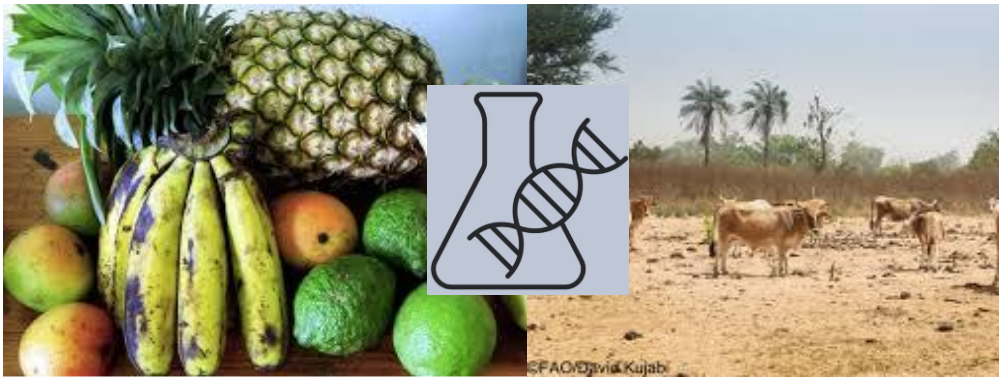


BIOSAFETY STRATEGY AND ACTION PLAN OF THE GAMBIA (2026–2035)

Department of Parks and Wildlife Management
(Abuko, The Gambia)

Convention on Biological Diversity

UNEP

FOREWORD

Biosafety is a cornerstone for sustainable development, biodiversity conservation, and human health protection. The Government of The Gambia recognizes that the safe and responsible use of biotechnology presents both opportunities and risks. As the country advances its agricultural productivity, food security, and economic growth, it is imperative to ensure that biotechnology applications are deployed in a manner that safeguards biodiversity, ecosystems, and human well-being. This Biosafety Strategy and Action Plan (2026–2035) provides a strategic roadmap for strengthening regulatory and institutional frameworks, enhancing technical and human capacity, promoting awareness, and integrating biosafety considerations into national development priorities. It also outlines mechanisms for Monitoring, Reporting, and Verification systems and participatory stakeholder engagement, reflecting international best practices and commitments under the Cartagena Protocol on Biosafety and the Kunming-Montreal Global Biodiversity Framework. The document represents a collaborative effort among government institutions, research and academic bodies, civil society, local communities, the private sector, and development partners. Its implementation will guide The Gambia toward safe, equitable, and sustainable biotechnology use that supports resilient ecosystems, conserves biodiversity, and fosters socio-economic benefits for all Gambians.

ACKNOWLEDGEMENTS

We acknowledge the support of international organizations, including United Nations Environment Programme and Global Environment Facility whose technical guidance and resources have enriched the Biosafety Strategy and Action Plan (2026-2035). Special thanks are extended to all stakeholders for their collaborative engagement, which reflects a profound commitment to the safe and sustainable deployment of biotechnology across The Gambia.

ACRONYMS AND ABBREVIATIONS

ABNE	African Biosafety Network of Expertise
ANR-WG	Agriculture and Natural Resources Working Group
BCH	Biosafety Clearing-House
BSAP	Biosafety Strategy and Action Plan
CBD	Convention on Biological Diversity
CNA	Competent National Authorities
CPB	Cartagena Protocol on Biosafety
CSOs	Civil Society Organizations
DPWM	Department of Parks and Wildlife Management
GBF	Kunming-Montreal Global Biodiversity Framework
GEAP III	Gambia Environmental Action Plan Phase III
GEF	Global Environment Facility
GMOs	Genetically Modified Organisms
LMOs	Living Modified Organisms
M&E	Monitoring and Evaluation
MRV	Monitoring, Reporting, Verification
NBA	National Biosafety Authority
NBF	National Biosafety Framework
NBSAP	National Biodiversity Strategy and Action Plan
NEA	National Environment Agency
NGOs	Non-Governmental Organizations
PPPs	Public-Private Partnerships
RF NDP	Recovery-Focused National Development Plan
SDGs	Sustainable Development Goals
SEP	Stakeholder Engagement Plan
SOP	Standard Operating Procedure
STAR	System for Transparent Allocation of Resources
SWOT	Strengths, Weaknesses, Opportunities and Threats
UNEP	United Nations Environment Programme
WHO	World Health Organization

LIST OF TABLES

Table 1: SWOT analysis of factors influencing biosafety governance in The Gambia 9

Table 2: Strategic framework to operationalize the six strategic objectives of BSAP (2026-2035) 16

Table 3: Implementation Framework: Roles of Key Stakeholders 20

Table 4: Mechanisms for Cross-Sectoral Synergy 21

Table 5: BSAP Phased Implementation Roadmap (2026–2035) 22

Table 6: Potential Implementation Risks and Challenges 23

Table 7: Risk Assessment and Prioritization Matrix 24

Table 8: Strategic Risk Mitigation and Management Plan 24

Table 9: Strategic financing needs from national budget (Indicative) 26

Table 10: Potential sources of International Funding Mechanisms 27

Table 11: Examples of Public-Private Partnerships Opportunities 28

Table 12: Strategic Elements of the BSAP Resource Mobilization Strategy 28

Table 13: Key Indicators and Targets (2026–2035) 29

Table 14: Monitoring, Reporting, and Evaluation Framework 30

Table 15: Adaptive Management and Institutional Learning Framework 31

Table 16: Stakeholder Mapping and Engagement Analysis 33

Table 17: Strategic Mechanisms for Stakeholder Participation and Governance 34

Table 18: Strategic Implementation Roadmap (2026–2035) 35

Table 19: Strategic Logic Model & Critical Success Factors for BSAP (2026-2035) 36

Table 20: Strategic Logical Framework (Logframe) for BSAP Implementation (2026–2035) 38

Table 21: Outputs and Key Activities 39

TABLE OF CONTENTS

FOREWORD i

ACKNOWLEDGEMENTS ii

ACRONYMS AND ABBREVIATIONS iii

LIST OF TABLES iv

EXECUTIVE SUMMARY viii

1. INTRODUCTION 1

1.1 Background 1

1.2 Objectives of the Biosafety Strategy and Action Plan 1

1. Strengthen regulatory and institutional frameworks 2

2. Enhance risk assessment and management of biotechnology 2

3. Promote capacity enhancement and awareness 2

4. Mainstream biosafety into national development and sectoral plans 2

5. Strengthen Monitoring, Reporting, and Verification (MRV) 2

6. Foster stakeholder participation and equitable benefit-sharing 2

1.3 Scope of the BSAP 2

1.4 Methodology for Developing the Document 2

1.5 Structure of the BSAP 3

2. National Context 4

2.1 Country Profile 4

2.2 National Biodiversity Framework 4

2.3 Overview of the National Biosafety Landscape 5

2.3.1 Legal and Policy Foundations 5

2.3.2 Institutional and Governance Arrangements 6

2.3.3 Biosafety Decision-Making and Risk Management 6

2.3.4 Information Sharing and BCH Participation 6

2.3.5 Public Awareness and Participation 6

2.3.6 Capacity, Infrastructure, and Technical Needs 7
2.3.7 Financial and External Support 7
2.3.8 Monitoring, Enforcement and Compliance 8
2.3.9 Cooperation and International Engagement 8
2.3.10 Strengths, Weaknesses, Opportunities and Threats (SWOT) 8
3. Rationale for the BSAP 10
3.1 Need for a Coordinated National Biosafety Framework (NBF) 10
3.2 Need to Address Legal, Institutional, and Capacity Gaps 10
3.3 Supporting National Biodiversity Conservation and Sustainable Development 11
3.4 Alignment with Global Biodiversity and Biosafety Commitments 11
3.5 Enhancing National Preparedness for Emerging Biotechnologies 11
3.6 Strategic Importance of the Biosafety Strategy for the Country 11
4. Vision, Mission and Guiding Principles 12
4.1 Vision 12
4.2 Mission 12
4.3 Strategic Objectives 12
4.4 Guiding Principles 12
4.5 Strategic Framework (2026–2035) 13
5. Implementation Framework 20
5.1 Institutional Arrangements 20
5.2 Roles and Responsibilities of Implementing Institutions 20
5.3 Coordination Mechanisms 21
5.4 Phased Implementation Plan of BSAP (2026–2035) 22
6. Risk Analysis and Mitigation 23
6.1 Risk Identification 23
6.2 Risk Assessment 24
6.3 Mitigation Strategies 24

7. Financing and Resource Mobilization 26
7.1 National 26
7.2 International Funding Mechanisms 27
7.3 Public-Private Partnerships (PPPs) 27
7.4 Resource Mobilization Strategy 28
8. Monitoring, Evaluation, and Reporting (M&E) 29
8.1 M&E System 29
8.2 Key Indicators 29
8.3 Reporting Framework 30
8.4 Adaptive Management and Learning Framework 30
8.5 Integration with the GBF Monitoring Framework 31
9. Stakeholder Engagement Plan 32
9.1 Purpose of the SEP 32
9.2 Objectives of Stakeholder Engagement 32
9.3 Stakeholder Mapping 32
9.4 Engagement Strategies 33
9.5 Implementation Timeline 35
10. Theory of Change and Logical Framework 36
10.1 Theory of Change 36
10.2 Impact Pathway 36
10.2 Logical Framework (Logframe) 38
10.3 Outputs and Key Activities 39
11. Annexes i

EXECUTIVE SUMMARY

Biosafety which refers to the safe handling, transfer, and use of living modified organisms (LMOs) and biotechnology is essential for safeguarding biodiversity, human health, and sustainable development. Biotechnology particularly presents opportunities to enhance agricultural productivity, food security, and economic growth. Meanwhile, The Gambia faces challenges including limited technical capacity, gaps in public awareness, resource constraints, and the need to strengthen regulatory and institutional frameworks concerning safe and equitable use of biotechnology in line with the Cartagena Protocol on Biosafety (CPB).

Over the next decade, the Biosafety Strategy and Action Plan (BSAP) 2026–2035 provides a strategic roadmap to address the aforementioned challenges. It aims to consolidate The Gambia's regulatory and institutional mechanisms, promote risk-informed decision-making, mainstream biosafety into national and sectoral policies, and strengthen MRV systems. The BSAP aligns national priorities with the Kunming-Montreal Global Biodiversity Framework (GBF Targets 1, 2, 7, 13, 19, 20, 21, and 22), emphasizing sustainable and equitable biotechnology practices.

The key strategic objectives are to:

i. Strengthen regulatory and institutional frameworks i.e. Develop the National Biosafety Framework (NBF), clarify institutional roles, and operationalize enforcement mechanisms.
ii. Enhance risk assessment and management i.e. Develop robust ecological and health risk assessment protocols, monitoring, and emergency response measures.
iii. Promote capacity enhancement and awareness i.e. Train regulators, scientists, farmers, and community leaders; conduct public awareness campaigns.
iv. Mainstream biosafety into national and sectoral plans i.e. Integrate biosafety considerations into relevant agriculture, fisheries, forestry, health, and environmental policies.
v. Strengthen MRV systems i.e. Establish data collection systems, performance indicators, and compliance tracking mechanisms.
vi. Foster stakeholder participation and equitable benefit-sharing i.e. Ensure inclusive, participatory decision-making and fair sharing of biotechnology benefits.

Expected outcomes and impacts are:

- Safe and sustainable deployment of biotechnology that minimize environmental and health risks.
- Strengthened national institutions, human resources, and technical capacity for biosafety governance and compliance.
- Improved public awareness and meaningful stakeholder engagement, including communities, civil society, academia, and the private sector.
- Effective integration of biosafety into sectoral and national development plans to support biodiversity conservation, ecosystem resilience, and equitable benefit-sharing.
- Functional MRV and knowledge management systems enabling adaptive management, evidence-based policies, and transparent reporting.

The BSAP (2025–2035) specifically aligns with:

- National Frameworks such as National Biodiversity Strategy and Action Plan (2025–2035), The Gambia National Development Plan (2023-2027), National Environmental Management Act (1994), Agriculture and Natural Resources Policy (2017-2026), Fisheries Act, Seed Policy, and related regulations.
- Global Frameworks including CPB, GBF, Sustainable Development Goals (SDGs – 2, 3, 12, 14, and 15), and international best practices in biosafety and knowledge management.

The implementation of this BSAP will guide The Gambia toward a future where biotechnology supports agricultural productivity, biodiversity conservation, ecosystem resilience, and socio-economic development, ensuring that all benefits are realized safely, equitably, and sustainably.

1. INTRODUCTION

1.1 Background

Biosafety, defined as the safe handling, transfer, and use of living modified organisms (LMOs) resulting from modern biotechnology, is critical to safeguarding biodiversity, human health, and socio-economic development[1]. The Gambia, as a Party to the Cartagena Protocol on Biosafety (CPB), recognizes the need for a coordinated, evidence-based, and participatory approach to regulate biotechnology applications, prevent unintended transboundary movements of LMOs, and mitigate associated risks.

The national context reflects emerging biotechnology applications in agriculture, forestry, fisheries, and health sectors. While legislative and institutional frameworks exist, including the Biodiversity and Wildlife Act (2003), Seed Quality Control and Marketing Act (2014), Animal Health Act (2024), and National Environmental Management Act (1994), the current capacity for risk assessment, monitoring, public awareness, and coordination remains limited. Financial constraints, limited technical expertise, and gaps in Monitoring, Reporting, and Verification (MRV) systems related to biotechnology have also been identified as key challenges in national biosafety implementation[2,3].

Internationally, biosafety strategies are increasingly aligned with the Kunming-Montreal Global Biodiversity Framework (GBF)[4] to promote safe and sustainable use of biotechnology, ecosystem resilience, and equitable benefit-sharing. Lessons from regional and global contexts also emphasize the need for national regulatory oversight, stakeholder engagement, capacity enhancement, and adaptive management in achieving measurable biodiversity outcomes.

1.2 Objectives of the Biosafety Strategy and Action Plan

This Biosafety Strategy and Action Plan (BSAP) 2026–2035 serves as an essential roadmap for policymakers, regulators, researchers, communities, and private sector stakeholders to ensure that

[1] Cartagena Protocol on Biosafety to the Convention on Biological Diversity (About the protocol) - https://bch.cbd.int/protocol/background (accessed 16 March 2026).
[2] The Gambia's Fourth National Report to the Biosafety Clearing-House (2015 – 2021).
[3] The Gambia's Fifth National Report to the Biosafety Clearing-House (2021 – 2026).
[4] Kunming-Montreal Global Biodiversity Framework (Introduction) - https://www.cbd.int/gbf/introduction (accessed 16 March 2026).

biotechnology is applied safely, sustainably, and in a manner that maximizes socio-economic and environmental benefits for The Gambia.

Specifically, this BSAP provides a strategic framework to:

1. Strengthen regulatory and institutional frameworks
2. Enhance risk assessment and management of biotechnology
3. Promote capacity enhancement and awareness
4. Mainstream biosafety into national development and sectoral plans
5. Strengthen Monitoring, Reporting, and Verification (MRV)
6. Foster stakeholder participation and equitable benefit-sharing

1.3 Scope of the BSAP

This BSAP covers the period 2026–2035. It therefore aligns with medium- and long-term national biodiversity objectives and the GBF. It also applies to all aspects of biotechnology relevant to The Gambia which include:

- LMOs for agricultural production, forestry, fisheries, and health applications.
- Risk assessment, monitoring, and compliance processes.
- Public awareness, stakeholder engagement, and capacity-building initiatives.
- Integration of biosafety considerations into national development planning and sectoral policies.

1.4 Methodology for Developing the Document

This BSAP was developed through a participatory and evidence-based process described below as follows:

1. Review of national reports: Review of The Gambia's Fourth and Fifth National Report to the Biosafety Clearing-House (BCH), existing legislation, policies, and institutional assessments.
2. Stakeholder consultations: Engagement with government agencies, research institutions, civil society, local communities, private sector actors, and international partners.
3. Benchmarking against international standards: Review of regional and global best practices, including United Nations Environment Programme-Global Environment Facility (UNEP-GEF) biosafety guidelines and alignment with the GBF targets.

4. Technical analysis: Identification of capacity gaps, risk areas, and priority interventions for the 2026–2035 period.
5. Debriefing and validation workshop: Iterative debriefing sessions involving the consultant with the project team at the Department of Parks and Wildlife Management (DPWM) and also a workshop with stakeholders from government and non-government institutions to validate the strategic objectives, interventions, and monitoring frameworks.

1.5 Structure of the BSAP

This document is organized to move progressively from contextual background to strategic direction, implementation arrangements, and monitoring mechanisms, while ensuring alignment with national priorities and the GBF targets. The document begins with Section 1, which outlines the context, objectives, scope, and methodology used in developing the strategy. Section 2 presents an overview of The Gambia's biodiversity and biosafety landscape, including relevant legal, policy, and institutional frameworks. This is followed by Section 3 which highlights the key gaps, risks, and opportunities that necessitate the development of this BSAP. Section 4 sets out the vision, mission, and guiding principles that frame the strategic direction of biosafety governance in the country. Section 5 presents the strategic objectives and priority action areas in details, including regulatory strengthening, risk assessment and management, capacity enhancement, mainstreaming biosafety into sectoral planning, monitoring and reporting, and stakeholder engagement. Section 6 outlines the risk analysis and mitigation measures to address potential implementation challenges. The operational aspects of the strategy are addressed in Section 7 which defines institutional arrangements, roles and responsibilities, coordination mechanisms, and a phased implementation plan. Section 8 describes the funding approach, including national budget allocations, international financing mechanisms, and partnerships. Section 9 establishes the monitoring and evaluation system, including indicators, reporting mechanisms, and adaptive management processes. Finally, Section 10 presents the results-based framework that links strategic actions to expected outcomes and long-term impacts. Additional technical information, tools, and supporting materials are provided in the annexes.

2. NATIONAL CONTEXT

2.1 Country Profile

The Gambia is a small West African nation with rich biodiversity spanning terrestrial, coastal, and marine ecosystems that provide ecological services critical to livelihoods, food security, and economic development[5]. The country is a party to the Convention on Biological Diversity (CBD), having ratified it in 1994. It subsequently signed and ratified the CPB in 2002 and 2003 respectively, demonstrating national commitment to biosafety and environmental protection[6]. The Gambia's development agenda also emphasizes environmental sustainability as reflected in its strategic planning frameworks which recognize the importance of biodiversity conservation and related biosafety considerations.

2.2 National Biodiversity Framework

The National Biodiversity Strategy and Action Plan (NBSAP) 2025–2035 of The Gambia will be the principal guiding document for biodiversity conservation in the country. The framework is particularly integrated within:

- The Gambia Environmental Action Plan (GEAP) Phase III (2019–2028), which sets environmental management priorities, and
- Recovery-Focused National Development Plan (RF NDP) 2023–2027, which mainstreams biodiversity into broader national development goals.

The aforementioned strategic framework recognizes the increasing intersection between biodiversity and emerging biotechnology applications, highlighting the need to ensure biodiversity and human health are not adversely affected by modern biotechnologies. The national biodiversity framework also acknowledges biosafety as an essential component of sustainable biodiversity management, though specific regulatory instruments dedicated to biosafety implementation remain under development.

[5] Sixth National Report to the Convention on Biological Diversity – The Gambia (2019), Government of The Gambia.
[6] The National Biodiversity Strategy and Action Plan (2015 – 2020) - https://www.cbd.int/doc/world/gm/gm-nbsap-v2-en.pdf (accesses 16 March 2026)

2.3 Overview of the National Biosafety Landscape

The Gambia has established foundational elements of a national biosafety framework, primarily through existing sectoral legislation, institutional arrangements, and obligations under the CPB. However, as mentioned below, implementation remains partial and fragmented, with significant gaps in regulatory instruments, institutional capacity, information systems, and enforcement mechanisms.

2.3.1 *Legal and Policy Foundations*

Although the country has not yet enacted a dedicated biosafety law, several sectoral Acts indirectly contribute to biosafety implementation. The country's approach to biosafety currently relies on sectoral laws and administrative systems rather than a dedicated, overarching biosafety law. While many existing laws touch on aspects of biosafety (e.g., quarantine, import permits, food safety), they are not fully harmonized with biosafety obligations, especially in areas such as risk assessment, LMO documentation standards, and decision-review mechanisms. Such Acts include the following:

- National Environmental Management Act 1994
- Biodiversity and Wildlife Act 2003
- Seed Quality Control and Marketing Act 2014
- Food Safety and Quality Act 2011
- Animal Health Act 2024
- Medicines and Related Products Act 2014
- Public Health Act 1989
- Access to Information Act 2021

These instruments regulate certain aspects of biosafety, including quarantine procedures, certification for biological imports, food and pharmaceutical safety, animal imports, and environmental protection. However, they provide only partial coverage and are not fully aligned with all obligations under the Protocol (CPB). Key gaps remain in areas such as standardized biosafety decision-making procedures, comprehensive risk assessment frameworks, documentation and traceability requirements for LMOs, and formal mechanisms for exporter notification under the advance informed agreement process.

2.3.2 *Institutional and Governance Arrangements*

Biosafety coordination occurs primarily through the Agriculture and Natural Resources Working Group (ANR-WG), which provides technical oversight and reports on biosafety matters. While a single focal authority responsible for biosafety is designated, the institutional mandate still needs formal adoption. In addition, institutional capacity remains limited with only 1–4 qualified staff directly related to biosafety functions, a number regarded as insufficient[3].

2.3.3 *Biosafety Decision-Making and Risk Management*

In The Gambia, elements of LMO regulation are addressed through existing sectoral frameworks. The movement of LMOs involved customs clearance by the Gambia Revenue Authority and quarantine procedures administered by specialized agencies, primarily the Food Safety and Quality Authority and the National Environment Agency (NEA). Contained use of LMOs is indirectly guided by sectoral legislation such as seed and animal health regulations. Imports of biotechnology-derived products, including pharmaceuticals, are regulated under relevant public health and pharmaceutical laws. However, the country has not yet taken formal regulatory decisions on key LMO activities, including the import of LMOs for direct use as food or feed, LMOs for contained use, and the intentional release of LMOs into the environment.

Although risk assessment is recognized within the broader legal framework, mechanisms are not specifically designed for LMOs and remain weak in practice. No formal LMO risk assessments have been conducted in the country, and existing risk management systems are not yet systematically applied to modern biotechnology activities.

2.3.4 *Information Sharing and BCH Participation*

The Gambia participates in the BCH, the online platform established under the CPB to exchange biosafety information. However, mandatory biosafety information has only been partially submitted to the BCH (e.g., legislation and contact details), with several decision categories still missing, including transit and domestic use decisions. A national BCH does not yet exist, and national information is maintained mainly through reports and correspondence.

2.3.5 *Public Awareness and Participation*

Biosafety awareness and public participation are recognized in several environmental laws and policies in The Gambia. However, there is no dedicated national communication strategy

specifically addressing biosafety or LMOs. While the Access to Information Act (2021) provides a general framework for public access to information, it does not establish specific modalities for accessing biosafety-related information. Public consultations on biosafety decisions have not yet been undertaken, and information on regulatory decisions has rarely been disseminated to the public. Existing awareness and outreach efforts on biosafety remain limited and are typically delivered as part of broader environmental or agricultural initiatives rather than through targeted biosafety education programs[3].

2.3.6 *Capacity, Infrastructure, and Technical Needs*

i. **Human resources**

Technical capacity for biosafety implementation remains limited. There are currently no trained personnel in key areas such as LMO risk assessment, risk management, or detection. Also, no biosafety-specific capacity-building activities have been conducted for the stakeholders yet.

ii. **Laboratory and detection infrastructure**

The country does not yet have certified laboratories capable of detecting or identifying LMOs. Although a laboratory is being developed within the NEA, it is not yet operational for biosafety testing and other regulatory verification processes.

iii. **Technical tools and resources**

The Gambia currently lacks access to essential biosafety tools and resources, including LMO detection equipment, certified reference materials, and technical guidance documents. Access to international technical resources and platforms for risk assessment and risk management also remains limited.

2.3.7 *Financial and External Support*

Financing for biosafety implementation in The Gambia remains limited and largely unpredictable. There is currently no dedicated national budget allocation for biosafety activities, and domestic funding for biosafety implementation remains inadequate. While external support has been received occasionally through multilateral channels, such assistance has been irregular. Moreover, The Gambia has not utilized its GEF System for Transparent Allocation of Resources allocation for biosafety-related activities.

2.3.8 *Monitoring, Enforcement and Compliance*

Systems to monitor and enforce the implementation of the CPB exist in principle in The Gambia but operational mechanisms remain weak. While no cases of illegal or unintentional transboundary movement of LMOs have been reported, enforcement capacity remains limited due to the absence of specialized customs training, LMO identification protocols, and operational compliance monitoring systems[3].

2.3.9 *Cooperation and International Engagement*

Biosafety governance in The Gambia is guided by international obligations under the CPB, a legally binding agreement under the CBD. The Protocol requires Parties to adopt legal, administrative, and technical measures to ensure the safe handling, transport, and use of LMOs, particularly with respect to transboundary movements. It also promotes public awareness, participation, and information exchange through the BCH. The Protocol further supports implementation of the GBF by strengthening national biosafety systems, enhancing information exchange, building capacity, and mobilizing resources to manage biotechnology risks while safeguarding biodiversity. The Gambia's engagement with these international frameworks reflects a national commitment to responsible biosafety governance as a means of conserving biological diversity, protecting human health, and enabling the safe and beneficial use of modern biotechnology.

The Gambia participates in regional and multilateral cooperation on biosafety, although the exchange of biosafety risk information with other Parties remains limited. Mechanisms also exist to involve indigenous peoples, local communities, and other stakeholders in biosafety-related processes but their practical application and participation in decision-making remain minimal.

2.3.10 Strengths, Weaknesses, Opportunities and Threats (SWOT)

A SWOT analysis presented below highlights the key internal and external factors influencing biosafety governance in The Gambia and informs strategic priorities for strengthening implementation of the CPB and alignment with the GBF. It also provides a basis for identifying priority actions to address existing gaps, leverage opportunities, and mitigate emerging risks associated with biotechnology and LMOs.

Table 1: SWOT analysis of factors influencing biosafety governance in The Gambia

Category	**Key Elements**
Strengths	• Established participation in the Cartagena Protocol and BCH • Existing environmental, agricultural, and health legislation that partially addresses biosafety-related issues
Weaknesses	• Absence of dedicated national biosafety legislation • Limited institutional, technical, and financial capacity for biosafety implementation • Lack of biosafety-specific public awareness and communication strategies • Absence of operational laboratories for LMO detection and analysis
Opportunities	• Development of a comprehensive national biosafety framework aligned with the GBF • Access to international technical assistance and financing mechanisms • Opportunities to integrate biosafety considerations into national development planning and biodiversity strategies
Threats	• Rapid advancement and introduction of biotechnology without adequate regulatory safeguards • Persistent capacity gaps in risk assessment, monitoring, and risk management • Limited public awareness and stakeholder engagement on biosafety issues

3. RATIONALE FOR THE BSAP

3.1 Need for a Coordinated National Biosafety Framework (NBF)

Advances in modern biotechnology have increased the global development and movement of LMOs, particularly in agriculture, pharmaceuticals, and food systems. While these technologies present opportunities for improving food production, disease control, and economic development, they may also pose potential risks to biodiversity, ecosystem integrity, and human health if not adequately regulated.

The Gambia, as a Party to the CPB under the CBD, has committed to establishing effective measures to ensure the safe transfer, handling, and use of LMOs. However, current biosafety measures in the country remain fragmented and only partially implemented, relying largely on sectoral legislation rather than a comprehensive NBF. The development of a BSAP (2026–2035) is therefore necessary to provide a coherent national framework that strengthens governance, coordination, and implementation of biosafety measures across sectors.

3.2 Need to Address Legal, Institutional, and Capacity Gaps

As earlier indicated, the national biosafety situation analyses of The Gambia indicate several structural challenges that hinder effective implementation of biosafety obligations[2,3]. These include:

- Absence of a dedicated biosafety law or fully operational national biosafety framework
- Limited institutional coordination across sectors involved in biotechnology governance
- Inadequate human resource capacity for biosafety administration
- Lack of operational laboratory infrastructure for detection and identification of LMOs
- Limited national capacity for biosafety risk assessment, monitoring, and compliance enforcement
- Insufficient public awareness and stakeholder engagement on biosafety issues
- Absence of predictable national funding for biosafety implementation

These challenges limit the country's ability to implement key provisions of the CPB, including risk assessment, monitoring, information sharing, and decision-making related to LMOs.

3.3 Supporting National Biodiversity Conservation and Sustainable Development

Biosafety is a critical component of biodiversity conservation and sustainable natural resource management. Effective biosafety governance will contribute to ensuring that biotechnology applications do not undermine biodiversity, ecosystem services, or food security[7].

In The Gambia, biosafety considerations are already recognized within the NBSAP (2025–2035). Strengthening biosafety governance will therefore support national efforts to conserve biodiversity, safeguard public health, and promote sustainable agricultural and environmental practices.

3.4 Alignment with Global Biodiversity and Biosafety Commitments

The BSAP (2026-2035) responds to global biodiversity commitments under the GBF, which calls for strengthened governance systems, improved monitoring and information sharing, and enhanced capacity for managing biodiversity-related risks, including those associated with biotechnology. By strengthening biosafety systems, The Gambia will contribute to global biodiversity targets. It will improve the country's compliance with the CPB and enhance participation in the BCH which facilitates international exchange of biosafety information.

3.5 Enhancing National Preparedness for Emerging Biotechnologies

Rapid developments in biotechnology, including genetic engineering, synthetic biology, and gene-editing technologies, present both opportunities and potential risks for biodiversity and public health[1,4]. Without a coordinated biosafety framework, developing countries in Africa like The Gambia may face challenges in regulating these technologies and managing their impacts.

3.6 Strategic Importance of the Biosafety Strategy for the Country

The BSAP (2026–2035) provides a long-term roadmap for strengthening biosafety governance in The Gambia. It aims to establish an integrated biosafety system that supports biodiversity conservation, safeguards human health, and enables responsible use of biotechnology for sustainable development. Through coordinated implementation, the strategy will help ensure that biosafety considerations are effectively integrated into national environmental management, agricultural development, public health, and scientific research systems.

[7] Cartagena Protocol on Biosafety to the Convention on Biological Diversity (2000), Preamble and Article 1.

4. VISION, MISSION AND GUIDING PRINCIPLES

4.1 Vision

A robust, integrated national biosafety system that ensures safe development, transfer, handling, and use of modern biotechnology and LMOs, protecting biodiversity, human health, and sustainable development in The Gambia.

4.2 Mission

To establish and operationalize a transparent, science-based biosafety governance system that strengthens regulatory frameworks, enhances risk assessment and management, builds capacity and awareness, mainstreams biosafety into national development, ensures effective monitoring and reporting, and promotes inclusive stakeholder participation.

4.3 Strategic Objectives

The BSAP (2026–2035) will pursue the following objectives:

i. **Strategic Objective 1:** Strengthen regulatory and institutional frameworks for biosafety governance.

ii. **Strategic Objective 2:** Enhance risk assessment and risk management of biotechnology and LMOs.

iii. **Strategic Objective 3:** Promote capacity enhancement, education, and public awareness on biosafety.

iv. **Strategic Objective 4:** Mainstream biosafety into national development planning and sectoral policies.

v. **Strategic Objective 5:** Strengthen Monitoring, Reporting and Verification (MRV) systems for biosafety.

vi. **Strategic Objective 6:** Foster stakeholder participation and equitable benefit-sharing

4.4 Guiding Principles

The implementation of this BSAP (2026-2035) will be guided by the following principles:

a. Precautionary principle

Decisions related to LMOs and biotechnology shall be guided by precaution where there is scientific uncertainty regarding potential adverse impacts on biodiversity or human health.

b. Science-based decision making

Biosafety decision-making processes will be grounded in sound scientific evidence, risk assessment methodologies, and international best practices.

c. Transparency and accountability

Biosafety governance will ensure transparency in decision-making processes, access to information, and accountability of institutions responsible for biosafety regulation.

d. Stakeholder participation and inclusiveness

All relevant stakeholders, including local communities, farmers, academia, civil society organizations (CSOs), and the private sector, will be engaged in biosafety policy development and implementation.

e. Gender equality and youth inclusion

The strategy will promote equitable participation of women and youth in biosafety-related decision-making, capacity development, and knowledge-sharing processes.

f. Integration and policy coherence

Biosafety considerations will be integrated across environmental, agricultural, health, trade, and development policies to ensure coherence with national and international commitments.

g. Knowledge sharing and collaboration

The strategy will promote national, regional, and international collaboration and knowledge exchange to strengthen biosafety governance and innovation.

4.5 Strategic Framework (2026–2035)

The following strategic framework operationalizes the six strategic objectives of The Gambia's BSAP (2026–2035), integrating baseline information, strategic interventions, key stakeholders, measurable targets, and alignment with the GBF.

Table 2: Strategic framework to operationalize the six strategic objectives of BSAP (2026-2035)

Strategic Objective	Baseline Situation	Strategic Interventions	Key Stakeholders	Targets & Indicators	GBF Alignment
1. Strengthen regulatory and institutional frameworks for biosafety governance	National biosafety measures partially in place; one to four qualified staff; fragmented legal instruments (Animal Health Act 2024, Seed Quality Control & Marketing Act 2014, Plant Importation & Regulation Act 1963, Biodiversity & Wildlife Act 2003, NEMA 1994); single competent authority not yet fully operational.	- Develop and enact comprehensive national biosafety legislation - Establish National Biosafety Authority with functional mandate - Harmonize sectoral regulations and procedures - Strengthen enforcement and compliance mechanisms	Ministries (Environment, Agriculture, and Health), NEA, DPWM, Customs, Universities and research institutions in the country, NGOs	- National Biosafety Act enacted by 2027 - Fully operational competent authority by 2028 - 100% sectoral policies aligned with biosafety regulations by 2030	GBF Target 14 and 17 (Enactment of biosafety policies and regulations)
2. Enhance risk assessment & management of biotechnology and LMOs	Limited risk assessment capacity; no LMO detection labs operational; risk assessment conducted ad hoc; reliance on international guidance; limited public knowledge on LMOs	- Establish national risk assessment guidelines and Standard Operating Procedure (SOPs) - Develop laboratory infrastructure for LMO detection	Ministries (Environment, Agriculture, and Health), NEA, Universities, Research Institutions, Regional Labs	- Functional LMO detection lab operational by 2027 - 80% of regulatory staff trained in risk assessment by 2028	GBF Target 14, 17, & 20 (Biosafety and biotechnology monitoring capacities)

Strategic Objective	Baseline Situation	Strategic Interventions	Key Stakeholders	Targets & Indicators	GBF Alignment
		- Train technical staff in risk assessment & management - Implement monitoring and containment protocols for LMOs		- Risk assessments conducted for all LMO introductions by 2030	
3. Promote capacity enhancement, education, and public awareness on biosafety	Limited human and institutional capacity; no dedicated national biosafety clearing-house; public awareness campaigns not LMO-specific; literacy and language barriers	- Implement formal biosafety education and training programs - Conduct public awareness campaigns using local languages - Develop knowledge-sharing platforms and technical workshops - Partner with universities and international	DPWM, NEA, Department of Community Development, Universities in the country, NGOs, Media outlets, Community Leaders	- At least 50% of relevant stakeholders trained by 2030 - Public awareness reach: 70% of target communities by 2030 - Knowledge-sharing platform fully operational by 2028	GBF Target 17, 20, and 21 (Knowledge and awareness)

Strategic Objective	Baseline Situation	Strategic Interventions	Key Stakeholders	Targets & Indicators	GBF Alignment
		partners for capacity support			
4. Mainstream biosafety into national development planning and sectoral policies	Biosafety partially integrated into NBSAP, GEAP III, RF NDP; sectoral mainstreaming limited; environmental and agricultural impact assessments exist but not specifically focused on biosafety components	- Integrate biosafety in NBSAP (2025–2035), RF NDP, sectoral policies - Include biosafety considerations in environmental and social impact assessments - Promote inter-ministerial coordination on LMO approvals	Ministries (Agriculture, Health, Environment, and Trade), DPWM, NEA, National Assembly of The Gambia	- 100% sectoral plans include biosafety by 2030 - All new development projects assess biosafety risks by 2030	GBF Targets 14 and 17 (Policy integration, biodiversity mainstreaming, and sectoral alignment)
5. Strengthen Monitoring, Reporting & Verification (MRV) systems for biosafety	Monitoring systems are ad hoc; BCH participation limited; decisions rarely informed by monitoring; no certified labs; no simplified procedure for LMOs	- Develop MRV framework and indicators - Establish national biosafety database and reporting system - Strengthen BCH submissions and data flow	ANR-WG, Ministries (Agriculture, Health, and Environment) Customs, Research Institutions	- MRV system fully operational by 2028 - Annual reporting to BCH by 2030 - 80% of LMO activities monitored and	GBF Targets 17, 20, and 21 (Operationalizing MRV and clearing-house integration)

Strategic Objective	Baseline Situation	Strategic Interventions	Key Stakeholders	Targets & Indicators	GBF Alignment
		- Conduct periodic audits and environmental monitoring		recorded by 2032	
6. Foster stakeholder participation & equitable benefit-sharing	Limited stakeholder engagement; indigenous/local communities consulted indirectly; benefit-sharing mechanisms not formalized; public participation constrained by literacy	- Develop stakeholder engagement plan and consultation guidelines - Include local communities, farmers, youth, and women in biosafety committees - Establish equitable benefit-sharing frameworks for biotechnology-derived innovations	ANR-WG, DPWM, NEA, Civil Society, Private Sector, Local Communities, Research Institutions, Media Outlets e.g. Gambia Radio & Television Service	- Stakeholder consultation forums established in all regions by 2027 - At least 50% women and youth actively participating by 2030 - Benefit-sharing agreements in place for all LMO projects by 2035	GBF Targets 13, 21, 22, and 23 (Participation and justice, access and benefit-sharing, data and knowledge, gender equality)

5. IMPLEMENTATION FRAMEWORK

The successful implementation of BSAP (2026–2035) requires clear institutional arrangements, defined roles and responsibilities for stakeholders, effective coordination mechanisms, and a phased implementation approach such as described below:

5.1 Institutional Arrangements

The following institutional framework is designed to ensure efficiency, compliance with the CPB, and alignment with the GBF. Key elements include:

i. National Biosafety Authority (NBA): Central body responsible for regulating, monitoring, and enforcing biosafety measures.

ii. Competent National Authorities (CNA): Sector-specific authorities (Agriculture, Health, and Environment) responsible for implementing sectoral biosafety regulations.

iii. National Focal Points (BCH & CPB): Responsible for ensuring information flow, compliance reporting, and participation in international biosafety mechanisms.

iv. Technical Advisory Committees: Comprising experts in biotechnology, risk assessment, law, public health, and social sciences to provide evidence-based guidance.

v. Research & Academic Institutions: Comprising scientists, researchers, and legal scholars to provide technical expertise, independent risk assessments, and evidence-based data for biosafety decision-making

vi. Community and Civil Society Platforms: Engage indigenous peoples, local communities, NGOs/CSOs, and academia in decision-making and awareness campaigns.

5.2 Roles and Responsibilities of Implementing Institutions

The following table outlines the specific roles and responsibilities of the key institutions involved in the implementation and oversight of the biosafety framework

Table 3: Implementation Framework: Roles of Key Stakeholders

Institution	Responsibilities
National Biosafety Authority (NBA)	- Enforce national biosafety laws - Approve import, export, and contained use of LMOs - Oversee risk assessments and monitoring - Develop national biosafety guidelines and standards
Competent National Authorities (CNAs)	- Sector-specific LMO regulation - Conduct environmental and health risk assessments

	- Monitor compliance within respective sectors - Report sectoral data to NBA
National Focal Points (BCH & Cartagena Protocol)	- Submit mandatory information to BCH - Maintain communication with other Parties - Coordinate national reporting to CBD and CPB
Technical Advisory Committees	- Provide scientific and technical advice - Evaluate risk assessments - Support policy development and capacity-building initiatives
Research & Academic Institutions	- Conduct risk assessment research - Provide training and capacity-building - Support technology transfer and innovation
Civil Society & Community Platforms	- Conduct public awareness campaigns - Facilitate community consultation on LMO-related projects - Provide feedback on local impacts and socio-economic considerations

5.3 Coordination Mechanisms

The implementation of the BSAP (2026–2035) relies on a structured governance approach. The coordination mechanisms described below are designed to ensure inter-sectoral synergy, avoid duplication of efforts, and maintain strict alignment with international biosafety obligations.

Table 4: Mechanisms for Cross-Sectoral Synergy

Mechanism	**Role**
Inter-Ministerial Biosafety Committee	Chaired by the Ministry of Environment, coordinating CNAs, NBA, and other stakeholders.
Agriculture and Natural Resources Working Group (ANR-WG)	Technical body for implementing biosafety in agricultural and biodiversity sectors.
National Coordination Platform for Biosafety (NCPB)	Ensures cross-sectoral planning, data sharing, stakeholder engagement, and monitoring.
Regional and International Linkages	Coordination with ECOWAS, African Biosafety Network of Expertise (ABNE), UNEP-GEF projects, and CBD mechanisms for alignment, capacity enhancement, and risk management guidance.

5.4 Phased Implementation Plan of BSAP (2026–2035)

To ensure operational feasibility, continuous monitoring, and effective scaling, the BSAP (2026–2035) is structured into three distinct execution periods. The table below details the objectives and focused areas for each phase of the ten-year implementation cycle.

Table 5: BSAP Phased Implementation Roadmap (2026–2035)

Phase	Timeframe	Key Activities	Expected Outcomes
Phase I: Foundation & Institutionalization	2026–2028	- Enact national biosafety legislation - Establish NBA and CNAs - Initiate risk assessment lab setup - Develop capacity-building and public awareness programs	- Functional NBA and CNAs - Regulatory framework operational - Trained initial cohort of technical staff
Phase II: Expansion & Mainstreaming	2029–2032	- Integrate biosafety into sectoral policies and development plans - Operationalize MRV and reporting systems - Conduct full-scale public engagement campaigns - Strengthen risk assessment, monitoring, and lab capacity	- Biosafety mainstreamed across sectors - National MRV system fully operational - Increased stakeholder participation and awareness
Phase III: Consolidation & Sustainability	2033–2035	- Evaluate and refine biosafety framework - Achieve full compliance with GBF and Cartagena Protocol - Establish sustainable funding mechanisms - Institutionalize equitable benefit-sharing and community engagement	- Sustainable biosafety governance - Full alignment with GBF targets - Institutionalized capacity and community participation

6. RISK ANALYSIS AND MITIGATION

Effective implementation of the biosafety strategy requires proactive identification and management of potential risks that may hinder achievement of strategic objectives. Accordingly, the following risk analysis considers both technical and socio-political dimensions and is aligned with the CPB and GBF.

6.1 Risk Identification

Successful delivery of the strategy requires a proactive approach to potential obstacles. The table below outlines the key risks identified during the development of the BSAP (2026–2035), categorized by their potential impact on implementation and the corresponding mitigation measures.

Table 6: Potential Implementation Risks and Challenges

Risk	Description / Implication
Public resistance and misinformation	Limited public understanding of LMOs and biotechnology may lead to opposition, slowing adoption of biosafety measures.
Limited technical and institutional capacity	Insufficient trained staff, lack of operational LMO detection labs, and weak enforcement capacity may hinder risk assessment, monitoring, and regulatory compliance.
Cross-border contamination and unintentional LMO release	Transboundary movement of LMOs without effective control can impact biodiversity, agriculture, and public health.
Funding constraints	Limited national budget allocation for biosafety and reliance on external support may delay implementation of strategic interventions.
Fragmented legal and policy frameworks	Partial integration of biosafety across sectoral plans and inconsistent regulations can create compliance gaps and enforcement challenges.
Low public participation and stakeholder engagement	Limited mechanisms for indigenous peoples, local communities, and private sector engagement may reduce trust and equitable benefit-sharing.
Socio-economic and equity risks	Lack of benefit-sharing mechanisms may exacerbate inequalities and limit adoption of biotechnology innovations.

6.2 Risk Assessment

To ensure a proactive response to challenges, each identified risk has been rigorously assessed based on its likelihood and potential impact. The following table presents this evaluation and highlights the prioritization of mitigation strategies to safeguard the implementation of the BSAP.

Table 7: Risk Assessment and Prioritization Matrix

Risk	Likelihood	Impact	Priority
Public resistance	Medium	High	High
Limited technical capacity	High	High	Very High
Cross-border contamination	Medium	High	High
Funding constraints	High	Medium	High
Fragmented legal frameworks	Medium	Medium	Medium
Low stakeholder participation	Medium	Medium	Medium
Socio-economic inequities	Low	Medium	Low

6.3 Mitigation Strategies

To ensure the resilient delivery of the BSAP (2026-2035), the following risk mitigation strategies have been developed to address identified risks. They are designed to minimize potential disruptions while ensuring all actions remain strictly aligned with CPB objectives and GBF targets.

Table 8: Strategic Risk Mitigation and Management Plan

Risk	Mitigation Measures	Responsible Entities	Timeline / Milestone
Public resistance	- Conduct multi-lingual awareness campaigns - Include biosafety education in schools and community programs - Leverage media and civil society	Ministries (Higher and Basic Education), DPWM, NEA, NGOs, media outlets	2026–2030: Awareness campaigns reach ≥70% of target communities
Limited technical capacity	- Train regulatory staff and scientists in risk assessment and management - Establish operational LMO detection laboratory - Collaborate with regional and international labs	Ministries (Agriculture, Health and Environment), NBA, CNAs, research institutions, ABNE	2026–2028: Laboratory operational, 80% staff trained

Risk	Mitigation Measures	Responsible Entities	Timeline / Milestone
Cross-border contamination	- Strengthen customs inspections and import/export controls - Coordinate with ECOWAS and regional biosafety networks - Implement containment and monitoring protocols	Customs, DPWM, NEA, Regional Focal Points	2026–2030: Transboundary monitoring system functional
Funding constraints	- Mobilize diversified financing: government budget, GEF, donor support, private sector - Establish a biosafety trust fund	Ministries (Finance, Agriculture, Health and Environment), NBA, Donor Agencies	2026–2030: ≥50% of required funding secured annually
Fragmented legal frameworks	- Harmonize sectoral regulations - Enact comprehensive Biosafety Act - Establish inter-ministerial coordination	Ministries (Agriculture, Health and Environment), NBA, CNAs	2026–2028: Legal harmonization complete
Low stakeholder participation	- Develop stakeholder engagement plan - Include women, youth, and local communities in decision-making - Conduct participatory workshops	NBA, ANR-WG, Civil Society, NGOs, media outlets	2027–2030: ≥50% active participation of targeted stakeholders
Socio-economic inequities	- Develop equitable benefit-sharing frameworks - Integrate socio-economic assessment in LMO approvals	NBA, Ministries (Agriculture and Health), Donor Agencies, NGOs/CSOs	2028–2035: All LMO projects include benefit-sharing agreements

7. FINANCING AND RESOURCE MOBILIZATION

Sustainable financing is critical for the effective implementation of the BSAP (2026-2035). This section outlines the funding requirements, potential sources, and strategies for mobilizing resources in alignment with national priorities and international frameworks.

7.1 National

Sustainable financing is central to the success of this BSAP. The Government budget allocations of The Gambia recognize biosafety as a cross-sectoral priority but currently lacks dedicated budget allocations for its full-scale implementation. Existing budget provisions are primarily limited to institutional operations and small-scale projects. Combining national budget allocations, international funding mechanisms, and public-private partnerships will enable:

- Full operationalization of NBA and CNAs.
- Development of functional LMO detection and monitoring infrastructure.
- Implementation of risk assessment, capacity-building, and awareness programs.
- Long-term sustainability and alignment with GBF targets and CPB obligations.

Table 9: Strategic financing needs from national budget (Indicative)

Budget Component	**Description**	**Estimated Funding (USD)**
NBA operations	Staffing, office operations, regulatory enforcement	150,000/year
Capacity enhancement	Training for staff, stakeholders, and technical personnel	100,000/year
Risk assessment & laboratory infrastructure	Laboratory establishment, equipment, LMO detection, and monitoring	250,000/year
Public awareness & stakeholder engagement	Education campaigns, community consultations, workshops	50,000/year
Monitoring, Reporting & Evaluation	Data collection, reporting systems, BCH coordination	50,000/year

Note: Further information regarding the indicative breakdown of budget for this BSAP (2026–2035) is provided in the Annex

7.2 International Funding Mechanisms

International funding mechanisms will complement national contributions and help reduce reliance on limited domestic resources. Leveraging these opportunities will be important for strengthening national biosafety capacity and ensuring sustainable implementation. International funding mechanisms that may support the implementation of this BSAP are presented in the following table.

Table 10: Potential sources of International Funding Mechanisms

Mechanism	Scope/Use	Notes
Global Environment Facility	Project-based grants for biosafety infrastructure, risk assessment, capacity-building, and pilot initiatives	GEF STAR allocation can support biosafety activities aligned with GBF
UNEP and UNDP Projects	Technical assistance, training, and policy development	Often linked with regional biosafety projects
Regional Funding (ECOWAS, ABNE)	Cross-border coordination, risk management, knowledge exchange	Supports regional alignment and capacity-building
Bilateral Development Agencies	Infrastructure, equipment, technical training	Examples: European Union, Japan International Cooperation Agency
Multilateral Climate and Biodiversity Funds	Integration of biosafety into NBSAP and GBF-related initiatives	May require co-financing with national budgets

7.3 Public-Private Partnerships (PPPs)

Engaging the private sector is essential for ensuring the long-term sustainability of BSAP (2026-2035) implementation, particularly in sectors such as biotechnology, agriculture, and pharmaceuticals. Potential public–private partnership (PPP) interventions include co-funding LMO detection laboratories and research facilities, joint risk assessment and monitoring initiatives with universities and biotechnology firms, and collaborative awareness and outreach programs with media and civil society organizations. These partnerships can help mobilize additional expertise, technology, and financial resources to strengthen national biosafety capacity. In the following table, examples of potential PPP opportunities that could support implementation of this document are highlighted.

Table 11: Examples of Public-Private Partnerships Opportunities

PPP Area	Partners	Expected Contribution
Laboratory infrastructure	Universities, biotech companies	Equipment, technical expertise
Risk assessment and monitoring	Private labs, agro-industries	Technical services, training
Public awareness campaigns	NGOs, media outlets	Outreach materials, campaigns
Capacity-building programs	International partners, private sector	Staff training, technical exchange

7.4 Resource Mobilization Strategy

The resource mobilization strategy below shows diverse and sustainable financing which are strategically aligned with the implementation priorities of the BSAP (2026–2035). It focuses specifically on expanding funding sources, strengthening financial planning, and ensuring transparency in the use of resources.

Table 12: Strategic Elements of the BSAP Resource Mobilization Strategy

Elements	Description
Diversification of funding sources	Mobilize resources from national budgets, multilateral mechanisms such as GEF, bilateral partners, and private sector contributions.
Multi-year budgeting	Promote multi-year financial commitments from government and partners to ensure continuity and stability of biosafety implementation.
Project-based funding	Leverage targeted funding from development partners and international agencies for specific biosafety initiatives such as laboratory development, monitoring and reporting systems, and capacity enhancement.
Capacity-building linked funding	Integrate training, technology transfer, and institutional strengthening into externally funded biosafety projects.
Monitoring and reporting	Establish transparent mechanisms for tracking and reporting the use of funds to strengthen accountability and attract additional financing.

8. MONITORING, EVALUATION, AND REPORTING (M&E)

An effective M&E system will ensure that The Gambia's biosafety interventions through the BSAP (2026-2035) are transparent, accountable, adaptive, and aligned with national and international obligations, including the CPB and GBF. Accordingly, the components should be ensured.

8.1 M&E System

The M&E system need to track progress across regulatory, ecological, socio-economic, and capacity-building dimensions, integrating MRV protocols to provide evidence-based reporting.

Components of the M&E system should therefore include:

i. Performance monitoring – Annual tracking of key outputs, including regulatory enforcement, risk assessments, and stakeholder engagement.

ii. Impact evaluation – Assessment of ecological, socio-economic, and policy outcomes every five years.

iii. Adaptive management – Mechanisms to incorporate lessons learned, address emerging risks, and adjust interventions.

iv. Reporting – Alignment with GBF indicators and submission to the BCH for transparency and international compliance.

8.2 Key Indicators

As highlighted in the following table, progress toward the strategic objectives need to be evaluated through a set of measurable indicators designed to ensure accountability, transparency, and data-driven management.

Table 13: Key Indicators and Targets (2026–2035)

Strategic Objective	Key Indicators	Target (by 2035)	Reporting Frequency
Strengthen regulatory & institutional frameworks	Number of biosafety regulations enforced	100% of planned regulations	Annual
Enhance risk assessment & management	Percentage of biotechnology activities assessed for ecological risk	≥90%	Annual
Promote enhancement & awareness	Number of stakeholders trained and engaged	≥500 stakeholders nationwide	Annual

Strategic Objective	Key Indicators	Target (by 2035)	Reporting Frequency
Mainstream biosafety in sectoral plans	Percentage of sectoral development plans integrating biosafety	≥80% of sectoral plans	Mid-term & End-term
Strengthen MRV	Number of functioning MRV protocols implemented	Fully functional MRV system	Annual
Foster stakeholder participation & benefit-sharing	Number of consultation and engagement events conducted	≥30 nationwide	Annual

8.3 Reporting Framework

To ensure transparency and adaptive management, the BSAP (2026–2035) should include a structured reporting schedule. The following table outlines the frequency, key activities, and accountability measures for tracking progress at national and international levels.

Table 14: Monitoring, Reporting, and Evaluation Framework

Reporting Cycle	Key Activities & Deliverables	Primary Audience/Platform
Annual Reporting	Progress on key indicators; Public workshops; Summary reports	ANR-WG and BCH
Mid-term Review (Year 5)	Comprehensive target evaluation; Gap identification; Corrective actions	National Stakeholders and Technical Committees
End-of-Term Evaluation (Year 10)	Impact assessment; Documentation of GBF alignment; Lessons learned	Government of The Gambia and Global Partners

8.4 Adaptive Management and Learning Framework

The BSAP (2026–2035) will adopt an adaptive management and learning approach to ensure flexible, evidence-based implementation. By integrating continuous feedback and strengthening technical capacity, the framework in the following table will foster regional knowledge exchange in alignment with evolving global biosafety standards and GBF Target 21 on knowledge and information sharing.

Table 15: Adaptive Management and Institutional Learning Framework

Component	Key Activities & Objectives
Feedback loops	Utilizing M&E results to drive evidence-based policy adjustments, optimize resource allocation, and implement operational enhancements in real-time.
Capacity development	Delivering targeted training programs on MRV systems, advanced data management, and international reporting standards for all key institutions and stakeholders.
Knowledge sharing	Systematic dissemination of lessons learned and best practices through established regional and global networks, including ECOWAS, ABNE, and UNEP.

8.5 Integration with the GBF Monitoring Framework

The M&E system highlighted above will ensure that The Gambia's biosafety actions are measurable, adaptive, and fully compliant with the GBF. AS indicated below and also in the Annexes, the framework will specifically support these indicative GBF targets:

- GBF Target 14 (Mainstreaming): Integrating biosafety considerations into national planning, development processes, and sectoral policies by 2030.

- GBF Target 17 (Biosafety and Biotechnology): Establishing and strengthening the national capacity, regulatory measures, and MRV systems necessary for the safe handling of biotechnology.

9. STAKEHOLDER ENGAGEMENT PLAN

9.1 Purpose of the SEP

The purpose of this Stakeholder Engagement Plan (SEP) is to ensure inclusive, participatory, and transparent engagement of all relevant stakeholders in the planning, implementation, monitoring, and evaluation of this BSAP. An effective stakeholder engagement should therefore:

- Promote equitable benefit-sharing from biotechnology applications.
- Strengthen compliance with biosafety regulations.
- Build trust among communities, civil society, and private sector actors.
- Enhance adoption of safe and sustainable biotechnology practices aligned with biodiversity objectives.

9.2 Objectives of Stakeholder Engagement

The following objectives outline the strategic approach to engaging key partners and the public toward ensuring a transparent, inclusive, and effective:

1. Identify and meaningfully involve all relevant stakeholders.
2. Promote awareness and understanding of biosafety and biotechnology issues among communities, civil society, and private sector actors.
3. Foster participatory decision-making and equitable benefit-sharing.
4. Integrate stakeholder feedback into policy, planning, and implementation.
5. Support implementation of the GBF by contributing to targets on spatial planning and ecosystem integrity (Targets 1 and 2), reducing pollution and risks from biotechnology (Target 7), and ensuring equitable participation and benefit sharing in biodiversity governance (Target 22).

9.3 Stakeholder Mapping

The following table identifies key actors across government, civil society, and the private sector, outlining their specific roles, levels of influence, and tailored engagement strategies necessary to achieve the objectives of the BSAP (2026–2035).

Table 16: Stakeholder Mapping and Engagement Analysis

Stakeholder Group	Role / Interest	Level of Engagement	Engagement Mechanism
Government Ministries (Environment, Agriculture, and, Health)	Policy formulation, regulation, sectoral integration	High	Steering committees, policy workshops, formal consultations
Biosafety Authority	Licensing, monitoring, enforcement	High	Technical working groups, regular meetings, reporting systems
Research Institutes / Universities	Risk assessment, monitoring, capacity enhancement	Medium-High	Collaborative research projects, technical training, advisory panels
Local Communities & Farmers	Direct beneficiaries, risk monitoring, reporting	High	Community meetings, participatory risk assessments, awareness campaigns
NGOs/CSOs	Advocacy, awareness, capacity enhancement	Medium	Workshops, joint monitoring, public consultations
Private Sector/Biotech Companies	Biotechnology deployment, compliance	Medium-High	Regulatory engagement, training, reporting
International Partners/Donors	Funding, technical assistance	Medium	Regular reporting, progress updates, donor meetings
Media	Public awareness, communication	Medium	Press releases, media briefings, campaigns

9.4 Engagement Strategies

To ensure transparency and foster public trust, the BSAP (2026–2035) will utilize a multi-layered engagement strategy. The following matrix identifies the lead institutions and collaborating partners responsible for executing specific mechanisms for consultation, community empowerment, and participatory decision-making in alignment with GBF Target 22.

Table 17: Strategic Mechanisms for Stakeholder Participation and Governance

Engagement Strategy	**Key Activities and Mechanisms**	**Lead Institution(s)**	**Collaborating Partners**
Consultative meetings and workshops	Host national and local workshops to present BSAP (2026-2035) objectives and gather technical input from regulators and scientists.	ANR GW, DPWM, NEA	ECOWAS, ABNE, UNEP, GEF
Community engagement	Establishing local forums to discuss biotechnology impacts and implementing participatory monitoring with local communities.	Ministries (Agriculture, Health, Environment, and Land and Rural Development), DPWM, Local Government Authorities	Local NGOs, Farmers' Associations, FAO
Capacity enhancement and awareness	Developing multi-level training modules and launching public awareness campaigns via GRTS, social media, and print.	Ministry of Information / GRTS	University of The Gambia, UNESCO
Participatory decision-making	Integrating stakeholder feedback into policy and co-designing equitable benefit-sharing mechanisms with communities.	Ministry of Justice, DPWM, NEA	CSOs, UNDP
Monitoring and feedback	Implementing formal grievance and feedback systems and providing regular progress updates through digital and physical platforms.	Office of the Ombudsman / NEA	International legal experts, Transparency International

9.5 Implementation Timeline

The implementation of the BSAP (2026–2035) is structured across three distinct phases to ensure a logical progression from foundational planning to full-scale operational monitoring. The following roadmap outlines the phased execution of key activities, ensuring that capacity enhancement and stakeholder feedback remain continuous throughout the ten-year cycle.

Table 18: Strategic Implementation Roadmap (2026–2035)

Activity	**Foundation (Years 1–2)**	**Consolidation (Years 3–5)**	**Sustainability (Years 6–10)**
National stakeholder mapping	✓	-	-
Initial consultative workshops	✓	-	-
Community awareness campaigns	✓	✓	✓
Training & capacity enhancement	✓	✓	✓
Regular reporting & feedback cycles	✓	✓	✓
Participatory monitoring and verification	-	✓	✓
Mid-term & end-of-term evaluations	-	✓	✓

10. THEORY OF CHANGE AND LOGICAL FRAMEWORK

10.1 Theory of Change

Effective biosafety governance in The Gambia depends on the establishment of a coherent regulatory framework, strengthened institutional capacity, adequate technical infrastructure, and inclusive stakeholder engagement. Currently, gaps in legislation, technical expertise, monitoring systems, and public awareness limit the country's ability to effectively manage risks associated with modern biotechnology and LMOs.

This framework assumes that if The Gambia strengthens its biosafety legal and institutional frameworks, builds technical and scientific capacities, establishes functional risk assessment and monitoring systems, and promotes transparency and stakeholder participation, the country will be able to effectively regulate biotechnology activities and prevent potential adverse impacts on biodiversity, human health, and ecosystem services. Achieving this transformation requires coordinated action among government institutions, research bodies, civil society, and development partners, supported by sustainable financing and alignment with international commitments under the CPB. In addition, strengthened biosafety governance will contribute to biodiversity conservation and responsible biotechnology development, supporting implementation of the GBF.

10.2 Impact Pathway

The impact pathway presented in the table and figure below illustrates how the strategic interventions under the BSAP (2026–2035) will translate resources and actions into tangible results. It outlines the logical progression from inputs and activities to outputs, outcomes, and long-term impact, demonstrating how strengthened biosafety governance will lead to safe management of biotechnology and LMOs in The Gambia.

Table 19: Strategic Logic Model & Critical Success Factors for BSAP (2026-2035)

Stage	Components
Inputs	Financial investment, technical expertise, institutional coordination, and international cooperation.
Activities	Legal and policy reform, capacity enhancement, standardized risk assessment, and stakeholder engagement.
Outputs	Operational biosafety framework, trained personnel, validated protocols, and functional MRV systems.

Stage	Components
Outcomes	Strengthened biosafety governance and effective, transparent oversight of all biotechnology activities.
Impact	Safeguarded biodiversity, resilient ecosystem services, and protected human health enabling responsible biotechnology.
Critical Success Factors	i. Political Will: Consistent high-level government commitment and policy support. ii. Sustainable Funding: Reliable domestic and international resource mobilization. iii. Public Trust: Transparent communication and active stakeholder participation. iv. Technical Competence: Continuous development of scientific and regulatory expertise.

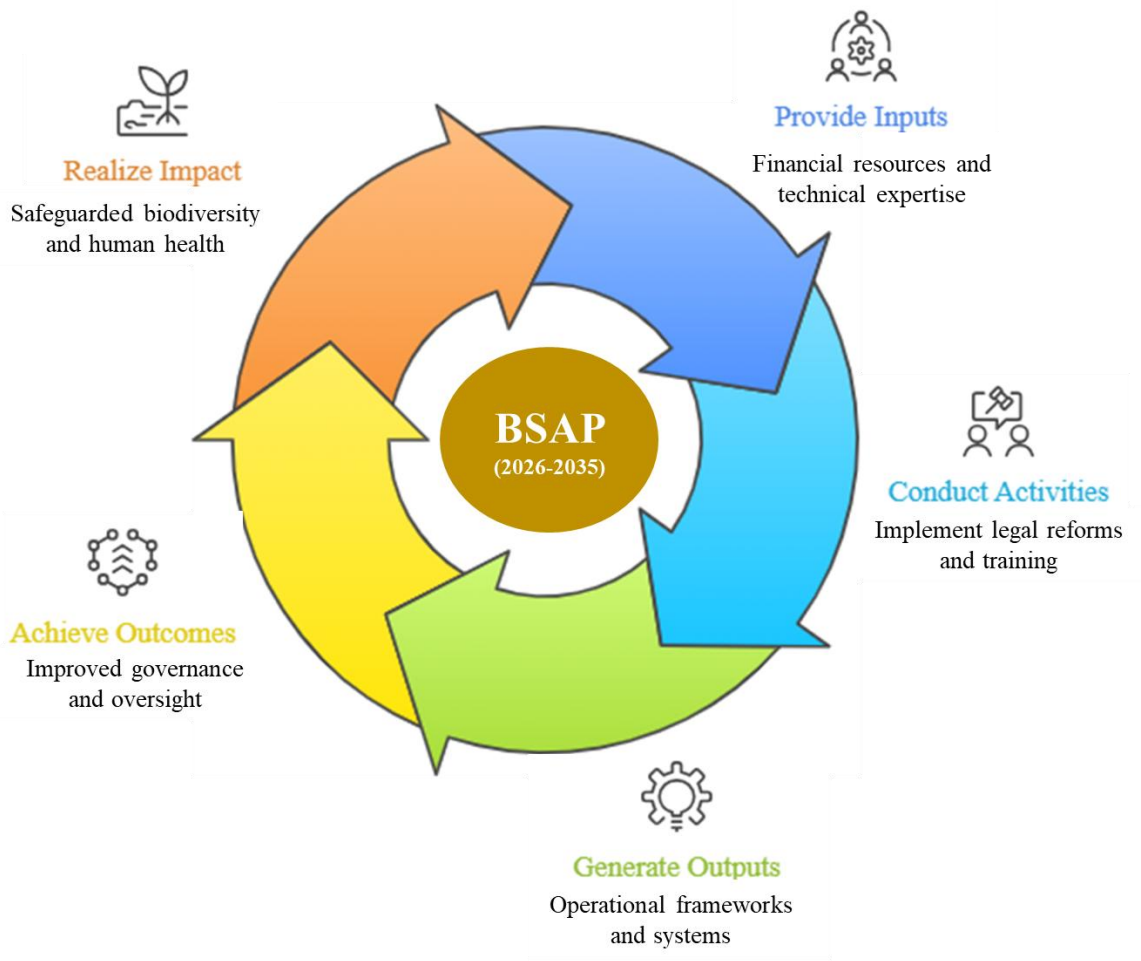


Figure 1: Theory of Change for BSAP (2026–2035)

10.2 Logical Framework (Logframe)

The Logical Framework (Logframe) in the following table serves as the primary management tool for the BSAP (2026–2035). It defines the hierarchical results from immediate outcomes to long-term impact while establishing clear performance indicators, verification methods, and the institutional mandates required to drive success.

Table 20: Strategic Logical Framework (Logframe) for BSAP Implementation (2026–2035)

Results Level	**Key Performance Indicators**	**Means of Verification**	**Assumptions & Risks**	**Responsible**
Impact: Safeguarded biodiversity and human health from biotechnology risks	National biodiversity status; comprehensive reports submitted to the CBD	National biodiversity monitoring reports; official CBD biennial reports	Assumption: Sustained high-level political will and national commitment	Ministry of Environment, Climate Change and Natural Resources
Outcome 1: Strengthened biosafety governance and legal frameworks	Enactment of biosafety legislation; functional National Biosafety Authority established	Government Gazette; institutional audit reports; BCH records	Risk: Legislative delays or shifting political priorities	DPWM
Outcome 2: Improved capacity for risk assessment and monitoring	Number of certified professionals; % of LMO activities undergoing risk assessment	Training certifications; published risk assessment reports; regulatory databases	Assumption: Consistent availability of technical expertise and funding	NEA, Universities in the country, research institutions
Outcome 3: Increased public awareness and stakeholder participation	Frequency of awareness campaigns; documented levels of engagement	Consultation minutes; media outreach reports; survey data	Assumption: Open and effective communication channels are maintained.	Ministry of Information, Media and Broadcasting Services / GRTS
Outcome 4: Functional MRV and national reporting systems	Annual biosafety monitoring reports produced; indicators integrated into national reporting	Annual MRV reports; national biodiversity monitoring databases	Risk: Poor inter-institutional data sharing and coordination.	DPWM

10.3 Outputs and Key Activities

The following framework translates the BSAP (2026–2035) objectives into tangible deliverables and core operational tasks. The following matrix serves as a tool to initially track the progression of national biosafety execution

Table 21: Outputs and Key Activities

Strategic Outputs	Key Implementation Activities	Implementation Status
Legal & Policy Framework	Enact biosafety legislation and guidelines aligned with the Cartagena Protocol	Planned
Institutional Arrangements	Establish and empower a National Biosafety Authority and coordination unit	Ongoing
Technical Capacity	Deliver specialized training in risk assessment, inspection, and monitoring	Planned
MRV & Reporting Systems	Implement digital data management and national or international reporting protocols	Planned
Stakeholder Engagement	Execute a national communication strategy and inclusive consultation processes	Ongoing

11. ANNEXES

Table 11.1: Indicative Budget by Components (2026–2035)

Component	Activity	Indicative Cost (USD)
1. Policy, Legal & Institutional Strengthening	Review & update biosafety legislation	200,000
	Development of regulations & guidelines	150,000
	Institutional coordination mechanisms	150,000
	Legal awareness & enforcement training	100,000
Subtotal		600,000
2. Risk Assessment & Biosafety Management	Environmental & health risk assessments	400,000
	Inspection & compliance missions	300,000
	Laboratory equipment & field tools	500,000
	Emergency response & contingency planning	200,000
Subtotal		1,400,000
3. Capacity Enhancement & Training	Training modules development	200,000
	National & regional trainings	400,000
	Training of trainers	150,000
	Gender & youth inclusion programs	100,000
Subtotal		850,000
4. Stakeholder Engagement & Awareness	Community consultations (nationwide)	300,000
	Public awareness campaigns	200,000
	IEC materials & translations	150,000
	Grievance redress mechanism	100,000
Subtotal		750,000
5. MRV Systems & Reporting	MRV framework & indicators	150,000
	Digital database & dashboards	300,000
	Annual reporting & audits	250,000
	Independent evaluations	200,000
Subtotal		900,000
6. Research, Knowledge & Innovation	Applied biosafety research	300,000
	Pilot demonstrations	200,000

Component	Activity	Indicative Cost (USD)
	Partnerships with universities & research centres	150,000
	Knowledge products & dissemination	100,000
Subtotal		750,000
7. Project Management & Coordination	BSAP coordination unit	300,000
	Operational costs	150,000
	Mid-term & final reviews	150,000
Subtotal		600,000
Total (estimated)		**5,850,000**

Table 11.2 Financing Sources (Indicative)

Source	Description / Potential Contribution
National budget allocations	Core funding for regulatory, institutional, and monitoring activities.
GEF/GBF enabling activities	Support for policy development, capacity enhancement, MRV systems, and pilot research.
Green Climate Fund	Financing for risk management, safeguards, and ecosystem-based mitigation measures.
Development partners	Food and Agriculture Organization of the United Nations (FAO), UNEP, World Health Organization (WHO): Technical assistance, training programs, risk assessment support.
Bilateral donors	Project co-financing, capacity enhancement, and infrastructure support.
Private sector compliance fees	Licensing and permit fees from biotechnology operators to support operational costs.

Notes on the Budget and Financing:

i. Multi-year implementation: The budget covers 2026–2035, with phased allocations aligned with the implementation plan.

ii. Cost efficiency & synergies: Investments in training, MRV, and research also strengthen sectoral and cross-sectoral biodiversity initiatives, maximizing GBF alignment.

iii. Contingency planning: Approximately 10–15% of each component budget should be reserved for unforeseen biosafety challenges and emergency responses.

iv. Sustainability: National budget allocations and private sector contributions ensure long-term sustainability, while donor funds supplement capacity-building and research.

v. Alignment with GBF Targets: All budget components directly support GBF-aligned activities, including Targets 1, 2, 10, 19, and 20, which emphasize conservation, equitable benefit-sharing, and monitoring.

Table 11.3 Institutional roles & responsibilities

Institution	Role	Key Responsibilities
Ministry of Environment, Climate Change and Natural Resources **N.B:** This leading Ministry needs to work closely with the Ministry of Agriculture Livestock and Food Security and the Ministry of Health	Lead policy, empower authority & provide oversight	Provide strategic direction, align with NBSAP & GBF, oversee regulatory frameworks, coordinate national & international reporting, facilitate inter-ministerial coordination & resource mobilization
National Biosafety Authority	Technical & regulatory implementation	Issue licenses, conduct risk assessments, monitor compliance, maintain databases, implement MRV protocols, coordinate emergency responses
Research Institutes & Universities	Scientific & technical support	Conduct applied biosafety research, support environmental monitoring, provide expertise for risk assessment, deliver capacity-building programs, generate evidence for policy
Local Government Councils	Community interface & field implementation	Facilitate local consultations, support awareness campaigns, assist in monitoring & data collection, report community concerns, support grievance redress mechanisms
NGOs & CSOs	Outreach, advocacy, capacity development	Lead public awareness, build community capacity, promote transparent governance, facilitate monitoring & accountability, support stakeholder feedback

N.B: National Biosafety Coordination Committee, chaired by the Ministry of Environment, Climate Change, and Natural Resources should ensure cross-sector coordination, reviews implementation progress, addresses emerging risks, and guides adaptive management.

Table 11.4: Areas of Focus for Training and Capacity Enhancement

Module	Objective	Duration	Delivery Methods	Key Outputs	GBF Alignment
1. Biosafety Principles & Legal Framework	Foundational understanding of biosafety concepts, international obligations, national laws	3 days	Lectures, case studies, group discussions	Enhanced compliance capacity, awareness of obligations	Targets 7 & 20
2. GMO Risk Assessment & Monitoring	Assess, monitor, and manage risks of genetically modified organisms (GMOs) & biotechnologies	5 days	Technical lectures, simulations, field exercises	Trained risk assessors, standardized reports	Targets 7 & 8
3. Stakeholder Engagement & Communication	Strengthen participatory decision-making and transparent communication	3 days	Role plays, participatory exercises, case studies	Improved community engagement, documented consultations	Targets 7 & 10
4. Integration into Sectoral Planning	Mainstream biosafety into agriculture, fisheries, forestry, health	3 days	Workshops, policy labs, planning exercises	Biosafety integrated into sectoral plans, enhanced inter-ministerial coordination	Targets 2 & 7
5. MRV Protocols & Data Management	Build capacity for monitoring, reporting, verification	4 days	Hands-on training, system demonstrations	Functional MRV system, high-quality auditable data	Targets 19 & 20

N.B: The objective is to strengthen national, institutional, and community capacity to implement biosafety measures, protect biodiversity, and promote sustainable development aligned with the GBF. The target groups include biosafety regulators, relevant staff of sector ministry, research institutions, extension officers, local authorities, CSOs, and private sector operators.

Table 11.5: Institutional Framework for Monitoring, Reporting, and Verification (MRV)

Institution	MRV Responsibility
Ministry of Environment, Climate Change and Natural Resources and allied Ministries	Policy oversight, Sector-specific monitoring, GBF reporting
National Biosafety Authority	Overall MRV coordination, report approval
Technical Advisory Committee	Data validation, risk review
Regional/Local Authorities	Field data collection
Research Institutions	Scientific monitoring & analysis
Independent Auditors	Verification & compliance audits

Notes on MRV Protocols & Standard Operating Procedures (SOPs)

a) Purpose: Systematic tracking of biosafety implementation, compliance, risk management, and biodiversity outcomes to support adaptive management and GBF reporting.

b) Monitoring Protocols:

- Governance and compliance: Track enforcement of laws, permits, inspections (% compliant).
- Risk assessment and environmental monitoring: Baseline and post-release monitoring using field inspections, biodiversity surveys, lab testing, community monitoring.
- Capacity enhancement and stakeholder Engagement: Track training participation, awareness campaigns, and consultations.

c) Key SOPs: Field data collection, risk assessment monitoring, reporting & data management, non-compliance & corrective action, verification & audit.

Table 11.6: Sample Monitoring Indicators & Data Sheets

Strategic Objective	Key Performance Indicator (KPI)	Baseline	Target (2035)	Frequency	Data Source / Method
Governance	Number of biosafety laws and regulations successfully updated/enacted.	0	3 Laws (by Year 3)	Annual	Official Gazettes, Legal Reports
Risk assessment	Percentage of modern biotechnology activities and LMOs rigorously assessed.	0%	100%	Bi-annual	Risk Assessment Repositories
Capacity enhancement	Total number of stakeholders trained in biosafety protocols and MRV.	0	500 (by Year 5)	Annual	Training Logs, Certificates
Public awareness	Level of public awareness regarding biosafety, measured via national survey.	10%	70%	Annual	Perception Surveys, KAPs
Mainstreaming	% of sectoral plans (Agric, Health, Env) integrating biosafety considerations.	0%	100% (by Year 5)	Annual	National Development Plans
Mrv & reporting	Timely submission of Annual MRV reports to national and global databases.	0	10 Reports	Annual	National Biosafety Database
Stakeholder engagement	Number of formal community and multi-stakeholder consultations conducted.	0	50 Consultations	Annual	Consultation Minutes, Reports
Benefit-sharing	Number of equitable benefit-sharing agreements executed with local communities.	0	20 Agreements	Annual	Signed Legal Instruments

Notes on data sheets

A. The following standardized data points will ensure streamlining of data collection and consistent reporting across all biosafety monitoring and engagement activities:

i. Stakeholder training record: Name, gender, institutional role/organization, training module, date, and signature.

ii. Community consultation and engagement log: Date, location/venue, participant demographics (M/F/youth/adult), key issues raised, agreed actions, and follow-up requirements.

iii. Biosafety risk assessment & monitoring sheet: Activity type, organism/LMO identity, location, risk category/level, mitigation measures, and compliance status.

B. The key performance indicators will ensure monitoring of effectiveness of the strategy and ensure its alignment with national and global goals. These following metrics therefore provide a measurable framework for evaluating stakeholder engagement, integration of public feedback, and the successful execution of benefit-sharing agreements throughout the implementation of the BSAP (2026–2035).

iv. Number of stakeholders actively engaged annually.

v. Number of workshops, trainings, and community consultations conducted.

vi. Percentage of feedback incorporated into BSAP implementation.

vii. Number of benefit-sharing agreements executed with communities.

viii. Level of stakeholder awareness, measured via surveys.

Table11.7: Strategic Alignment of Stakeholder Engagement with GBF Targets

GBF Target	Official Target Theme	Engagement & Biosafety Approach
Target 1	Spatial planning	Ensure participatory and biodiversity-inclusive spatial planning for all biotechnology and biosafety activities.
Target 2	Ecosystem restoration	Involve local communities in monitoring the impacts of biotechnology on habitat protection and restoration projects.
Target 4	Species conservation	Engage scientists and local stakeholders in monitoring extinction risks and safeguarding native species diversity.
Target 7	Pollution and Chemicals	Train laboratory and industrial stakeholders on the safe disposal of biotechnological waste to prevent environmental contamination.
Target 8	Climate resilience	Promote community-led, nature-based solutions to mitigate the combined risks of climate change and biotechnology deployment.
Target 13	Equitable benefit-sharing	Establish formal mechanisms for the fair and equitable sharing of benefits arising from the utilization of genetic resources.
Target 17	Biosafety & biotechnology	Establish and strengthen the regulatory and institutional capacity for risk assessment and management of biotechnology/LMOs.
Target 20	Capacity enhancement	Foster scientific cooperation and technology transfer between research institutions, ECOWAS, and national regulators.
Target 22	Inclusive participation	Ensure the full, equitable, and effective representation of local communities and youth in biosafety decision-making.
Target 23	Gender equality	Implement gender-responsive engagement strategies to ensure women have equal access to biosafety information and benefits.