrent & Institutional Costs	~40%

Capital Investments include:

- Ecosystem restoration
- Protected area expansion
- Infrastructure improvements
- Digital finance and monitoring systems

Recurrent Costs include:

- Enforcement and compliance
- Capacity strengthening
- Governance systems
- Monitoring and reporting
- Community engagement

This balance supports long-term sustainability without creating unsustainable fiscal liabilities.

F2.6 Alignment with National Planning and Donor Programming

MTNDP Alignment

- Phase I aligns with MTNDP implementation and review cycles.
- Integration into Medium-Term Expenditure Framework (MTEF) supports fiscal coherence.

Climate and Biodiversity Windows

- SP2, SP3 and SP4 align strongly with NDC 3.0.
- Phase I suitable for GEF-8/9, GCF and Adaptation Fund cycles.
- Phase II supports trust fund capitalisation and blended finance scaling.

CBD Reporting

- Costing supports credible reporting under Target 19 (Resource Mobilisation).
- Financial flows link directly to Annex D2 indicators and Annex D3 MEAL systems.

F2.7 Use of the Costing Summary

This annex provides the numerical backbone for:

- Cabinet and Parliamentary briefings
- Donor roundtables and investment dialogues
- Climate and biodiversity finance pipeline development
- Annual biodiversity finance reporting
- Monitoring fiscal performance alongside ecological results

It ensures that the NBSAP is not only strategically coherent but financially transparent and implementation ready.

ANNEX G — KNOWLEDGE, CEPA, AND COMMUNICATION

ANNEX G1 — NATIONAL CEPA STRATEGY AND ACTION PLAN

Communication, Education, and Public Awareness for Biodiversity

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Lead Institution: Environmental Protection Agency of Sierra Leone (EPA-SL)

Implementation Period: 2026–2035

G1.1 Purpose and Rationale

The practical implementation of the NBSAP depends not only on policies, institutions, and finance, but also on informed, motivated, and engaged people. This National CEPA Strategy provides a structured approach to raising awareness, influencing behaviour, strengthening participation, and building long-term stewardship for biodiversity across Sierra Leone.

The Strategy supports:

- Uptake of NBSAP actions at national and local levels
- Behaviour-change in sectors that directly affect biodiversity
- Social legitimacy and accountability for biodiversity governance
- Integration of gender equality, youth engagement, and IPLC participation

G1.2 Strategic Objectives

The CEPA Strategy aims to:

- Increase public understanding of biodiversity values and ecosystem services
- Promote behaviour change that reduces biodiversity loss and pollution
- Strengthen participation and ownership of biodiversity actions by communities, women, youth, and IPLCs
- Support institutional uptake of biodiversity priorities across MDAs and local councils
- Reinforce compliance, accountability, and stewardship, including wildlife trade obligations

G1.3 Priority Target Audiences

Audience Segmentation

Audience Group	Rationale
General public	Broad awareness and social norms
Local communities & IPLCs	Direct ecosystem users and custodians
Women and youth	Key agents of change and livelihood actors
Farmers, fishers, forest users	Direct drivers and managers of biodiversity
Private sector & SMEs	Production, investment and compliance roles
Policy makers & MDAs	Planning, budgeting and enforcement
Local councils	Local implementation and enforcement
Media practitioners	Amplification and public accountability
Schools, teachers & students	Long-term behavioural change

G1.4 Key Messages (Illustrative)

Messages will be simple, locally relevant, and action-oriented, tailored to the audience.

Theme	Core Message (Illustrative)
Biodiversity value	"Nature supports our food, water, health and livelihoods."
Sustainable use	"Using nature wisely today protects income tomorrow."
Restoration	"Restoring degraded land brings jobs, resilience and food security."
Wildlife trade & compliance	"Illegal wildlife trade harms communities and the nation."
Gender & inclusion	"Women and youth are leaders in protecting nature."
Climate & nature	"Healthy ecosystems protect us from climate shocks."

G1.5 Delivery Channels and Tools

A multi-channel approach will be used to maximise reach and effectiveness.

Primary Channels

Channel	Use
Community radio	Local language messaging, rural reach
National radio & TV	National campaigns and policy messaging
Schools & curricula	Long-term behaviour change
Community dialogues	Two-way engagement and trust
Social media & digital	Youth and urban audiences
Print & visual materials	Low-literacy communication
Faith-based platforms	Values-based messaging
Traditional authorities	Local legitimacy and enforcement support

G1.6 CEPA Action Plan (2026–2030)

Table 51: Priority CEPA Actions

Action Code	Action Description	Target Audience	Lead	Partners	Timeline
G1-A1	National biodiversity awareness campaign (radio, TV, social media)	General public	EPA-SL	Media; CSOs	2026–30
G1-A2	Community dialogues on sustainable use and restoration	Communities & IPLCs	Councils	EPA-SL; CSOs	2026–30
G1-A3	Integration of biodiversity into school curricula and clubs	Students & teachers	Ministry of Education	EPA-SL	2026–29
G1-A4	Targeted CEPA for farmers, fishers and forest users	Producers	Sector MDAs	EPA-SL	2026–30
G1-A5	Wildlife trade and compliance awareness (incl. CITES)	Traders, border actors	EPA-SL	Customs; Police	2026–30
G1-A6	Gender-responsive and youth-led CEPA initiatives	Women & youth	Gender Ministry	EPA-SL; CSOs	2026–30
G1-A7	Media training on biodiversity reporting	Journalists	EPA-SL	Media bodies	2026–28
G1-A8	Annual Biodiversity Week & public reporting	All audiences	EPA-SL	MDAs; CSOs	Annual

G1.7 Roles and Responsibilities

Actor	Key CEPA Roles
EPA-SL	National coordination, content standards, monitoring
Sector MDAs	Sector-specific messaging
Local Councils	Community-level delivery
CSOs & NGOs	Outreach, facilitation, inclusion
Media	Dissemination and accountability
Schools & institutions	Education and youth engagement
Traditional & faith leaders	Legitimacy and norm-setting

G1.8 Monitoring, Learning and Adaptation (MEAL Alignment)

CEPA performance will be tracked through:

- Reach indicators (audience numbers, materials distributed)
- Outcome indicators (knowledge, attitude, and practice changes)
- Gender and youth participation metrics
- Feedback from communities and stakeholders

CEPA results feed into:

- Annex D2 indicators
- Annex D3 MEAL reviews
- Annual NBSAP performance reports

G1.9 Key Risks and Mitigation

Risk	Mitigation
Low literacy levels	Visual and oral communication
Message fatigue	Rotating themes and formats
Limited resources	Partnerships and cost-sharing
Weak coordination	EPA-SL CEPA focal point

G1.10 Implementation Note

This CEPA Strategy is a living document and may be updated periodically to:

- Reflect lessons learned
- Respond to emerging biodiversity pressures
- Align with national development priorities

NATIONAL COMMUNICATION, EDUCATION, AND PUBLIC AWARENESS (CEPA) ROLL-OUT

Lead: Environmental Protection Agency of Sierra Leone (EPA-SL)

Supporting: MDAs, Local Councils, CSOs, Media, Traditional & Faith Leaders

Review Cycle: Annual (MEAL-linked)

a. Annual CEPA Rhythm (Every Year)

Quarter	CEPA Focus	Key Activities	Primary Audiences
Q1 (Jan–Mar)	**Planning & Targeting**	• Annual CEPA planning & message refres • Media & partner briefing • MEAL baseline update	MDAs, Councils, Media
Q2 (Apr–Jun)	**Sustainable Use & Livelihoods**	• Farmer, fisher & forest-user outreach • Community dialogues on sustainable practices	Communities, IPLCs, Producers
Q3 (Jul–Sep)	**Restoration, Climate & Pollution**	• Ecosystem restoration campaigns • Plastic & pollution reduction messaging	General public, Youth
Q4 (Oct–Dec)	**Governance, Compliance & Reporting**	• Wildlife trade & compliance awareness (incl. CITES) • Annual Biodiversity Week & public reporting	Traders, Policy makers, Public

b. Multi-Year CEPA Roll-out (2026–2030)

Year	Strategic Emphasis	Flagship CEPA Actions
2026	**Foundation & Visibility**	• Launch national biodiversity campaign • Establish CEPA focal points in MDAs & Councils
2027	**Behaviour Change**	• Targeted campaigns for producers & traders • Community-led dialogues scaled
2028	**Education & Youth Leadership**	• Biodiversity in schools & clubs • Youth-led digital and social campaigns
2029	**Governance & Accountability**	• Compliance, wildlife trade & enforcement messaging • Media investigations & public accountability

2030	**Reflection & Renewal**	• KM-GBF 2030 progress communication • Public lessons learned & next-phase messaging

c. Thematic CEPA Windows (Cross-Cutting)

Theme	When Emphasised	Linked Programmes
Sustainable use & livelihoods	Q2 annually	P2
Restoration & climate resilience	Q3 annually	P1, P3
Wildlife trade & compliance (CITES)	Q4 annually	P4
Gender & youth leadership	Throughout	P5
Finance & stewardship	Q1 & Q4	P6

d. Roles at a Glance

Actor	CEPA Role
EPA-SL	Coordination, content standards, MEAL tracking
Local Councils	Community-level delivery
Sector MDAs	Sector-specific messaging
CSOs & NGOs	Outreach, facilitation, inclusion
Media	Dissemination & public accountability
Traditional / Faith Leaders	Legitimacy & norm-setting

e. MEAL & Reporting Link

- Quarterly: Activity tracking & reach metrics
- Annually:
  - CEPA performance summary
  - Behaviour change insights
  - Inputs to NBSAP Annual Report
- Feeds into:
  - Annex D2 (Indicators)
  - Annex D3 (MEAL Reviews)

f. How to Use This Calendar

a. As a national coordination tool for CEPA actors
b. As a budget-planning aid (links to Programme 5 & Annex F)
c. As a public accountability reference

ANNEX G2 — KNOWLEDGE MANAGEMENT & DATA SHARING FRAMEWORK

Lead Institution: Environmental Protection Agency of Sierra Leone (EPA-SL)

Application Period: 2026–2035

G2.1 Purpose and Rationale

Effective biodiversity governance depends on credible data, accessible knowledge, and informed decision-making. This Knowledge Management (KM) and Data Sharing Framework provides a structured approach to:

a. Managing biodiversity data and knowledge generated under the NBSAP
b. Ensuring interoperability between sector systems and national planning
c. Supporting monitoring, reporting, accountability, and learning (MEAL)
d. Promoting transparency, inclusion, and ethical data use

The framework responds to fragmentation in biodiversity data, limited accessibility, and weak feedback loops among data producers, policymakers, and communities.

G2.2 Scope of the Framework

The framework covers:

a. Biodiversity monitoring data (species, ecosystems, threats)
b. Spatial data (protected areas, restoration, land/seascapes)
c. Socio-economic and livelihood data linked to biodiversity
d. Traditional and Indigenous knowledge (with safeguards)
e. Financial and implementation data linked to NBSAP actions
f. Knowledge products (reports, maps, briefs, learning products)

G2.3 Knowledge Management Principles

The following principles will guide all KM and data sharing under the NBSAP:

a. **Fit-for-purpose:** Data collected must respond to clear policy, planning, or reporting needs
b. **Quality and integrity:** Standard methods, metadata, and validation applied
c. **Accessibility:** Data shared at appropriate levels to promote use and accountability
d. **Interoperability:** Alignment with national statistics, planning, and MEAL systems
e. **Inclusion and ethics:** Respect for gender, IPLCs, FPIC, and data sovereignty
f. **Learning-oriented:** Data actively used for reflection and adaptive management

G2.4 Institutional Architecture

Key Roles

Role	Institution	Responsibilities
National KM & Data Custodian	EPA-SL	Maintain national biodiversity data repository; set standards
Data Producers	Sector MDAs, Councils, CSOs, Research Institutions	Generate primary data and reports
Statistical Authority	Statistics Sierra Leone	Data quality assurance; harmonisation
Users	MoPED, MoF, MDAs, Councils, CSOs, Public	Planning, budgeting, oversight
Oversight	Inter-ministerial coordination mechanism	Policy coherence and compliance

This architecture mirrors and reinforces Annex D3 MEAL roles.

G2.5 Knowledge Management Cycle

The NBSAP KM cycle follows five linked stages:

- **Data Generation** – Monitoring, surveys, administrative records, community monitoring
- **Validation & Quality Assurance** – Technical review, metadata checks, disaggregation verification
- **Storage & Curation** – Centralised biodiversity data repository hosted by EPA-SL
- **Access & Sharing** – Tiered access: internal, partner, public (aggregated)
- **Use & Learning** – Planning, reporting, policy dialogue, adaptive management

G2.6 Data Standards and Interoperability

To ensure coherence:

- All datasets must include:
    - Source institution
    - Geographic coverage
    - Time period
    - Methodology
    - Disaggregation (sex, age/youth, location, ecosystem where relevant)
- Indicator data must align with Annex D2 definitions
- Spatial data should align with national geospatial standards
- Financial data should align with budget tagging and expenditure tracking systems

G2.7 Data Sharing and Access Levels

Data Category	Access Level	Notes
Raw ecological data	Restricted	Internal use and research
Aggregated indicators	Public	Annual reporting and dashboards
Spatial planning layers	Controlled	Planning and decision-making
Traditional knowledge	Restricted	FPIC-based, community consent
Financial summaries	Public	Transparency and accountability

EPA-SL will maintain a data access protocol defining permissions and safeguards.

G2.8 Traditional Knowledge and Ethical Safeguards

Traditional and Indigenous knowledge will be managed in accordance with:

- Free, Prior, and Informed Consent (FPIC)
- Recognition of community ownership
- Non-commercial use unless explicitly agreed
- Secure storage and controlled access

Documentation of traditional knowledge will prioritise benefit-sharing, respect for cultural norms, and the avoidance of misappropriation.

G2.9 Knowledge Products and Communication

Key knowledge products include:

- Annual State of Biodiversity Reports
- Policy briefs for Cabinet and Parliament
- Spatial maps and dashboards
- Community feedback summaries
- Learning notes and case studies

These products feed directly into:

- CEPA activities (Annex G1)
- MEAL reviews (Annex D3)
- Financing dashboards (Annex F)

G2.10 Capacity Development

Capacity strengthening actions include:

- Training on data standards and reporting
- GIS and spatial analysis capacity
- Community monitoring and citizen science tools
- Knowledge translation for non-technical audiences

Capacity needs are reviewed biennially and integrated into Programme 5 actions.

G2.11 Monitoring, Learning, and Review

Performance of the KM Framework will be assessed through:

- Data completeness and timeliness
- Use of data in planning and budgeting
- Uptake of knowledge products
- Stakeholder feedback

Findings inform:

1. Annual MEAL learning reviews
2. Adjustments to data systems and protocols

G2.12 Risk Management

Risk	Mitigation
Fragmented data systems	Central standards and coordination
Low data quality	Validation and training
Limited data use	Policy-focused products
Ethical misuse of data	Clear access protocols

G2.13 Implementation Note

This Knowledge Management & Data Sharing Framework is a living framework and may be updated to reflect:

- Advances in technology
- CBD reporting guidance
- National planning reforms
- Lessons learned during implementation

ANNEX H — REPORTING AND COMPLIANCE

ANNEX H1 — ALIGNMENT WITH THE KUNMING–MONTREAL GLOBAL BIODIVERSITY FRAMEWORK

H1.1 Purpose

This annex demonstrates how Sierra Leone's updated NBSAP (2026–2035) is fully aligned with the Kunming–Montreal Global Biodiversity Framework (KM-GBF).

It provides:

- A target-by-target alignment with the 23 KM-GBF targets
- Sierra Leone's national interpretation of each global target
- Clear linkage to:
    - National Targets (Annex D1)
    - Indicators (Annex D2)
    - Strategic Programmes (Annex E1)
    - MEAL framework (Annex D3)
    - Biodiversity finance architecture (Annex F)

This annex ensures that Sierra Leone's national commitments are traceable, monitorable, finance-backed, and reportable to the CBD.

H1.2 Target-by-Target Alignment Table

Table 52: Alignment of KM-GBF Targets with National Architecture

KM-GBF Target	National Interpretation	Strategic Programme(s)	National Target (Annex D1)	Key Indicators (Annex D2 Codes)
T1 – Spatial planning	Biodiversity-inclusive land and seascape planning integrated into national, sectoral and district development	SP1	NT1	D2-1.1; D2-1.2; D2-1.3
T2 – Restoration	Large-scale restoration of degraded forests, wetlands and mangroves	SP2	NT2	D2-2.1; D2-2.2
T3 – Protected & conserved areas (30×30)	Expansion and effective management of protected areas and OECMs	SP2	NT3	D2-3.1; D2-3.2
T4 – Species conservation	Protection and recovery of threatened species and habitats	SP2	NT4	D2-4.1; D2-4.2
T5 – Sustainable use of wild species	Legal, sustainable and traceable use of wild species	SP3	NT5	D2-5.1
T6 – Invasive alien species	Prevention, early detection and control of priority IAS	SP4	NT6	D2-6.1
T7 – Pollution	Reduction of pollution pressures affecting biodiversity	SP4	NT7	D2-7.1
T8 – Climate change & biodiversity	Nature-based solutions and ecosystem-based adaptation	SP2; SP4	NT8	D2-8.1
T9 – Sustainable livelihoods	Nature-positive livelihoods and biodiversity value chains	SP3	NT9	D2-9.1
T10 – Sustainable agriculture & fisheries	Biodiversity-friendly production systems	SP3	NT10	D2-10.1
T11 – Ecosystem services	Safeguarding ecosystem services for resilience and wellbeing	SP4	NT11	D2-11.1
T12 – Urban biodiversity	Integration of biodiversity in urban and peri-urban planning	SP4	NT12	D2-12.1
T13 – Access & benefit-sharing	Equitable access and benefit-sharing arrangements	SP5	NT13	D2-13.1
T14 – Policy integration	Mainstreaming biodiversity across sectors and public policy	SP1; SP6	NT14	D2-14.1
T15 – Business & finance	Private sector engagement and biodiversity risk disclosure	SP6	NT15	D2-15.1
T16 – Consumption & waste	Reduced waste and unsustainable consumption patterns	SP4; SP5	NT16	D2-16.1
T17 – Biosafety	Strengthened biosafety regulation and risk management	SP4	NT17	D2-17.1

T18 – Harmful incentives	Reform of incentives harmful to biodiversity	SP6	NT18	D2-18.1
T19 – Resource mobilisation	Increased and diversified biodiversity finance	SP6	NT19	D2-19.1
T20 – Capacity & monitoring	Strengthened institutional and monitoring capacity	SP5; SP6	NT20	D2-20.1
T21 – Participation & justice	Inclusive and rights-based participation	SP5	NT21	D2-21.1
T22 – Awareness & education	CEPA and biodiversity education	SP5	NT22	D2-22.1
T23 – Gender equality	Gender-responsive biodiversity governance	SP5	NT23	D2-23.1

H1.3 Compliance Architecture

Alignment with the KM-GBF is operationalised through an integrated system:

1. **National Targets (Annex D1)**
   Translate global commitments into measurable, time-bound national objectives.

2. **Indicators (Annex D2)**
   Align with GBF headline and component indicators while incorporating nationally relevant complementary indicators.

3. **Implementation Programmes (Annex E1)**
   Provide budgeted and sequenced actions under SP1–SP6.

4. **MEAL Framework (Annex D3)**

Ensures:

- Annual monitoring
- Mid-term review (2028–2029)
- 2030 global stocktake alignment
- End-term evaluation (2035)

5. **Finance Architecture (Annex F)**

Operationalises Target 19 and supports delivery of all other targets through:

- Budget tagging
- Climate finance mobilisation
- Private sector engagement
- Trust fund mechanisms

H1.4 Reporting Obligations Under the CBD

Sierra Leone will fulfil reporting requirements through:

CBD Instrument	National Mechanism
Online Reporting Tool	Indicator-level uploads (Annex D2)
7th National Report (NR7)	Baseline & early implementation review
8th National Report (NR8)	Post-2030 target performance review
COP Global Reviews	Headline indicator submission
Financial Reporting (Target 19)	Annex F-linked biodiversity finance reports

EPA-SL serves as:

- National CBD Focal Point
- MEAL custodian
- Official reporter to the Secretariat

H1.5 National Interpretation Notes

Sierra Leone's interpretation of the KM-GBF prioritises:

1. Forests, wetlands, mangroves, and coastal ecosystems
2. Climate–biodiversity co-benefits (NDC 3.0 alignment)
3. Sustainable production and livelihoods
4. Governance and enforcement strengthening
5. Gender equality and rights-based participation
6. Long-term financial sustainability

The NBSAP structure ensures that global commitments are:

- Scientifically grounded
- Institutionally assigned
- Budget-backed
- Phased and sequenced
- Monitorable and reportable

ANNEX H2 — REPORTING CALENDAR AND RESPONSIBILITIES

H2.1 Purpose

This annex defines Sierra Leone's national and international biodiversity reporting calendar, institutional responsibilities, and validation workflow.

It ensures:

- Timely national reporting
- Compliance with CBD reporting obligations
- Clear institutional accountability
- Alignment between NBSAP implementation, MEAL (Annex D3), and national development reporting systems

H2.2 National Reporting Schedule

Table 53: National Reporting Framework

Report	Frequency	Lead Institution	Core Inputs
NBSAP Annual Implementation Report	Annual	EPA-SL	Sector MDAs, Councils, CSOs (Annex D2 indicators)
State of Biodiversity Summary	Biennial	EPA-SL	MEAL system outputs
MTNDP Annual Performance Report (biodiversity inputs)	Annual	MoPED	EPA-SL consolidated data
NBSAP Mid-Term Review	2028–2029	EPA-SL	All implementing institutions
NBSAP End-Term Evaluation	2035	EPA-SL	Independent evaluation

National reporting is fully aligned with:

- Annex D2 indicators
- Annex D3 MEAL cycles
- Annex E implementation schedule
- Annex F financial reporting

H2.3 CBD Reporting Obligations

Table 54: CBD Reporting Commitments

CBD Instrument	Indicative Timing	Lead Institution
7th National Report (NR7)	As per CBD guidance	EPA-SL
8th National Report (NR8)	Post-2030	EPA-SL
KM-GBF Headline Indicator Reporting	Annual / Biennial	EPA-SL
CBD Online Reporting Tool Updates	Ongoing	EPA-SL

EPA-SL serves as:

- National CBD Focal Point
- Official reporter to the Secretariat
- Custodian of national biodiversity data

H2.4 Reporting Workflow and Validation

Standard Reporting Workflow

Data Generation

Sector MDAs, Local Councils, CSOs, research institutions (Aligned with Annex D2 indicator responsibilities)

Technical Validation

EPA-SL (indicator consistency and completeness)
Statistics Sierra Leone (statistical coherence, where applicable)

Compilation & Analysis

EPA-SL MEAL Unit consolidates programme and financial data.

Inter-Ministerial Review

Biodiversity coordination mechanism validates cross-sector inputs.

Submission & Disclosure

- National: Cabinet / MoPED (as required)
- International: CBD Secretariat

This workflow aligns with the Producer–Custodian–Reporter structure defined in Annex D3.

H2.5 Institutional Reporting Responsibilities

Actor	Core Reporting Role
EPA-SL	National CBD reporting; MEAL custodian; indicator consolidation
Sector MDAs	Programme-level data and narratives
Local Councils	District-level implementation data
Statistics Sierra Leone	Data quality assurance (where survey-based)
MoPED	Integration into national development reporting
MoF	Biodiversity finance reporting (Target 19)
CSOs / NGOs	Supplementary implementation and community-level data

H2.6 Reporting Risk Mitigation

Risk	Mitigation Measure
Delayed submissions	Defined reporting deadlines under MEAL SOPs
Data inconsistency	Standardised indicator definitions (Annex D2)
Capacity constraints	Targeted training under SP5 & SP6
Fragmentation	Central coordination by EPA-SL



UNITY FREEDOM JUSTICE

NBSAP accelerator partnership

EPA-SL ENVIRONMENT PROTECTION AGENCY

