



**STRATEGIC FRAMEWORK FOR PERFORMANCE MONITORING,
EVALUATION AND REPORTING (PMER) OF THE NATIONAL FOREST
MANAGEMENT AND CONSERVATION PLAN (NFMCP) –UPDATE FOR 2021-
2026**



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Strategic Framework for Performance Monitoring, Evaluation and Reporting (PMER) of the National Forest Management and Conservation Plan (NFMCP) – Update for 2021-2026.

This document was prepared by Jan J. Voordouw, independent consultant, in close collaboration with the staff of the Forestry Department (FD) and the implementation partners of NFMCP. It does not necessarily reflect the views of the Government of Jamaica or FD.

Cover photos (both by Jan Voordouw):

Left: Upper Rio Grande Valley close to Comfort Castle, Portland. Right: Bogue 2 Forest Reserve during Forest Trek November 2018, St. Ann.

Table of Contents

Acronyms and Abbreviations.....	v
1 INTRODUCTION.....	7
1.1 Introduction and background	7
1.1.1 National Forest Management and Conservation Plan (NFMCP)	7
1.1.2 Performance Monitoring, Evaluation and Reporting Strategic Framework for the NFMCP 2021-2026	11
1.2 Institutional Framework and Stakeholders.....	11
2 PERFORMANCE MONITORING, EVALUATION AND REPORTING (PMER) STRATEGIC FRAMEWORK.....	15
2.1 NFMCP Theory of Change 2021-2026.....	15
2.1.1 Vision and Impact	15
2.1.2 Factors related to Long-term Change	17
2.1.3 Five Paths of Change (implementation, from outputs towards long-term change)	19
2.1.4 Factors in the Implementation Process.....	21
2.1.5 Cross cutting issues	21
2.1.6 Background on the ToC	22
2.2 NFMCP Results Framework 2021-2026	22
2.2.1 Outcomes and Outputs 2021-2026.....	22
2.2.2 Key Performance Indicators	23
2.2.3 Data Sources	23
2.3 NFMCP Monitoring.....	30
2.4 Evaluation of NFMCP	30
2.5 Lessons Learned	30
2.6 NFMCP Reporting.....	30
2.7 Integrating Risk Management into NFMCP.....	30
3 FINANCING STRATEGY OF THE NFMCP	32
3.1 Framework for the Financing Strategy of the NFMCP	32
ANNEXES	35
1. Template for Indicator Reference Sheet.	35
2. Glossary of PMER Terms.....	36

TABLES

Table 1: Logic Model of NFMCP 2021 - 2026	8
Table 2. Roles and Responsibilities of Stakeholders in the implementation of the NFMCP/PMER	13
Table 3. Key Expected Results of Vision 2030 Jamaica & SDGs and the Outcomes of NFMCP	18
Table 4. Number of Outcomes and Outputs in each Thematic Area of NFMCP 2021-2026	23
Table 5. NFMCP Results Framework 2021-2026.....	24
Table 6. Financing Strategies for NFMCP	33

FIGURES

Figure 1. Institutional Framework for NFMCP PMER governance and implementation	12
Figure 2. Diagram of the Theory of Change for the NFMCP 2021-2026.	16

Acronyms and Abbreviations

AAC	Allowable Annual Cut	IPCC	Intergovernmental Panel on Climate Change
BSJ	Bureau of Standards of Jamaica	JAMPRO	Jamaica Trade and Invest
CBO	Community-based Organisation	JCDT	Jamaica Conservation for Development Trust
CCD	MEGJC Climate Change Division	JFB	Jamaica Fire Brigade
CCMD	FD Corporate Communication and Marketing Division	JNHT	Jamaica National Heritage Trust
CIF	Climate Investment Fund	JSIF	Jamaica Social Investment Fund
COP	Conference of Parties	KPI	Key Performance Indicator
CPC	Chief Parliamentary Council	L&FESD	FD Legal and Forest Enforcement Services Division
CSD	FD Corporate Services Division	LFMC	Local Forest Management Committee
CSM	Carbon Stock Monitoring	LICJ	Land Information Council of Jamaica
CSO	Civil Society Organisation	LUCA	Land use cover assessment
DAC	OECD Development Assistance Committee	MDA	Ministries, Departments and Agencies
DBJ	Development Bank of Jamaica	MEGJC	Ministry of Economic Growth and Job Creation
DRM	Disaster Risk Management	MGD	Mines and Geology Division
EFJ	Environmental Foundation of Jamaica	MAF	Ministry of Agriculture and Fisheries
EIA	Environmental Impact Assessment	MLGCD	Ministry of Local Government and Community Development
ERMD	MEGJC Environment and Risk Management Division	MOEY	Ministry of Education and Youth
FAO	Food and Agricultural Organisation	MOFPS	Ministry of Finance and Public Service
FCF	Forest Conservation Fund	MOJ	Ministry of Justice
FD	Forestry Department	MOT	Ministry of Tourism
FMA	Forest Management Area	MRV	Measuring, Reporting and Verifying
FMP	Forest Management Plan	MSET	Ministry of Science, Energy and Technology
FOD	FD Forest Operations Division	MSJ	Meteorological Service of Jamaica
FS&TSD	FD Forest Science & Technology Services Division	MTF	Medium-term Socio-Economic Policy Framework
GCF	Green Climate Fund	MTM	Ministry of Transport and Mining
GDP	Gross Domestic Product	NBSAP	National Biodiversity Strategy and Action Plan
GEF	Global Environment Facility	NCU	Northern Caribbean University
GFF	Global Forest Fund	NDC	Nationally Determined Contribution
GFFFN	Global Forest Financing Facilitation Network	NEPA	National Environment and Planning Agency
GHG	Greenhouse Gases	NERGIS	National Emergency Response GIS Team
GOJ	Government of Jamaica		
ICF	International Climate Fund		
ICTD	FD Information and Communication Technology Division		
IDB	Inter-American Development Bank		
IDP	International Development Partner		
IOJ	Institute of Jamaica		

NFI	National Forests Inventory	TPDCO	Tourism Product Development Company
NFMCP	National Forest Management and Conservation Plan	UDC	Urban Development Corporation
NGO	Non-Governmental Organisation	UNCBD	United Nations Convention on Biological Diversity
NLA	National Land Agency	UNCCD	United Nations Convention to Combat Desertification
NRV	Natural Resource Valuation	UNDP	United Nations Development Programme
NSDMD	MEGJC National Spatial Data Management Division	UNEP	United Nations Environment
NSWMA	National Solid Waste Management Authority	UNESCO	United Nations Educational, Scientific and Cultural Organisation
ODPEM	Office of Disaster Preparedness and Emergency Management	UNFCCC	United Nations Framework Convention on Climate Change
OECD	Organisation for Economic Cooperation and Development	UNFF	United Nations Forum on Forests
PASMP	Protected Areas System Master Plan	USAID	United States Agency for International Development
PC	Parish Council	USFS	United States Forest Service
PDC	Parish Development Committee	UTECH	University of Technology
PES	Payment for Ecosystem Services	UWI	University of the West Indies
PIOJ	Planning Institute of Jamaica	UWI/CSG	University of the West Indies Mona– Climate Studies Group
PMER	Performance Monitoring, Evaluation and Reporting	UWI/DLS	University of the West Indies Mona– Department of Life Sciences
PPCR	Pilot Programme for Climate Resilience	WRA	Water Resources Authority
PSOJ	Private Sector Organisation of Jamaica		
PSP	Permanent Sample Plots		
RADA	Rural Agricultural Development Authority		
REDD	Reducing Emissions from Deforestation and Forest Degradation		
REDD+	REDD and increasing the role of conservation, sustainable management of forests and enhancement of forest carbon stocks		
SCPB	FD Strategic and Corporate Planning Branch		
SDC	Social Development Commission		
SDG	Sustainable Development Goal		
SFM	Sustainable Forest Management		
SRC	Scientific Research Council		
TAC	NFMCP Technical Advisory Committee		
TCPA	Town and Country Planning Act		
TEF	Tourism Enhancement Fund		

1 INTRODUCTION

1.1 Introduction and background

1.1.1 National Forest Management and Conservation Plan (NFMCP)

The National Forest Management and Conservation Plan (NFMCP) runs over 10-year period (2016-2026) and outlines the objectives and strategies of the forest sector to help ensure that Jamaica's forests are sustainably managed, protected, healthy, economically viable and socially beneficial to all. The plan includes the implementation of a number of strategic activities by the Forestry Department and stakeholders geared at building climate resilience.

NFMCP focuses on sustainable management of Jamaica's forest lands as well as the protection and conservation of forest biodiversity. Based on the fact that climate change mitigation and adaptation are key factors in sustainable forest management, the Plan covers a host of capacity building activities. These include strengthening the capacity for the revision and implementation of relevant policies, strategies, management plans, forest restoration and combating forest degradation in diverse settings, forest protection by local communities, natural resource valuations, carbon stock monitoring, silviculture and other methodologies and activities. As such, through NFMCP, the Forestry Department will increase its ability to meet current and future climate change challenges.

At the heart of the Plan is the engagement of the Jamaican people in the protection, conservation and management of Jamaica's forests. Although this brings a high level of complexity, the Plan seeks the participation of all sectors of society in order to guide the forest sector towards ensuring the best benefits for present and future generations. An essential component of NFMCP is the calculation of the contribution by the forest sector to Jamaica's Nationally Determined Contribution (NDC) to the UN Framework Convention on Climate Change (UNFCCC). NFMCP also includes climate change mitigation within the forest sector through the execution of a specific framework: Reducing Emissions from Deforestation and Forest Degradation and increasing the role of conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+).

This document is an update of the Strategic Framework for Performance Monitoring, Evaluation and Reporting (PMER) of the NFMCP 2016-2026, which was published in September 2017. It includes only the second half of the implementation period (2021-2026).

Table 1 presents the Logic Model for the second half of the NFMCP. NFMCP is aligned to all relevant multilateral and national policies and plans (see top-line in Table 1). There cross-cutting issues are mentioned in the bottom line and include: Climate Change; Coordination and Harmonisation among Stakeholders; Resource Mobilisation; Inclusion, Youth and Equity; and Gender Equality. Of the original 58 outputs, thirteen (13) were completed during the first half of the NFMCP and two (2) new outputs were added. Therefore, the number of outputs to be completed by 2026 is 47, as listed in Table 1.

The Plan is being implemented through five (5) Thematic Areas: (1) Forest Governance and Conservation; (2) Forest Utilisation; (3) Capacity for Sustainable Forest Management; (4) Education, Training and Awareness; (5) Monitoring and Information Management.

Table 1: Logic Model of NFMCP 2021 - 2026

Alignment	UNFF Jamaica Vision 2030	SDGs	NDC Forest Policy	UNFCCC Climate Change Policy Framework	REDD+	UNCBD	Ramsar	UNESCO World Heritage Sites PASMP	NBSAP
Goal	“Sustainably manage and utilise Jamaica’s forest resources to enhance social and economic development and contribute to building the country’s climate resilience.”								
Strategic Forest Mngt. and Conserv. Objectives	<ul style="list-style-type: none"> • SO1: Reverse forest degradation, deforestation and the loss of forest biodiversity, through conservation and sustainable forest management, as well as strengthening the legislative, policy and institutional framework of the sector. • SO2: Enhance economic, social and environmental benefits of forests through the sustainable utilisation of forest resources. • SO3: Build the capacity within the Forestry Department, its partners and forest communities to manage, protect and conserve the forest resources. • SO4: Increase public education and awareness to protect, conserve, restore and manage Jamaica's forests. 								
Impact	Jamaica’s forests are sustainably managed, protected, healthy, economically viable and socially beneficial to all.								
Thematic Areas	1. Forest Governance & Conservation		2. Forest Utilisation		3. Capacity for Sustainable Forest Management		4. Education, Training and Awareness		5. Monitoring and Information Management
Outcomes	Outcome 1.1: Strengthened governance, policy and legislative framework to ensure sustainable development of the forest sector.		Outcome 2.1: Innovative mechanisms established for financing sustainable forest management and obtaining benefits from forest use.		Outcome 3.1: Improved participatory planning to manage, protect and conserve Jamaica’s forests.		Outcome 4.1: Forest communities, the general public as well as targeted groups have increased capacity regarding sustainable forest practices.		Outcome 5.1: Improved availability of spatial data for sustainable forest management practices, promoting investment, and assessing vulnerabilities and risks in the forest sector.
	Outcome 1.2: Forest biodiversity protected.		Outcome 2.2: Sustainable harvesting and use of timber products from forests.		Outcome 3.2: Strengthened institutional capacity for REDD+ readiness.		Outcome 4.2: Strengthened capacity for natural resource valuations, carbon stock monitoring and silviculture.		Outcome 5.2: Strengthened capacity for impact and vulnerability assessments and for management of research and knowledge systems.
			Outcome 2.3: Sustainable use of non-timber products and services of forests.		Outcome 3.3: Strengthened capacity of Local Forest Management Committees and other community groups.				Outcome 5.3: Improved collaborative monitoring of forest resources.

<p>Outputs</p>	<p>Output 1.1.1: Cross sectoral mechanism established for integrating the Forest Sector into relevant national decision-making processes.</p> <p>Output 1.1.2: Forest Act 1996 and Regulations 2001 amended and promulgated.</p> <p>Output 1.1.3: Support for the preparation of Development Orders provided, to include forest estates and their management priorities.</p> <p>Output 1.1.4: Crown lands (mangroves, swamps and terrestrial) transferred by Commissioner of Lands to the Forestry Department for sustainable management under various programmes (e.g. mangrove management plan, REDD+ implementation).</p> <p>Output 1.1.5: Enforcement capacity of FD increased.</p> <p>Output 1.1.6: Regulations developed for special recreational use permits, research permits, licence programmes.</p> <p>Output 1.1.7: Boundary verification programme implemented.</p>	<p>Output 2.1.2: Exploration of additional incentives to promote SFM, their launch and promotion.</p> <p>Output 2.1.3: Programme developed for payment of ecosystem services within forested areas.</p> <p>Output 2.1.4: Alternative livelihoods in forest communities promoted.</p>	<p>Output 3.1.1: Reforestation in targeted areas (mangroves, urban areas and forest estates).</p> <p>Output 3.1.2: Forest Management Plans (FMP) for forest estates in Forest Management Units (FMUs) developed.</p> <p>Output 3.1.3: Forest restoration activities included and implemented within Watershed Management Plans.</p> <p>Output 3.1.4: Nursery programme implemented and expanded.</p> <p>Output 3.1.5: Mangrove forests management plan developed and implemented.</p> <p>Output 3.1.6: Guidelines developed for establishing management practices for riparian forests within forest estates.</p> <p>Output 3.1.7: Appropriate guidelines developed and implemented for the establishment and maintenance of trees in urban settings. (There are other maintenance standards for forest estates).</p> <p>Output 3.1.9: Implementation of the Three Million Trees in Three Years Initiative (National Tree Planting Initiative - NTPI).</p>	<p>Output 4.1.1: Education programme developed to strengthen the public's understanding on the benefits of forests and its resources, the importance of sustainable forest management and conservation practices.</p> <p>Output 4.1.2: Forest fire-related public awareness and education programme designed, implemented.</p> <p>Output 4.1.3: Outreach programme for private forest owners developed and evaluated on an ongoing basis.</p>	<p>Output 5.1.1: Spatial representation of disturbance within broad leaf forests developed</p> <p>Output 5.1.3: Assessment of risks and vulnerabilities of forests and forest communities to a selected climate change hazard (e.g., fire, floods, landslides).</p> <p>Output 5.1.4: Lands verified and mapped in the private forestry programme (PFP) showing contribution to forest cover; database of private forest owners maintained (NFD).</p>
<p>Outputs</p>	<p>Output 1.2.1: List of invasive plant and animal species in forested areas developed, maintained.</p>	<p>Output 2.2.1: Identification of three to five wood product species to be assessed for economic viability.</p>	<p>Output 3.2.2: REDD+ Readiness Strategy completed and implemented.</p>	<p>Output 4.2.1: Continuing training programmes on core areas of competence for Sustainable Forest</p>	<p>Output 5.2.1 Research outputs related to sustainable forest management and the impact of climate change on all forest types</p>

1.1.2 Performance Monitoring, Evaluation and Reporting Strategic Framework for the NFMCP 2021-2026

The National Forest Management and Conservation Plan (NFMCP) provides a framework for collective and coordinated actions of stakeholders within the forest sector around a shared goal and objectives. This document focuses on the strategic framework for Performance Monitoring, Evaluation and Reporting (PMER) of NFMCP during the period 2021-2026.

This updated NFMCP Performance Monitoring, Evaluation and Reporting (PMER) Strategic Framework and its corresponding PMER Plan 2021-2026 are designed to assess the extent of progress made towards the implementation of NFMCP during the pertinent period, and importantly, the sustainable transformation of the forest sector towards climate resilience. This document aims at:

- Updating the institutional framework for NFMCP 2021-2026, including the Forestry Department, the Primary Implementing Entities as well as the many other stakeholders of NFMCP;
- Updating the Plan for the implementation of the PMER system across NFMCP for the period 2021-2026;
- Revising and re-validating the Theory of Change for NFMCP during its second half of implementation;
- Presenting the updated NFMCP Results Framework of Results (Impacts, Outcomes and Outputs), Key Performance Indicators and Data Sources;
- Where necessary, updating the methodologies for the Monitoring, Evaluation, collecting Lessons Learned and Reporting on the NFMCP during its second half of implementation;
- Introducing an approach for more systematic Risk Management for the period 2021-2026;
- Revised financing plan for the NFMCP during 2021-2026.

The PMER Plan is presented in another document. This plan seeks full compatibility with the on-line “Baastel Monitoring and Evaluation System (BMES)” and is focused on the actual daily implementation of monitoring, evaluation and reporting activities. It consists of:

- A matrix and several connected tables regarding targets and implementing partners;
- An updated overview of the costing of implementing the outputs of NFMCP in the period 2021-2026;
- An Excel-based database, including all narrative and financial elements.

1.2 Institutional Framework and Stakeholders

As with the implementation of the NFMCP, many actors (government entities, private land owners, NGOs, community groups and academia) from a range of sectors are to be involved in monitoring, evaluation and the reporting on progress. In order to build efficiency in obtaining data and reports, promote mutual capacity building and support, and ensure the appropriateness of adaptations or additions to the PMER Plan, the clarity of institutional arrangements between the entities is of utmost importance.

The Forestry Department (FD) is the lead organisation for the development and implementation of the NFMCP and by extension for monitoring, evaluation and reporting. It has ultimate responsibility for the implementation of NFMCP’s PMER Plan. FD will however be supported in this by six partner organisations, which have responsibilities for executing some of the key actions and for coordinating the delivery of important outputs towards the achievement of the NFMCP outcomes.

The seven “primary implementing entities” are:

1. Forestry Department (FD);
2. Institute of Jamaica (IOJ);
3. Jamaica National Heritage Trust (JNHT);
4. National Environment and Planning Agency (NEPA);
5. National Land Agency (NLA);
6. Meteorological Service of Jamaica (MSJ);
7. Ministry of Economic Growth and Job Creation (MEGJC).

In order to achieve broad-based participation and partnerships with multiple entities, secondary partners which have roles and responsibilities in implementing NFMCP are also included in PMER Governance: Ministries, Departments, Agencies, Private Sector. Individual Land Owners, Non-Governmental Organizations, Local Forest Management Committees, Academia and International Development Partners. See **Figure 1** below.

The data and reporting generated by the various implementing entities feed into the Strategic Corporate Planning Branch (SCPB) of the Forestry Department. SCPB reports to the NFMCP Technical Advisory Committee (TAC), a committee which includes all primary implementing entities. TAC provides linkages to various Vision 2030 Thematic Working Groups, ensuring alignment to national reporting requirements. TAC reports to the Forestry Department (Conservator of Forests), which reports to its parent Ministry (currently the Ministry of Economic Growth and Job Creation-MEGJC). This Ministry in turn reports to Cabinet. See **Figure 1**.

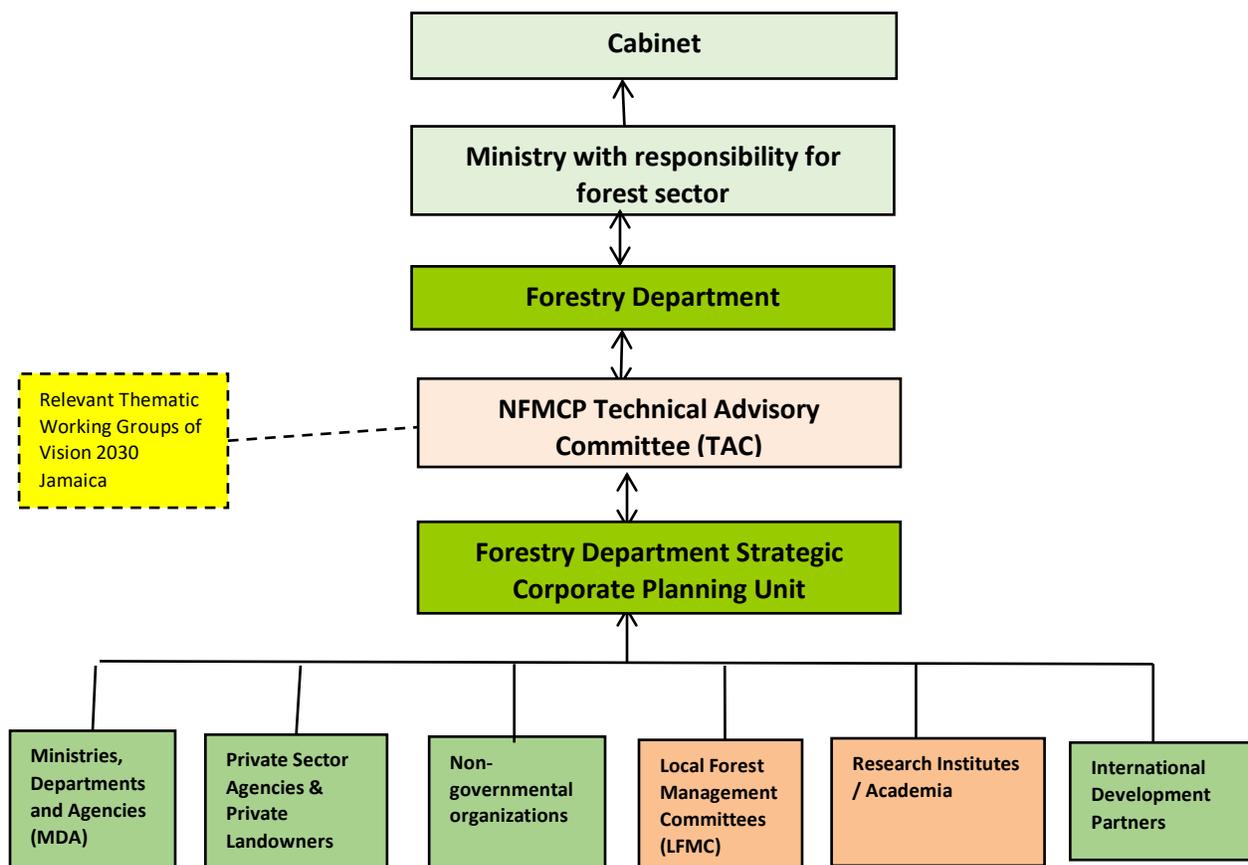


Figure 1. Institutional Framework for NFMCP PMER governance and implementation

The roles and responsibilities of the various entities within the PMER Plan are described in **Table 2**.

Table 2. Roles and Responsibilities of Stakeholders in the implementation of the NFMCP/PMER

Stakeholder Entity/Division	Role & Responsibilities
<p>Forestry Department</p>	<p>Coordination of implementation and monitoring, evaluation and reporting - The Forestry Department, through the Conservator of Forests, ensures that the key results associated with the NFMCP PMER inform national policies and pertinent international commitments, the MDA corporate/strategic plans and notably the budgeting process. The Forestry Department reports to the Cabinet through the Ministry with responsibility for the forest sector, which currently is the Ministry of Economic Growth and Job Creation. The Forestry Department coordinates all actions, by extension all related PMER actions, in support of data gathering to generate appropriate information for knowledge management.</p>
<p>NFMCP Technical Advisory Committee (TAC)</p>	<p>Oversight of monitoring, evaluation and reporting - The TAC provides oversight for the NFMCP and by extension the implementation of this PMER Framework. The TAC is also responsible for communicating the progress and setbacks of NFMCP implementation against its goal and strategic objectives to the Forestry Department, make recommendations for and seek solutions to issues. The TAC carries out its work through the FD/SCPB (which acts as its Secretariat) and reports to the Conservator of Forests.</p>
<p>Forestry Department Strategic Corporate Planning Branch (SCPB)</p>	<p>Coordination, data and information gathering, quality control, collation, synthesis and reporting as well as data storage - The SCPB has responsibility for collating and analysing data and reporting on NFMCP within specified timelines. SCPB ensures that the over-all flow of information on the PMER of NFMCP is adequate.</p> <p>SCPB also is the Secretariat for the NFMCP providing technical and logistic support to the TAC and other committees/groups that may be established within NFMCP implementation.</p> <p>The SCPB provides information, as needed, on the support required for building the monitoring capacities within the Forestry Department and the other six primary implementing entities. SCPB will also ensure that the lessons learned from monitoring and evaluation will be used for further improvements to the results management framework and create a knowledge management hub for adaptive NFMCP management.</p> <p>SCPB further will create effective media for on-going communication and dialogue with the secondary implementation partners and other stakeholders.</p>
<p>Primary Implementing Entities, Agencies & Organizations and other secondary implementing entities</p>	<p>Implementation, monitoring, reporting - The 6 primary implementing entities (in addition to the Forestry Department) participate in the implementation of the PMER plan through designated officers responsible for monitoring and evaluation. These PMER Focal Point Officers will coordinate the infusion of NFMCP indicators into their organisations' monitoring and reporting system, including data collection, collation and reporting of activities.</p> <p>Specific institutional cooperative arrangements (intra-entity) are to be drafted to ensure the efficient flow of data and information through the respective entities and towards the FD/SCPB.</p>

Stakeholder Entity/Division	Role & Responsibilities
<p>Thematic Working Groups of Vision 2030</p>	<p>Monitoring - Multi-sectoral working groups are established under Vision 2030 Jamaica to promote on-going dialogue, coordination of projects and activities as well as joint tracking of progress against selected Vision 2030 indicators, SDG indicators and MTF targets. The Forestry Department, as well as TAC members participate in various working groups and information regarding achievements are exchanged.</p>
<p>Public (MDA, private sector, NGOs, LFMCS, Climate Change Networks, Research institutes / academia, international development partners etc.)</p>	<p>Knowledge Management and Communication – All these entities will receive communications from the Forestry Department on the progress of NFMCP implementation and the results achieved in the forest sector. Their specific feedback will be invited and included into FD’s research and knowledge management system.</p>

2 PERFORMANCE MONITORING, EVALUATION AND REPORTING (PMER) STRATEGIC FRAMEWORK

2.1 NFMCP Theory of Change 2021-2026

2.1.1 Vision and Impact

The goal of implementing NFMCP by the forest sector, is to contribute effectively and substantially to “*Vision 2030 Jamaica – National Development Plan.*” The national vision statement is “*Jamaica, the place of choice to live, work, raise families and do business.*” As part of this vision, the NFMCP contributes in particular to achieving National Goal 4 (*Jamaica has a healthy natural environment*) and its Outcomes 13 (*Sustainable Management and Use of Environmental and Natural Resources*), 14 (*Hazard Risk Reduction and Adaptation to Climate Change*) and 15 (*Sustainable Urban and Rural Development*).

The NFMCP seeks that Jamaica’s forests are sustainably managed, protected and healthy. It aims that forests contribute to the country’s climate resilience by providing climate adaptation (protecting physical infrastructure, ecosystems, health and well-being) and mitigation benefits (as expressed in the forest sector actions articulated under REDD+). There is a capable workforce in the forest sector. Communities participate fully in sustainable forest management and the population has a high level of understanding of the importance of the forest sector and its benefits. The forest sector also contributes significantly to Jamaica’s National Determined Contribution (NDC) to climate change mitigation under the Paris (2015) agreement.

Jamaica’s forests are capable of meeting the social, economic and ecological needs of current and future generations. The rate of deforestation is minimal; forest diversity is maintained or increased; carbon storage in Jamaica’s forests is maintained or enhanced. Closed Broadleaf Forests are not degrading and its cover has increased. The contribution of the forest sector to GDP is significant, both through direct earnings and avoided loss of GDP, due to the resilience and adaptive capacity of the forests. The NFMCP will have contributed to the restoration and strengthening of Jamaica’s forests and its biodiversity, so once again the island can adequately be described as “*The land of wood and water.*”

See **Figure 2** for a diagram illustrating the Theory of Change (ToC), which should be read from top to bottom.

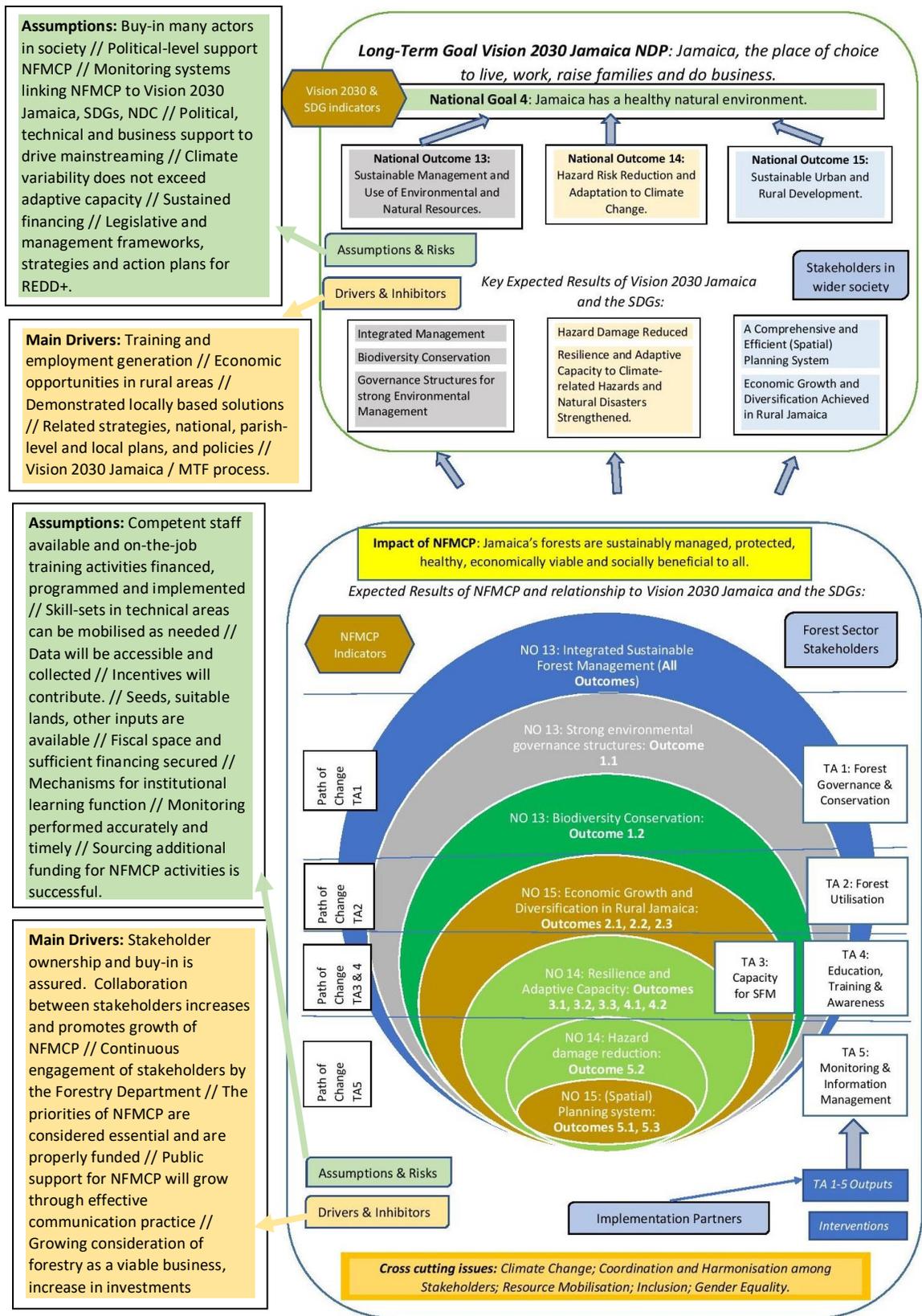


Figure 2. Diagram of the Theory of Change for the NFMCP 2021-2026.

2.1.2 Factors related to Long-term Change

In order to contribute to the Long-Term Goal and the three pertinent National Outcomes of Vision 2030 Jamaica, a change process will have to take place, where the expected results of NFMCP, interlinked with key expected results of Vision 2030 Jamaica & the Sustainable Development Goals (SDGs), are utilised by stakeholders in the wider society as inputs into related processes and for replication, scaling up and further strengthening. This change will also contribute to achieving the evolving NDC targets.

Key expected results of Vision 2030 Jamaica to which NFMCP contributes include (*adapted from the Vision 2030 Jamaica original document, national strategies and sector strategies*):

Under National Outcome 13:

- Integrated management of environmental and natural resources: Climate change measures and sustainable forest management integrated into national policies, strategies and planning;
- Mechanisms for biodiversity conservation and ecosystems management operationalized;
- Governance: Strong environmental management institutions in civil society, government and private sector.

Under National Outcome 14:

- Hazard damage reduced;
- Resilience and adaptive capacity to climate related hazards and natural disasters strengthened.

Under National Outcome 15:

- A comprehensive and efficient (spatial) planning system established;
- Urban forestry: Inclusive and sustainable urbanization enhanced and capacity strengthened for participatory, integrated and sustainable urban planning and management;
- Economic growth and diversification achieved in rural Jamaica.

The following assumptions/risks and drivers/inhibitors can be identified at this level:

Assumptions and Risks

- Active buy-in and engagement for long-term sustainability of many actors in society (CBOs, PCs, private sector, GoJ, CSOs, MDAs);
- Political-level support for the implementation of the NFMCP;
- Monitoring systems which link the NFMCP achievements to Vision 2030 Jamaica, the SDGs and the evolving NDC targets;
- Political, technical and business support to drive national mainstreaming processes;
- Climate variability does not exceed the adaptive capacity of the sector;
- Sustained financing;
- Legislative and management frameworks, as well as national strategies and action plans for REDD+.

Drivers – Drivers are external factors that, if present, are expected to contribute to the realisation of the outcomes and intended impact. These drivers can be influenced by NFMCP and the wider group of stakeholders. Some of the drivers are:

- Training and employment generation;
- Increase in economic opportunities in rural areas;

Table 3. Key Expected Results of Vision 2030 Jamaica & SDGs and the Outcomes of NFMCP

Expected major results of Vision 2030 Jamaica & SDGs		Expected Outcomes of NFMCP
NO13	Integrated Management	<i>All Outcomes culminate into Sustainable Forest Management.</i>
	Biodiversity Conservation	Outcome 1.2: Forest biodiversity protected.
	Governance Structures for strong Environmental Management	Outcome 1.1: Strengthened governance, policy and legislative framework to ensure sustainable development of the forest sector.
NO14	Hazard Damage Reduced	Outcome 5.2: Strengthened capacity for impact and vulnerability assessments and for management of research and knowledge systems.
	Resilience and Adaptive Capacity to Climate-related Hazards and Natural Disasters Strengthened.	<p>Outcome 3.1: Improved participatory planning to manage, protect and conserve Jamaica's forests.</p> <p>Outcome 3.2: Strengthened institutional capacity for REDD+ readiness.</p> <p>Outcome 3.3: Strengthened capacity of Local Forest Management Committees and other community groups.</p> <p>Outcome 4.1: Forest communities, the general public as well as targeted groups have increased capacity regarding sustainable forest practices.</p> <p>Outcome 4.2: Strengthened capacity for natural resource valuations, carbon stock monitoring and silviculture.</p>
NO15	A Comprehensive and Efficient (Spatial) Planning System	<p>Outcome 5.1: Improved availability of spatial data for sustainable forest management practices, promoting investment, and assessing vulnerabilities and risks in the forest sector.</p> <p>Outcome 5.3: Improved collaborative monitoring of forest resources.</p>
	Economic Growth and Diversification Achieved in Rural Jamaica.	<p>Outcome 2.1: Innovative mechanisms established for financing sustainable forest management and obtaining benefits from forest use.</p> <p>Outcome 2.2: Sustainable harvesting and use of timber products from forests.</p> <p>Outcome 2.3: Sustainable use of non-timber products and services of forests.</p>

- Increasing investment into forest sector;
- Reduction of rural poverty and vulnerability;
- Threats of climate change and preparations for managing natural hazards;
- Demonstrated locally based solutions and innovations;
- Increase in use of technology for monitoring (surveillance solutions);
- Implementation of related strategies, national, parish-level and local plans, and policies;
- The Vision 2030 Jamaica / MTF process.

Vision 2030 Jamaica and SDG indicators – Although the impact of NFMCP is being measured through three KPIs within the NFMCP/PMER, the achievement of Vision 2030 Jamaica key expected results and National Outcomes, as well as the SDGs and the contribution to the NDC are to be monitored through their specific high-level indicators. **Table 3** describes the relationships between the Key Expected Results of Vision 2030 Jamaica & the SDGs, and the Outcomes of NFMCP.

Stakeholders in Wider Society – in addition to the implementing partners, stakeholders in wider society relevant to NFMCP include many individual professionals and professional associations, schools, churches, private sector entities, additional community institutions and groups, entities at parish level, additional MDAs, CSOs and International Organisations.

2.1.3 Five Paths of Change (implementation, from outputs towards long-term change)

In order to contribute to the long-term change, the NFMCP should effect change along five pathways:

1. **Forest Governance and Conservation:** When the scope (reach) of the existing legislative, regulatory and institutional frameworks are strengthened, it is assumed that sustainable forest management issues will be mainstreamed in relevant national decision-making processes in all pertinent sectors, including for instance mining. The development of various regulations and their enforcement, as well as the use of best management practices collected from various stakeholders, will lead to strengthened forest protection. Preparing species conservation plans, as well as the control plans for invasive species, contributes to better biodiversity management and forest protection. It is assumed that these various regulations and plans include relevant and participatory climate change adaptation tools and methodologies and provides a wealth of information on climate resilient species and habitats. This pathway aims to feed directly into the expected results of National Outcome 13 of Vision 2030 Jamaica. The outcomes of Thematic Areas 2, 3, 4 and 5 will enable the achievement of this Thematic Area.
2. **Forest Utilisation:** When the value of forests is better understood and appreciated, the resource will be better used for social and economic growth and development, including in rural areas. More investments will be made into forestry for business objectives, resulting in obtaining improved benefits from both timber and non-timber products. This will go hand-in-hand with the introduction of innovative mechanisms for financing sustainable forest management, including carbon stock financing, additional incentives for private land owners, benefits to forest communities through the promotion of agroforestry, social forestry and other alternative livelihoods, payment for ecosystem services, recreational use, etc. This pathway aims to feed into the expected results of National Outcome 15 of Vision 2030

Jamaica, as well as contribute to strong environmental governance under the first pathway. The outcomes of Thematic Areas 3, 4 and 5 will enable the achievement of this Thematic Area.

3. **Capacity for Sustainable Forest Management:** When participatory planning is instituted, engaging all relevant stakeholders in an inclusive way in the various planning phases and considering their interests, decision-making will be much improved. This in turn will cause the resulting management plans to be stronger contributors to sustainable forest management, proper development of social/community forestry and forest health and vitality. In addition to this, specific capacity building initiatives with regard to REDD+ will help strengthen the national capacity to measure Jamaica's forest contribution to climate mitigation. Moreover, Local Forest Management Committees and other community groups which are assisted to become institutionally stronger, emphasising social inclusion and gender equality, will address deforestation and degradation and adopt climate smart sustainable forest management practices. The communities will also become stronger partners in hazard reduction and disaster preparation and management. As such, the resilience and adaptive capacity of communities, will increase. This pathway will feed into the first two pathways as well as specifically into National Outcome 14 of Vision 2030 Jamaica. The outcomes of this Thematic Area will benefit from achievements in Thematic Areas 4 and 5.
4. **Education, Training and Awareness:** Sustainable Forest Management is not possible without a high level of education, training and awareness activities. When the general public is informed about the social and economic values of forests, and becomes educated about climate resilience, their attitudes and behaviours towards the environment will improve. When people become involved in campaigns around forest conservation, protection and restoration, a good number of them will become strong advocates. When school children are educated on forests, they will make their parents aware. If specialised training is given to more people, a tipping point will be reached where such knowledge is applied at a scale of influence. This fourth pathway is strongly linked to the others, in particular the third pathway and more knowledge also feeds into increasing resilience and adaptive capacity (National Outcome 14 of Vision 2030 Jamaica).
5. **Monitoring and Information Management:** In order to reach the goal of NFMCP through the four pathways described above, a strong supportive system for monitoring, data management and knowledge management is essential. Evidence-based scientific knowledge that informs policy-makers, practitioners and other stakeholders will be increasingly used and systematically promoted through awareness campaigns. Improved coordination capacity among researchers will ensure rapid growth of applied forest research. Effective monitoring and data management is not divorced from institutional cooperation between the many stakeholders and when these links are strengthened, the quality of data will increase. This pathway supports all other ones of the NFMCP. National Outcome 15 of Vision 2030 Jamaica will also directly benefit.

2.1.4 Factors in the Implementation Process

To achieve the outputs and outcomes of NFMCP, and contribute to the three flows of benefits towards National Outcomes 13, 14 and 15, the following assumptions/risks and drivers/inhibitors can be identified:

Assumptions and Risks

- Competent staff will remain available and on-the-job training activities on specific core areas are successfully financed, programmed and implemented;
- Implementing entities have or can mobilise the skill-sets in technical areas, as needed;
- Technical data will be accessible to the implementing partners, and they will be able to collect and contribute pertinent data;
- Incentives will contribute to the growth of specific programmes within NFMCP;
- Seeds, suitable lands for reforestation and other inputs are available;
- Fiscal space and sufficient financing for NFMCP is secured;
- Mechanisms for institutional learning are facilitated and do function;
- Monitoring of progress is performed accurately and timely. Effective PMER strategies are continued by all implementing partners;
- Sourcing additional funding for NFMCP activities is successful.

Drivers and Inhibitors

- High staff turn-over within implementing partners may slow-down implementation;
- Stakeholder ownership and buy-in is assured. Collaboration between stakeholders increases and promotes growth of NFMCP;
- Continuous engagement of stakeholders by the Forestry Department;
- Priorities of NFMCP are considered essential and are properly funded;
- Public support for NFMCP will grow through effective communication practice;
- Growing consideration of forestry as a viable business, increase in investments;
- New areas for NFMCP (such as urban forestry/ mangrove management) or public-focused activities (recreation) will promote the overall growth of the NFMCP.

The main stakeholders in the implementation of NFMCP are the forest sector partners: PIEs, SIEs, other MDAs, CSOs, CBOs, Private Sector, International Organisations. A listing is included in the stakeholder engagement strategy document.

The indicators for the NFMCP are listed in the NFMCP Results Framework (see **Table 5**).

2.1.5 Cross cutting issues

The NFMCP seeks to mainstream essential themes. Mainstreaming is the process of assessing the implications for a cross-cutting issue regarding any planned action, including legislation, regulations, policies or programmes, in all areas and at all levels. It is a strategy for making concerns and experiences relating to these issues an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres. Within the change processes, the following cross-cutting issues will be considered:

- **Climate Change** - Physical risks of climate change to Jamaica's forests, land and infrastructure, water resources, air quality, wellbeing of communities, economic security, aspects of socio-economic resilience, possibilities for adaptation and co-benefits.

- **Coordination and Harmonisation among Stakeholders** – Use of stakeholder’s inputs and resources, engagement and participation, communication and information sharing.
- **Resource Mobilisation** – Financial, human, equipment and other resources provided and shared as inputs. Maximising the benefits that can be mobilised under the NFMCP.
- **Inclusion, Youth and Equity** – Full engagement of all groups in society, including marginalised communities and people. Fair treatment in all activities and services of women and men, youth, people with disabilities and otherwise vulnerable people according to their respective needs. This may include equal treatment or treatment that is different, but which is considered equivalent in terms of rights, benefits, obligations, and opportunities.
- **Gender Equality** – The measurable equal representation of women and men, having been accorded equal value and equal treatment. Gender targeted interventions seek to tackle specific areas where one gender is unrepresented or disadvantaged, including through the adoption of temporary special measures, and as part of a comprehensive gender mainstreaming approach.

2.1.6 Background on the ToC

A Theory of Change (ToC) is a comprehensive description and illustration on how and why change happens, as results of a series of interventions implemented by organisations and stakeholders. It is based on sets of assumptions (“Theories”) which people and organisations have about cause and effect, risk and contextual influences. It is focused on mapping the pre-conditions needed for enabling certain results through change and interventions.

A Theory of Change usually first identifies the vision or long-term goals and then works back by determining the pre-conditions (outcomes and outputs or other results) that must be in place for these to occur.

The original ToC for the NFMCP was drawn up in 2017. It focused on five pathways of change leading towards a long-term vision for the forest sector. This updated ToC for the second half of the NFMCP (2021-2026) has maintained the same five pathways. But importantly, it was expanded to illustrate and measure the contributions NFMCP makes to achieving the Vision 2030 Jamaica – National Development Plan (NDP) and the National Determined Contribution (NDC). Since the Sustainable Development Goals (SDGs) are well-aligned and integrated in Vision 2030 Jamaica, the NFMCP also actively contributes to a number of specific SDGs.

2.2 NFMCP Results Framework 2021-2026

The core results framework of a programme or plan consists of (a) Results, (b) Indicators and (c) Data sources.

2.2.1 Outcomes and Outputs 2021-2026

The Logic Model of NFMCP FOR 2021-2026, presented in **Table 1**, shows 13 Outcomes – the likely medium to long term effects of specific groups of interventions - and a total of 47 Outputs left for completion during the period – direct deliverables of the Plan. An outcome is expected to be the resulting achievement, based on the changes caused by a certain group of outputs.

Outputs and outcomes have been listed under the five (5) Thematic Areas through which NFMCP is being implemented. The Theory of Change outlined above shows how these are contributing to achieving the Vision 2030 Jamaica National Outcomes 13, 14 and 15.

Table 4 indicates the number of Outcomes and Outputs for each Thematic Area during the period 2021-2026. The outcomes and outputs are listed in the first column of the Results Framework for the same period, presented in **Table 5**.

Table 4. Number of Outcomes and Outputs in each Thematic Area of NFMCP 2021-2026

Thematic Areas	# of Outcomes	# of Outputs
1. Forest Governance and Conservation	2	10
2. Forest Utilisation	3	10
3. Capacity for Sustainable Forest Management	3	12
4. Education, Training and Awareness	2	4
5. Monitoring and Information Management	3	11
Total	13	47

2.2.2 Key Performance Indicators

Monitoring for results implies using indicators to regularly measure achievement of, or progress towards each level of expected results and compiling all the relevant information needed to produce useful reports.

There are many types of indicators possible. Indicators can be quantitative or qualitative in nature. They can be disaggregated along various dimensions including gender, age, forest type, geographic location (urban/rural area), etc. Often the progress towards a result can be measured by more than one indicator. In such a case, the principal indicators are called « Key Performance Indicators (KPIs) ».

For monitoring the progress of NFMCP's implementation, based on consultations with partners and stakeholders, the following 69 Key Performance Indicators are retained or proposed for the period 2021-2026:

- Impact – Total of **3 KPIs**;
- Outcomes – One or two KPIs per outcome, with for the 13 outcomes a total of **19 KPIs**;
- Outputs – One KPI per output, with for the 47 outputs a total of **47 KPIs**.

The format for the indicator reference sheet is attached as **Annex 1** to this document. The filled-out indicator reference sheets are contained in a database, which is part of the PMER Plan.

The KPIs of impact, outcomes and outputs are listed in the second column of the Results Framework, presented in **Table 5**.

2.2.3 Data Sources

No changes as compared to the 2017 document.

A Glossary of terms used in the PMER is attached as **Annex 2** to this document.

Table 5. NFMCP Results Framework 2021-2026**IMPACT**

Impact	Key Performance Indicator	Data source
0.a	Change in status of forest cover.	Land Use Cover Assessment (LUCA) Report.
0.b	Change in status of Closed Broadleaf Forests.	Land Use Cover Assessment (LUCA) Report.
0.c	Total amount (tons) of carbon stored in natural forests in Jamaica.	Maps, National Forest Inventory Programme Database. NFMS data.

THEMATIC AREA 1: Outcomes

Outcome	Key Performance Indicator	Data source
1.1.a	Extent to which the framework is utilised to ensure integration of the interests and concerns of the forest sector into national decision-making processes.	Gazettes of the respective acts, House of Parliament website. Regulations. Relevant Agency reports, which speak to meeting any obligations and timelines for actions as indicated in any Policy document or National Plan.
1.1.b	Rate of compliance with Forest Act and regulations.	Performance Reports FD.
1.2	Change in status of targeted species (Water Mahoe, Juniper Cedar, Bitterwood, Giant Swallowtail, Yellow-billed Parrot and Black-billed Parrot).	NEPA reports, Biodiversity Index.

THEMATIC AREA 1: Outputs

Output	Key Performance Indicator	Data source
1.1.1	(Yes/No) National multi-stakeholder policy coordination mechanism in place, including regarding mangrove management, to ensure that the forest sector is integrated into decision making processes.	Minutes of meetings held. NFMCP Annual progress reports.
1.1.2	(Yes/No) Amended Forest Act as well as revised Forest Regulations approved and promulgated by 2025.	Gazetted Act, MOJ/Parliament website, Forestry Department Website.
1.1.3	Number of Development Orders drafted and updated which include forest estates management priorities.	Progress reports of Parish Development Committee. Reports of the Town and Country Planning Authority (TCPA – now part of NEPA) and reports of the Parish Municipal Authorities.
1.1.4	Area (Hectares) of mangrove/swamp forests, as well as terrestrial lands transferred by the Commissioner of Lands for Forestry Department's management.	Land transfer records. NLA cadastral maps and NLA IMap, Land use / land cover dataset; current ortho-rectified imagery (5cm - 10cm res.)

1.1.5	Quality and applicability of approaches for detection of offences regarding encroachment and illegal activities.	Reports from responsible entities: Strategic and operational plans. Site visit reports and patrol plans and schedules. Static reports for protected areas produced from database NEPA (+ data dashboard in real time).
1.1.6	(Yes/No) Regulations for special recreational use permits, research permits, license programmes developed and introduced.	Regulations and the actual Licences and Permits.
1.1.7	Km of parcel boundary traversed and verified (Proxy indicator).	Performance Reports FD, NLA survey diagrams; FD Forest estate master listing; satellite imagery.
1.2.1	(Yes/No) Up to date species list of invasive flora and fauna in forested areas in place.	Performance Reports from responsible entities, invasive alien species list.
1.2.2	Number of invasive flora and fauna species managed through various methodologies.	Invasive species working group reports. Performance Reports and technical reports from responsible entities.
1.2.3	Number of species management or recovery plans developed.	Evidence of strategies and species management and recovery plans. Performance Reports and technical reports from responsible entities.

THEMATIC AREA 2: Outcomes

Outcome	Key Performance Indicator	Data source
2.1	Number of private forest owners accessing incentives.	MOFPS Tax Reports / Returns.
2.2	Percentage change of revenue generated from sustainable harvesting activities within forest estates.	Performance Reports FD, lumber yards, saw mills. STATIN and PIOJ monitoring.
2.3	Percentage change of revenue generated from non-timber forest products and services, available to the public.	Performance Reports FD. Non-GOJ entities (e.g. JCDT reports).

THEMATIC AREA 2: Outputs

Output	Key Performance Indicator	Data source
2.1.2	Number of incentives (new or revised) available to private landowners.	Performance Reports FD, Assessment report, Consultancy report.
2.1.3	(Yes/No) Programme for payment of ecosystem services in forested areas in place.	Performance Reports FD.
2.1.4	Number of alternative livelihood projects supported.	Performance Reports from responsible entities: FD Annual reports & reports from Rural Sociologist, SDC, EFJ. Project proposals received; field visits to project sites; pictures.

2.2.1	Number of identified wood species assessed.	Performance Reports from responsible entities: STATIN. Saw-millers (testimonies). Database on FD plantation outputs.
2.2.2	(Yes/No) Categories of allowable annual cut (AAC) per plantation/ forest stand / block established.	Performance Reports FD.
2.3.1	(Yes/No) Research programme for non-timber forest resources established.	Performance Reports FD: Research Department, UWI, SRC.
2.3.2	(Yes/No) Guidance documentation generated on identified products.	Market Survey reports.
2.3.3	Volume produced and sales of selected non-timber products (Christmas trees, pine cones, potted plants/trees and NFIs).	Feasibility assessment Reports, Investment profiles, JAMPRO investment reports. JBDC re small business creation regarding this area.
2.3.4	Number of recreational facilities established on forest estates.	Progress Reports from responsible entities: FD, TPDCo, TEF, JSIF. NGO sources .
2.3.5	Number of guidelines for use of cultural/ heritage sites developed.	Progress Reports from responsible entities: FD, TPDCo, TEF, JSIF, NEPA. JNHT and NGOs.

THEMATIC AREA 3: Outcomes

Outcome	Key Performance Indicator	Data source
3.1.a	Area (ha) of forest under sustainable forest management plans.	Biophysical Inventory (BPI) Assessment; silviculture plans, Forest health assessment.
3.1.b	(Yes/No) Evidence of introduction of forest-related planning instruments by stakeholders.	Performance Reports FD. Annual reports of partner agencies.
3.2.a	Number of phases of the REDD+ process completed.	Performance Reports FD. REDD+ programme reports.
3.2.b	Extent of research completed and tested on mechanisms for carbon sink enhancement.	Performance Reports FD.
3.3.a	Percentage change in area (ha) of forests affected by fire annually.	FD Forest Operations field reports. Bush Fire Warning Index.
3.3.b	Extent of participation by local communities in forest-based activities.	Performance Reports FD.

THEMATIC AREA 3: Outputs

Output	Key Performance Indicator	Data source
3.1.1	Area (hectares) reforested.	Performance Reports FD. FD verification report. Reports from JCMT (Blue and John Crow Mountains National Park) and NEPA (Portland Ridge – Portland Bight Prot. Area).

3.1.2	Number of FMPs developed for forest estates in FMUs.	Silviculture reports, socio-economic studies, divisional reports, Bio-physical reports, Forest Health Assessment, community consultations. SDC.
3.1.3	Number of forest restoration activities implemented through Watershed Management Plans.	Performance Reports from responsible entities. Watershed management plans and monitoring reports.
3.1.4	Number of seedlings produced and revenue generated.	Performance Reports FD: Forest Operations. Finance and accounts. FD verification report.
3.1.5	Rate of implementation of mangrove forest management plan.	Reports from RAMSAR Committee (monthly). NEPA Annual Reports to RAMSAR secretariat. UDC Monitoring and Management Plans for key areas.
3.1.6	(Yes/No) Best management practices developed for riparian forests within forest estates.	Performance Reports from responsible entities, best practices document / SOP/Guideline documents.
3.1.7	(Yes/No) Guidelines developed for the establishment and maintenance of trees in urban settings.	Performance Reports from responsible entities. Municipal Corporations, NHT, HAJ.
3.1.9	Number of seedlings distributed and planted.	FD Performance Reports. Updates from 876 Trees App stakeholders.
3.2.2	(YES/No) REDD+ strategy, integrating the 7 Cancun principles, developed and approved.	REDD+ readiness project report, REDD+ readiness project stakeholders' reports, LUCA Report, Forest Policy and Act, NFMCP.
3.3.1	Number of community groups trained.	Performance Reports from responsible entities. Rural Sociologist.
3.3.2	Number of recommendations from LFMC study implemented.	Performance Reports FD.
3.3.3	Number of community groups trained in Forest Fire Management.	Project reports, Fire statistics (Jamaica Fire Brigade). FD performance report.

THEMATIC AREA 4: Outcomes

Outcome	Key Performance Indicator	Data source
4.1.a	Proportion of the population reporting increased understanding of the importance of the forest sector and its benefits.	Public Perception Study Report.
4.1.b	Change in Knowledge, Attitudes, Perceptions and Behaviour on sustainable forest practices among various target audiences in critical thematic areas and locations.	Socioeconomic survey from PIOJ produced every three years, STATIN Census/Reports. National KAP study for Forest Dependent Communities. Feedback forms from school visits and community meetings. FD socio-economic surveys. Bi-

		annual Assessment of groups in the forest dependent areas (LFMCs).
4.2	Change in organizational capacity to conduct Natural Resource Valuations (NRVs), carbon stock monitoring and silvicultural practices.	Capacity studies from FD, NEPA, Mines & Geology, Jamaica Bauxite Institute and other pertinent agencies.

THEMATIC AREA 4: Outputs

Output	Key Performance Indicator	Data source
4.1.1	Number of public education/awareness and school awareness sessions delivered (disaggregated by Parish, type of schools and age of children).	FD Annual Performance Reports, PR&CC Branch Reports (Monthly & quarterly), Interagency reports on PR activities, Survey report NEPA Public Education Branch, JET Annual Report. SDC Community Priority Plans.
4.1.2	Number of fire awareness and education programmes conducted.	Progress Reports from responsible entities: FD, JFB, NEPA, Mines & Geology, Jamaica Bauxite Institute. Preliminary Assessment in target areas. KAP study (Forest fire management).
4.1.3	Number of private forest land owners participating in outreach programme.	Performance Reports FD, Report of private forest owners Programme, Satisfaction survey reports on programme provided by FD. PFP Coordinator's monthly reports / records.
4.2.1	Number of individuals trained in areas of competence related to Sustainable Forest Management (within the Forestry Department and relevant agencies).	Performance Reports FD, Training reports, Reports from NEPA.

THEMATIC AREA 5: Outcomes

Outcome	Key Performance Indicator	Data source
5.1	Number of actions for climate change adaptation and mitigation implemented.	PIOJ, STATIN, MEGJC/CCD data and reports.
5.2	Number of joint research initiatives generating scientific data that contribute to sustainable forest management.	Performance Reports FD: Research department, NEPA, UWI-DLS, IOJ, CCD-MEGJC, JCDT and other NGOs.
5.3.a	Evidence of increased institutional capacities for Measuring, Reporting and Verifying (MRV) deforestation and forest degradation.	REDD+ readiness project report, REDD+ readiness project stakeholders' reports. FD performance reports.
5.3.b	(Yes/No) Robust and transparent National Forest Monitoring System (NFMS) established.	Performance Reports FD.

THEMATIC AREA 5: Outputs

Output	Key Performance Indicator	Data source
5.1.1	Level of disturbance in spatial representation of disturbed broadleaf forests used to develop protection efforts.	Satellite imagery (current). Aerial photographs.
5.1.3	(Yes/No) Risks and vulnerability assessment completed, regarding impact on carbon stocks and emissions of climate change hazards in forests and forest communities.	Project reports PPCR, AP-FM and subsequent technical reports. NDC papers.
5.1.4	Area (Hectares) of PFP participants' lands verified and mapped to support contribution to forest cover/reforestation efforts.	Verification mapping reports.
5.2.1	Number of research outputs (by type) collected and made accessible through Clearing House Mechanism.	Meeting reports/records working group. Research Department Report, Performance reports FD and CHM.
5.2.2	Number of forest fire assessments (by type) conducted.	Progress Reports from responsible entities.
5.2.3	(Yes/No) Pertinent impact assessments reviewed by the Forestry Department.	Impact assessment reports. Research and documentation on impacts of mining and quarrying on forests.
5.3.1	Number of Growth & Yield curves for primary commercial species developed.	Performance Reports FD.
5.3.3	(Yes/No) Climate data/information obtained from AWSs strategically placed within/close to forested areas provided for SFM planning.	Monitoring report MSJ. Performance reports FD.
5.3.4	Number of Permanent Sample Plots established to measure emission from deforestation and forest degradation.	Programme Reports PSP.
5.3.5	Number of populations of targeted flora and fauna species mapped by type.	Reports from Survey/Mapping/ Transect Walk.
5.3.6	Number of evaluations, planning documents and annual reports produced.	Performance Reports FD.

2.3 NFMCP Monitoring

No changes as compared to the 2017 document.

2.4 Evaluation of NFMCP

No changes as compared to the 2017 document.

2.5 Lessons Learned

No changes as compared to the 2017 document.

2.6 NFMCP Reporting

No changes as compared to the 2017 document.

2.7 Integrating Risk Management into NFMCP

A project or programme risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives or processes, such as scope, schedule, cost or quality. A risk may have one or more causes and, if it materializes, one or more impacts.

Risks should not be confused with problems: a problem is a materialized risk, i.e. an event that is certain, has already happened, and is negatively affecting the achievement of the project or programme.

At the start of NFMCP, the “Agency Enterprise Risk Management Policy & Framework” was adopted. It was recently revised for the period 2021-2024. FD maintains a risk register, which ideally should be completed for all NFMCP outputs. This means that for each output or group of outputs risks are identified, rated and control measures (mitigation strategies) are being articulated. FD has identified ten major risks to the implementation of NFMCP. These major risks tend to be related to resource and institutional/operational issues and have a medium to high chance of occurring.

The ten most prominent identified risk statements are:

- (1) **COVID-19 PANDEMIC:** This very uncertain event started at the mid-point of the NFMCP implementation period. The pandemic has (had) enormous impact on many aspects of society, has reshaped work processes, hindered productivity, both in office and in the field.
- (2) **STAFF TURN-OVER:** Due to staff turn-over and re-allocation of staff within various agencies (to take up new tasks), the capacity of individuals working on specialised outputs is compromised, which decreases the quality of the output.
- (3) **MISSING SKILLS SETS IN TECHNICAL AREAS:** Because several PIEs have scarcities or gaps in staff skills, for instance in species identification, silviculture or certain ecosystem management areas, work to be completed may be in jeopardy due to the difficulty of recruiting and retaining qualified specialised staff.

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- (4) **LONG LAG TIMES TO GET WORK UNDERWAY:** Long lag time in getting work underway may jeopardize the availability of resources to implement outputs and bring up the need to redesign project management parameters. These may cause a less than expected quality outcome.
 - (5) **POOR DATA MANAGEMENT:** Due to lack of staff capacity or lack of appropriate equipment, outputs may be poorly monitored and their data insufficiently processed, jeopardizing their usefulness within the NFMCP.
 - (6) **MISSION CREEP WITHIN OUTPUTS:** The scope of some outputs has grown tremendously over the first years of NFMCP. However, these outputs have not been transformed into proper projects, causing significant risk to their successful completion.
 - (7) **STAKEHOLDER BUY-IN:** If several members of the broad group of stakeholders involved in the TAC re-prioritise their interest to other fields or structures, the NFMCP may lose its momentum and become less effective as a joint management and planning instrument, and generator of substantive results. If existing environmental entities and collaborative structures do not promote that the forest sector is going into new areas that need support (such as urban forestry, mangrove management, agroforestry), the NFMCP may lose relevance. Low commitment and/or capacity, particularly of community groups to take on project funding, reduces impact of alternate livelihood results.
 - (8) **UNAVAILABILITY OF REQUIRED SPECIES/ SEEDS:** At times, limited variety of seeds are available, resulting in the nursery being unable to meet production demands for all species requested. If the nursery programme is not expanded, NFMCP may experience the unavailability of seedlings to meet demands. Also, due to weaknesses in nursery infrastructure and capacity issues, pest infestations may occur, which severely impact on seedling quality, production and distribution.
 - (9) **UNAVAILABILITY OF SUITABLE LANDS FOR REFORESTATION EFFORTS:** If insufficient land area is available and accessible, reforestation efforts have to be scaled down.
 - (10) **INSECURITY OF FINANCIAL RESOURCES:** For outputs where significant financing is needed for their implementation, both internal and external fund sourcing is essential, since the output is at risk if sufficient funding is not identified.

Although other risks may be identified and included in the risk register, the risk level of NFMCP 2021-2026 outputs is estimated and monitored according to these ten statements, in order to trigger mitigation action in a timely manner. An output that has a high risk-level, should be actively monitored by the relevant PIE as well as the TAC. For each of those cases, appropriate measures to bring down the risk level should be implemented.

3 FINANCING STRATEGY OF THE NFMCP

3.1 Framework for the Financing Strategy of the NFMCP

The NFMCP original document¹ includes a section on funding and resources and lists the following key considerations for financing the forest sector:

- **Financial sustainability for the forest sector will be built through a well-coordinated and effective policy framework, based on the Forest Policy for Jamaica 2017 and specific legislation.** GoJ is committed to optimising the production of forest goods and services, providing equitable benefits to all stakeholders while ensuring that the value of forests is enhanced rather than diminished in economic, social and ecological terms.
- **Interests of rural communities will be safeguarded.** Local Forest Management Committees (LFMCs) will be strengthened to use forests in a sustainable way and diversify their income opportunities through non-wood forest products, recreation activities and ecotourism.
- **Payment for Ecosystem Services will be incorporated.** Financing should capitalise on the ecological benefits of well-managed forests, such as biodiversity, water regulation and quality, soil conservation, ecotourism, carbon sequestration, watershed protection and landscape value.
- **Role of private investment at national level to be increased.** Most of the country's forests are privately owned and the role of private investment for sustaining healthy forests in Jamaica will be prioritised.

The chapter continues by identifying five main strategies to secure sustainable financing for the forest sector. These are:

- A. Promote forest investments as engines for economic growth and building climate resilience.
- B. Prioritise climate change mitigation and adaptation in the forest sector and make forest investments and programmes compatible with REDD+, significantly contributing to NDC and other international mechanisms.
- C. Promote non-timber forest products as economically attractive investments.
- D. Integrate Payment for Ecosystem Services (PES) in the economics of forestry.
- E. Source energy funds to contribute to sustainable financing of the forest sector.

These five main financing strategies and their sub-strategies are presented in **Table 6** and detailed for the specific gaps or underfunded outputs in the NFMCP/PMER Plan.

¹ See Forestry Department, September 2017. *National Forest Management and Conservation Plan 2016-2026 (NFMCP), Chapter 11.*

Table 6. Financing Strategies for NFMCP

Financing Strategies	1. Governance and Conservation	2. Forest Utilisation	3. Capacity for Sustainable Forest Mat.	4. Education, Training and Awareness	5. Monitoring and Info Management
A. Promote forest investments as engines for economic growth and building climate resilience					
(a) Bring forest management under national financing to transparently contribute to Vision 2030. Develop a long-term vision for the forest sector through a bipartisan political approach at the national and rural levels, linking forest-related policies.	✓				
(b) Rehabilitate sites within forest areas with significance for tourism, recreation, culture and heritage to access funds specific to those themes.		✓			
(c) Assess the economic viability of wood product species and recommend appropriate timber processing methods.		✓			
(d) Raise awareness of the benefits of sustainable forest management for the local economy and the need for investment.		✓	✓	✓	
(e) Train forest staff and forest stakeholder communities in forest management themes and institutional development.				✓	
(f) Assess the need for forestry professionals and encourage universities and specialised forest and forest-related institutions to conduct the right courses relating to locally relevant fields.				✓	
B. Prioritise climate change mitigation and adaptation in the forest sector and make forest investments and programmes compatible with REDD+, significantly contributing to NDC and other international mechanisms					
(a) Give high priority to climate change mitigation and adaptation action in the forest sector to promote Ecosystem-based Adaptation and attract finance, technology, and management skills.	✓	✓	✓	✓	✓
(b) Ensure that forest management (in particular management of riparian forests, mangroves and forests on watersheds) is part of disaster risk insurance initiatives in Jamaica.	✓				

Financing Strategies	1. Governance and Conservation	2. Forest Utilisation	3. Capacity for Sustainable Forest Mat.	4. Education, Training and Awareness	5. Monitoring and Info Management
(c) Access funds under REDD+ for adaptation to climate change, enhancing renewable energy production and access to it, protecting biodiversity, combating desertification and in meeting their SFM objectives.			✓		
(d) Appeal for sustainable financing of a Forest Monitoring System and strengthen the pertinent capacities of the PIEs.					✓
(e) Target technical assistance funds for SFM knowledge management and continued strategic planning.					✓
C. Promote non-timber forest products as economically attractive investments					
(a) Regulate access to forests estates for sustainable harvesting of non-wood forest products.		✓			
(b) Develop mechanisms for collection and dissemination of information regarding prices, import, export and domestic trade of non-timber forest products.		✓			
D. Integrate Payment for Ecosystem Services (PES) in the economics of forestry					
(a) Assess the conservation status of fauna and flora through capable organisations, for the promotion of medicinal use, research use, ecotourism etc.		✓			
(b) Raise funds for PES schemes through agreement on environmental services targeted, the level of payments, and contract terms, with the assistance of trusted and neutral intermediaries for bringing sellers and buyers together.		✓			
E. Source energy funds					
(a) Align the NFMCP with the GOJ renewable biomass-based energy policy and identify wood resources for this purpose spread across the rural areas with due consideration to biodiversity conservation.		✓			

ANNEXES

1. Template for Indicator Reference Sheet.

PERFORMANCE INDICATOR REFERENCE SHEET			
Number:		Type:	
Name of Indicator:			
DESCRIPTION			
Definition(s): This indicator measures			
Unit of Measure:			
Disaggregated by:			
Direction of Change: [Higher=Better etc.]			
DATA COLLECTION, STORAGE, QUALITY ASSESSMENT			
Data Source(s):			
Data Collection Method(s):			
Frequency and Timing of Data Collection:			
Responsible Party:			
Location of Data Storage:			
Presentation Format of Data:			
Individual Responsible for Collecting Data:			
Individual Responsible Review of Data:			
Procedures for Future Data Quality Assessments:			
Date of Initial Data Quality Assessment:			
Date of Future Data Quality Assessment:			
OTHER NOTES			
Baselines:			
Notes on Baselines/Targets:			
KEY PERFORMANCE INDICATOR VALUES			
Year	Target	Actual	Notes
2021/22			
2022/23			
2023/24			
2024/25			
2025/26			
THIS SHEET LAST UPDATED ON:			

2. Glossary of PMER Terms.

TERM	MEANING
Assumption	Hypotheses about cause and effect of how change or transformation happens, risk factors as well as needs, interest and behaviours of stakeholders and other actors.
Baseline	Information gathered, usually prior to a development intervention, about the condition or performance of subjects against which change is measured.
Benchmark	Reference point or standard against which performance or achievements can be assessed. Note: A benchmark refers to the performance that has been achieved in the recent past by other comparable organizations, or what can be reasonably inferred to have been achieved in the circumstances.
Capacity	Potential ability or suitability of serving a role, executing a function or providing a service.
Data	Specific quantitative and qualitative information, statistics or other organised facts, collected together for reference and analysis.
Data Source	Origin of the data or information collected.
Effect	Observed change due to a programme intervention. Also see result, outcome .
Effectiveness	Measure of success in achieving objectives, desired outcomes and the extent to which targeted problems are solved.
Efficiency	Comparative assessment among different approaches in the level of resources (human, materials and money) deployed and/or time expended to achieve a programme output or outcome.
Evaluation	Systematic and objective assessment of an on-going or completed project, programme, plan or policy, its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process of both recipients and donors. Evaluation also refers to the process of determining the worth or significance of an activity, policy or programme. Note: Evaluation in some instances involves the definition of appropriate standards, the examination of performance against those standards, an assessment of actual and expected results or the identification of relevant lessons learned and best practices encountered. Related term: Participatory evaluation.

Feedback	Transmission of findings, conclusions, recommendations and lessons from experience, generated through a review process to parties for whom it is relevant and useful so as to facilitate learning.
Goal	Higher-order objective to which a development intervention is intended to contribute.
Impact	Positive and negative, primary and secondary long-term effect produced by a development intervention, directly or indirectly, intended or unintended.
Indicator	Quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a development actor.
Key Performance Indicator	Principal indicator, either quantitative or qualitative in nature, among possible other indicators, to measure a result against regular targets.
Monitoring	Continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds. Related term: performance monitoring.
Objective	Statement that describes desired, feasible, programme/project results in terms that are specific and measurable. Objectives represent a quantification of the goal. Also see goal .
Outcome	Likely or achieved medium-term and long-term effect of programme interventions and use of outputs by stakeholders. Also see result, output, impact .
Output	Direct deliverable of a project (for example, training or intervention sessions completed, persons served or reached, materials created or distributed).
Participatory evaluation	Evaluation method in which representatives of agencies and stakeholders (including beneficiaries) work together in designing, carrying out and interpreting an evaluation.
Partners	Individuals and/or organisations that collaborate to achieve mutually agreed upon objectives. Note: The concept of partnership connotes shared goals, common responsibility for outcomes, distinct accountabilities and reciprocal obligations. Partners may include governments, civil society groups, non-governmental organisations, universities, faith-based institutions, professional and business associations, multilateral organisations, private companies, etc.
Performance	Degree to which a development intervention or a development partner operates according to specific criteria/standards/guidelines or achieves results in accordance with stated goals or plans.
Performance indicator	Variable that allows the verification of changes in the development intervention or shows results relative to what was planned.

	Related terms: performance monitoring, performance measurement, key performance indicator.
Performance measurement	System for assessing performance of development interventions against stated goals. Related terms: performance monitoring.
Performance monitoring	Continuous process of collecting and analysing data to compare how well a project, programme or policy is being implemented against expected results.
Result	Output, outcome or impact (intended or unintended, positive and/or negative) of a development intervention. Related terms: outcome, effect, impact.
Results framework	Programme logic that explains how the development objective is to be achieved, including causal relationships and underlying assumptions. Related terms: results chain, logical framework.
Review	Assessment of the performance of an intervention, periodically or on an ad hoc basis. Note: Frequently “evaluation” is used for a more comprehensive and/or more in-depth assessment than “review”. Reviews tend to emphasize operational aspects. Sometimes the terms “review” and “evaluation” are used as synonyms. Related term: evaluation.
Risk	Internal or external uncertainty surrounding future negative factors that may adversely affect project success.
Stakeholders	Agencies, organisations, groups or individuals who have a direct or indirect interest in the development intervention or its evaluation.
Strategic Objective	Long-term organisational goal that help to convert a mission statement from a broad vision into more specific plans and projects.
Survey	Systematic collection of information from a defined population, usually by means of interviews or questionnaires administered to a sample of units in the population.
Sustainability	Continuation of a service or system, established by a development intervention. The service/system is taken up and incorporated by an institution as a proper internally funded and motivated action.
Target	Desired and measurable results for specific quantitative and qualitative indicators at a specific point in time. They relate to the expected level of programme input needed, output achievement/performance or timeliness of objective attainment.