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Promoting Pacific Islands Nature-based Solutions

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Manatū Aorere

National Policy Framework Assessment Report on Nature-based Solutions for Coastal Resilience and Forestry Sector, Tonga

March 2026

SPREP Library Cataloguing-in-Publication Data

National assessment report on nature-based solutions in Tonga. Apia, Samoa : SPREP, 2026.

56 p. 29 cm.

ISBN: 978-982-04-1528-7 (print)
978-982-04-1527-0 (ecopy)

1. Conservation of natural resources – Tonga.
2. Biodiversity conservation – Law and legislation – Tonga. I. Pacific Regional Environment Programme (SPREP). II. Title.

613.109612

Citation
Foliaki, D. E. (2026). *National Policy Framework Assessment on Nature-based Solutions for Coastal Resilience and Forestry Sectors, Tonga*. Suva: SPREP.

Images
Front cover: Aerial of Tongatapu - Utulei Lui
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This report was prepared by Teulava Consultants for SPREP under the contract titled 'National Policy Frame Assessments of Nature-based Solutions' for the SPREP component of the PPIN Project.

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List of Acronyms

AusAID	Australian Aid Programme	**MoT**	Ministry of Tourism
CEM	Commission on Ecosystem Management	**MPA**	Marine Protected Area
CFMDP	Coastal Fisheries Management and Development Plan	**NbS**	Nature-based Solutions
CROP	Council of Regional Organisations in the Pacific	**NBSAP**	National Biodiversity Strategy and Action Plan
CSFT	Civil Society Forum of Tonga	**NDCs**	Nationally Determined Contributions
CSO	Civil Society Organisation	**NFI**	National Forest Inventory
EIA	Environmental Impact Assessment	**NGO**	Non-Governmental Organisation
GCF	Green Climate Fund	**NTFPs**	Non-Timber Forest Products
GEF	Global Environment Facility	**NZAid**	New Zealand Aid Programme
ICZM	Integrated Coastal Zone Management	**PES**	Payment for Ecosystem Services
IUCN	International Union for Conservation of Nature	**PICTS**	Pacific Island Countries and Territories
JICA	Japan International Cooperation Agency	**PPIN**	Promoting Pacific Island Nature-based Solutions Project
JNAP II	Joint National Action Plan on Climate Change and Disaster Risk Management II	**R2R**	Ridge to reef
MAFF	Ministry of Agriculture, Food and Forests	**RECCA**	Resilient Ecosystems for Climate Change Adaptation
MEIDECC	Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications	**REDD+**	Reducing Emissions from Deforestation and Forest Degradation
MEL	Monitoring, Evaluation and Learning	**SMA**	Special Management Area
MFAT	Ministry of Foreign Affairs and Trade (New Zealand)	**SMAs**	Special Management Areas
MIA	Ministry of Internal Affairs	**SPREP**	Secretariat of the Pacific Regional Environment Programme
MLNR	Ministry of Lands and Natural Resources	**TFSP**	Tonga Fisheries Sector Plan
MoF	Ministry of Fisheries	**TNYC**	Tonga National Youth Congress
MOF	Ministry of Finance	**TSDF**	Tonga Strategic Development Framework
MoH	Ministry of Health	**USAID**	United States Agency for International Development
MOI	Ministry of Infrastructure	**VEPA**	Vava'u Environment Protection Association
MORDI	Mainstreaming of Rural Development Innovation		

1. Executive Summary

This report provides a consolidated assessment of Tonga's national policies, plans, and legislation through a Nature-based Solutions (NbS) lens. It evaluates the extent to which ecosystems, biodiversity, and nature-driven approaches are embedded into national frameworks for climate resilience and sustainable development. The review highlights strong institutional readiness, driven by high policy coherence between MEIDECC, MAFF, MOF, and MLNR. Foundational frameworks such as the Climate Change Policy (2016), National Forest Policy (2009), NBSAP (2030), and JNAP II (2018–2028) demonstrate robust alignment with NbS. These are supported by operational plans such as the SMA Strategy, National Coastal Fisheries Plan, and the Tonga Ocean Management Plan (2024), which operationalise community-based and ecosystem restoration efforts. Moderate alignment is seen in economic and resource plans such as the TSDF II, Fisheries Sector Plan, and Marine Aquarium Plan, where environmental goals are secondary to productivity. Partial alignment appears in the Agriculture Sector Plan, which references sustainable practices but lacks specific quantified ecosystem outcomes.

Stakeholder engagement identified the realities of implementing Nature-based Solutions both in policy planning and practice, highlighting persistent challenges that hinder effective implementation of NbS in Tonga. This includes weak coordination between key ministries, limited awareness of overlapping mandates, inadequate enforcement of environmental regulations, and ongoing land-tenure disputes around development priorities and conservation goals. These issues reinforce the need for clearer zoning regulations and stronger government-led protection of NbS priority areas to prevent degradation from infrastructure development and competing land uses. Solutions and priorities moving forward include updating outdated policies, particularly the National Forestry Policy, establishing the Land-use Policy, mapping NbS gaps and integration opportunities, and strengthening inter-agency coordination through existing systems such as NBSAP, JNAP, TSDF, and sector plans. Stakeholders also emphasised the need to clarify NbS definitions, including invasive species control, address conflicts in coastal areas through stronger protection mechanisms, and use the assessment as a foundation for future policy reforms and mobilization of technical and financial resources to scale up and effectively support collective efforts for NbS planning and implementation in Tonga.

2. Introduction

The PPIN project is dedicated to fostering the formulation of policies and legislation that support Nature-based Solutions (NbS) throughout the Pacific Islands. Its core objectives are to enhance awareness and capacity for NbS implementation and to strengthen cooperation among Pacific Islands Countries and Territories (PICTS). The PPIN project is a vital component of New Zealand's Ministry of Foreign Affairs and Trade (MFAT) "Resilient Ecosystems for Climate Change Adaptation" (RECCA) initiative. It focuses on building regional capacity, increasing awareness, and embedding NbS approaches into both regional and national policy and regulatory frameworks, with Tonga, Fiji, and Vanuatu serving as demonstration countries.

Tonga has sought targeted assistance to advance the integration of NbS within its national policies and frameworks. The principal beneficiaries of the PPIN project include government entities, officials, and implementing organisations that may receive support to enhance their capacity to design and execute NbS-related policies and projects. Additional beneficiaries include stakeholders from other sectors such as tourism, infrastructure, fisheries, agriculture, and forestry as well as Council of Regional Organisations in the Pacific (CROP) agencies, NGOs, donors, and other sub-regional bodies. The project's impact is contingent upon active engagement and ongoing participation from these stakeholders, ensuring sustained progress beyond the project's duration.

Kingdom of Tonga

The Kingdom of Tonga is located in the South Pacific Ocean, comprising 176 islands with a land area of 748 square kilometres and a coastline of 419 kilometres, which spans an exclusive economic zone of over 700,000 square kilometres (see Figure 1). There are four main island groups, Tongatapu, Ha'apai, Vava'u and Niua, with a total population of 103,000 people (Tonga Department of Statistics, 2021). The capital, Nuku'alofa, is situated in the largest island group, Tongatapu, where 80% of the population resides. Migration from the other islands in search of better education and work opportunities has contributed to urban pressures and the need for land to accommodate inter-island migration (Tonga State of Environment Report, 2018). Much of the nature-based solutions activities include mangrove replanting, marine protected areas, community based special management areas, green management areas and others.

Figure 1 Map of Tonga

Source: Destination World, 2011

Definition and Principles of Nature-based Solutions

The International Union for Conservation of Nature (IUCN), supported by the Commission on Ecosystem-based Management (CEM), defines Nature-based Solutions as *"actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits."*[1] This definition was formally adopted through IUCN Resolution 069 at the 2016 World Conservation Congress.

The overarching aim of NbS is to address critical societal challenges, including climate change, disaster risk, biodiversity loss, and the degradation of ecosystems. In addition, NbS strive to ensure food and water security, promote human health, and foster social and economic development. These solutions are also designed to support the achievement of broader development goals and to safeguard human well-being in culturally and socially appropriate ways, while enhancing the resilience, renewal capacity, and ecosystem services of natural systems.

Project Details and Scope

The Tongan component of the PPIN project undertakes a comprehensive assessment of the existing background for Nature-based Solutions, focusing on policies, plans, and programmes within the governance structures of the coastal and forestry sectors. This includes an in-depth review of Tonga's policy and regulatory frameworks for coastal resilience and forestry, evaluating the integration of NbS principles, concepts, and criteria. The review aims to systematically map the hierarchy and interrelationships among current policies, legislation, regulations, and strategic plans; to identify any existing gaps, inconsistencies, or misalignments; and to provide actionable recommendations for developing a cohesive approach to embedding NbS within sectoral frameworks. The goal is to enhance long-term sustainability and resilience by ensuring that future policy development is more closely aligned with ecosystem-based strategies and solutions for addressing climate change impacts.

Primary Objectives

The objectives of this NbS policy assessment are:

- To identify and catalogue documentation within policy frameworks relevant to the forestry and coastal resilience and protection sectors, encompassing but not limited to legislation, policies, regulations, plans, strategies, and codes.
- To determine the extent to which NbS principles, concepts, and criteria are present or absent in these policy documents.
- To evaluate the alignment of current national policies in the forestry and coastal resilience sectors with the NbS concept and principles, identifying both gaps and opportunities for deeper integration.
- To deliver recommendations and a strategic roadmap for mainstreaming NbS into forestry and coastal protection policies and regulatory frameworks.

1 https://portals.iucn.org/library/sites/library/files/documents/2016-036.pdf

3. Methodology and Approach

Data Collection

The analytical framework for this review was structured around a comprehensive approach combining multiple methods to ensure a thorough review process. Data collection included:

1. **Desktop Review** – Relevant policies, plans, and legislative instruments were identified and extracted from the websites of Government of Tonga departments and CROP agencies
2. **Key Informant Interviews** – conducted with relevant stakeholders from Govt, NGOs and development partners. Refer to Annex 2 for interview notes.
3. **Validation Workshop** – the main findings of the policy assessment report were presented for validation and further insight on NbS challenges in policy planning and practice.

Strategic actions were categorised as policies, plans, and programmes, representing the three main tiers of decision making. Table 31 outlines each tier, providing clear definitions and examples specific to Tongan institutions.

Table 3-1 Strategic Actions

Strategic Action	Definition	Example in Tonga
Global Environmental Policies	International agreements, principles, and goals that guide actions to address shared environmental issues like climate change, biodiversity loss, and pollution.	Tonga's 3rd Nationally Determined Contributions (NDCs)
Policy	A guiding intent outlining defined goals, objectives, and priorities, as well as an actual or proposed direction.	Tonga Strategic Development Framework II, Forest Policy, Climate Change Policy
Plan	A strategy or design for implementing a general or specific course of action, incorporating policy outcomes, options, and the means to achieve them.	National Biodiversity Strategy and Action Plan (NBSAP), Tonga Fisheries Sector Plan
Programme	A schedule of proposed commitments, activities, or instruments to be implemented within or by a particular sector or policy area.	Environmental Programmes in the Ministry Corporate Plans
Codes	"Codes of practice" are sets of written rules or guidelines that define how individuals or organizations should act in specific situations, often providing practical advice on how to meet legal or ethical standards.	Codes of Harvesting Practice ('Eua) Codes of Harvesting Practice (Tongatapu)

Desktop Review and Analysis

Table 32 illustrates the set of seven criteria that were adapted from the original nine IUCN Global Standard criteria for Nature-based Solutions. This was used to guide the data analysis process to determine the extent in which NbS is embedded national policies, plans and programmes as well as in practice in Tonga. The full list of reviewed documents is provided in Annex 1. To enable a systematic review process, a scoring system was used to evaluate the documents, based on a five-point scale:

- 5 = Strongly supports NbS principles (explicit ecosystem and resilience focus)
- 4 = Moderate alignment (some NbS components, such as restoration or sustainable use)
- 3 = Neutral or indirect relevance (mentions environment but not NbS concepts)
- 2 = Weak alignment (sectoral, production-focused, minimal ecosystem lens)
- 1 = No relevance or outdated (no ecosystem/climate or sustainability provisions)

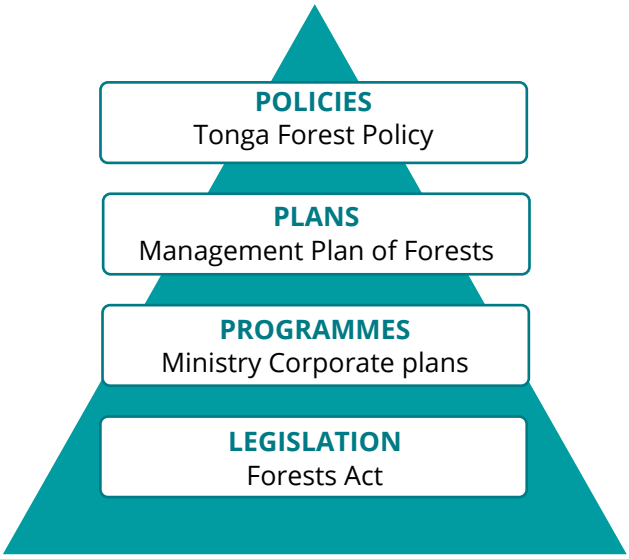
Table 3-2 Adapted Nature-based Solutions Criteria for Document Analysis IUCN[2]

NbS Criterion	Assessment Focus
Ecosystem Protection & Restoration	Determines the extent to which policies safeguard, restore, or enhance ecosystems such as forests, mangroves, reefs, wetlands, and watersheds as natural infrastructure that mitigates climate and disaster risks.
Climate Resilience & Adaptation	Evaluates the reliance on ecosystem-based approaches eg. mangrove restoration, reforestation, and integrated coastal management
Community Stewardship & Locally-Led Governance	Assesses empowerment and engagement of communities, traditional owners, women, and youth in leading or co-managing NbS initiatives, incorporating participatory planning and the use of traditional knowledge.
Ridge-to-Reef (Land–Sea) Integration	Measures connectivity between terrestrial, freshwater, coastal, and marine systems in planning and implementation – “holistic approach”
Institutional & Policy Coherence	Reviews the degree of alignment, coordination, and integration among ministries, policies, and national frameworks to mainstream NbS
Financing & Implementation Readiness	Examines the presence of sustainable financing mechanisms, institutional capacity, and technical preparedness to plan, fund, and maintain NbS (through domestic budgets or PPPs).
Private sector engagement	Explores opportunities for private sector involvement (SMEs, eco-tourism ventures and community cooperatives) in delivering, investing in, and sustaining NbS.

2 https://portals.iucn.org/library/sites/library/files/documents/2020-020-En.pdf

4. Policy and Institutional Mapping

Hierarchy of Policies, Plans and Legislation



Constitutional and Legislative Foundations

The Constitution of the Kingdom of Tonga, promulgated under His Majesty King Tupou IV and successors, establishes the foundational governance structure. This structure comprises the Monarch, supported by the Privy Council and Cabinet, the Legislative Assembly, and the Judiciary. The Privy Council, appointed by the King, includes Cabinet members, the Governors of Ha'apai and Vava'u, and additional advisors, while the Cabinet is composed of the Prime Minister, senior ministers, and others designated by royal appointment. Notably, the Governors also serve within the Legislative Assembly. The Legislative Assembly's composition includes Privy Council members, nine Cabinet Ministers representing the nobles, and elected representatives of the populace, with terms lasting three years. Judicial authority is vested in the Court of Appeal, Supreme Court, Magistrates Court, and Land Court, with the Chief Justice, appointed by the King and Privy Council, overseeing constitutional and legal matters, including land and maritime cases. Legislation requires Assembly passage and royal assent. Special provisions guide laws concerning the Royal Family, and the Chief Justice or Privy Council may suspend certain laws as needed. The Government Act (1903) enables District Officers and hereditary estate holders to issue localised regulations concerning plantations and community welfare, contingent upon Cabinet and Prime Ministerial approval.

Institutional Overlaps and Conflicting Mandates

Institution	Synergy or alignment	Implications for NbS policy planning and implementation
Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change & Communications (MEIDECC)	Principal agency for environment, climate change and disaster risk reduction; manages NDC implementation and is national focal point for GCF/GEF; coordinates integrated climate–biodiversity actions through JNAP 2 and NBSAP; champions "whole of Tonga" climate resilience	Central to mainstreaming NbS across government; can embed NbS indicators in national monitoring frameworks and strengthen interministerial data systems; promotes hybrid (green–grey) infrastructure standards
Ministry of Agriculture, Food and Forests (MAFF)	Stewardship of forestry, agriculture, food security and natural resource management; Department of Forestry manages seedling production, plantation and agroforestry; supports carbon sequestration	Provides seedlings and agroforestry expertise for NbS programmes; critical partner for land resource management and livelihoods; opportunities to integrate NbS into agricultural incentives, expand schemes and formalise collaborative carbon forest programmes with MEIDECC
Ministry of Fisheries (MoF)	Responsible for sustainable management of coastal and offshore fisheries; administers Special Management Areas and National Coastal Fisheries Plan; work aligned with marine biodiversity and ecosystem management	Supports NbS through protection of marine ecosystems and community-based fisheries management; collaboration with MEIDECC and MAFF needed for integrated land–sea management; priorities include a formal NbS integration framework, NbS indicators in monitoring systems and joint ecosystem protocols
Ministry of Lands and Natural Resources (MLNR)	Leads land administration, land use policy and natural resource management including marine spatial planning, often in partnership with MEIDECC; regulates coastal land use and supports reforestation and agroforestry	Provides robust spatial governance linking land use planning to climate adaptation and biodiversity conservation; underpins ridge to reef NbS; opportunities to develop NbS guidelines for land reclamation, improve data sharing, enhance staff capacity and finalise land use policies mandating NbS integration
Ministry of Internal Affairs (MIA)	Manages local government and community development; supports decentralised governance and community-based adaptation; emphasises gender inclusion, livelihoods and resilience	Grassroots reach enables participatory disaster planning, tree planting and local NbS implementation; can embed NbS in community planning, enhance local capacity, secure financing and align local plans with national spatial strategies
Ministry of Tourism (MoT)	Develops tourism policies and heritage conservation; collaborates with MEIDECC and communities to advance ecotourism and blue-green economy; supports coral reef and mangrove restoration and encourages eco certification	Positions ecotourism as a vehicle for NbS; can develop investment guidelines, incentivise NbS adoption by resorts and formalise sustainability standards across the sector, reinforcing coastal restoration and biodiversity conservation

Institution	Synergy or alignment	Implications for NbS policy planning and implementation
Ministry of Infrastructure (MOI)	Plans and implements roads, ports and coastal defences; promotes integration of NbS with engineering and hybrid green–grey design standards	Ensures infrastructure projects incorporate climate resilient NbS and environmental safeguards; scope to enhance national building standards by incorporating NbS screening and requiring green-grey options for major projects
Ministry of Health (MoH)	Oversees public health, sanitation and disease prevention; programmes intersect with environmental and resilience sectors, including ecosystem -based adaptation, watershed management and urban greening	Recognises the role of ecosystems in health; advocates natural filtration, green spaces and ecosystem health; opportunities to embed NbS indicators in health information systems, train staff in ecosystem risk assessment and establish collaborative greenspace projects
Ministry of Finance (National Planning Office)	Responsible for economic planning, budget preparation and public finance management; ensures policy coherence across sectors through the Tonga Strategic Development Framework III (TSDF III)	Provides the financial and planning framework that enables cross sectoral NbS integration; can align budget allocations with NbS priorities and monitor cross sector targets
Tonga National Youth Congress (TNYC)	Represents youth groups nationwide; promotes youth participation in development, environmental protection and climate action; involved in the Kiwa Initiative, supporting NbS projects	Mobilises youth for ecosystem restoration, mangrove planting and climate awareness programmes; strengthens community resilience and ensures NbS initiatives engage younger generations and future leaders
Civil Society Forum of Tonga (CSFT)	National coordinating body for civil society; facilitates collaboration among NGOs, community groups and development partners on issues including environmental protection and sustainable livelihoods	Provides a platform for policy advocacy, community engagement and capacity building in NbS; promotes inclusive participation in ecosystem conservation, climate resilience programmes and sustainable land management initiatives
Mainstreaming of Rural Development Innovation Tonga Trust (MORDI)	Focuses on strengthening rural livelihoods and inclusive development; works with farmers and communities on climate smart agriculture, agroforestry and sustainable resource management	Enhances food security and ecosystem restoration through participatory approaches; supports locally led NbS (e.g., agroforestry and sustainable agriculture) and builds community resilience to climate change
Live & Learn Tonga	Provides environmental education, climate change awareness and community based natural resource management; supports sustainable agriculture, coastal ecosystem conservation and climate adaptation	Promotes ecosystem-based approaches that link environmental protection with community development; helps communities restore ecosystems and improve livelihoods through NbS; highlights the need for sufficient funding to meet community requests

Institution	Synergy or alignment	Implications for NbS policy planning and implementation
Vava'u Environment Protection Association (VEPA)	Community based environmental organisation focused on conservation and biodiversity protection in Vava'u; supports mangrove restoration, marine conservation, waste management and environmental education	Works with communities, schools and government agencies to implement NbS that protect coastal ecosystems and enhance environmental resilience while supporting sustainable livelihoods
Langa Fonua Tonga Women's Handicraft Centre	Women led organisation preserving traditional handicrafts and empowering women artisans; promotes sustainable harvesting and management of culturally important plant species	Contributes to NbS by encouraging sustainable cultivation and protection of traditional plant species; links ecosystem conservation with women's economic empowerment and cultural heritage
Coastal Green Nursery Initiative	Mangrove nursery (est. 2023) working with 26 communities; propagates ten native mangrove species and undertakes rehabilitation, sustainable fisheries, waste management and ecotourism	Demonstrates practical NbS by restoring coastal ecosystems for disaster preparedness, fisheries productivity and carbon sequestration; builds community stewardship; successes include propagating ~500 000 mangroves; challenges include limited financing and capacity constraints
Tonga Citizen Science Initiative	Community based organisation for marine disaster preparedness, environmental education and participatory action; partners with Coastal Green Nursery to mobilise communities and stakeholders	Promotes ecosystem restoration and conservation via coral reef assessments, mangrove planting and community awareness; supports grassroots NbS aligned with ridge to reef management; successes include multistakeholder mobilisation; challenges include limited funding, technical gaps, scaling difficulties and need for stronger integration with national policies

Linkages and Overlaps between NbS Policy Instruments

Instrument (sector)	Linkages and overlaps with other instruments
National Forest Policy 2009 (Agroforestry)	Aligns with NBSAP and TSDF, promoting sustainable forestry and community stewardship; overlaps with the 2017 Forests & Trees Management Plan on reforestation and timber/NTFP value chains; links to climate and disaster policies via shared goals for watershed protection and erosion control.
Tonga Agriculture Sector Plan 2016–2020 (Agroforestry)	Integrates sustainability principles and aligns with TSDF and JNAP on food security, climate resilience and livelihoods; overlaps with forestry policy on agroforestry and soil conservation; recognises community participation and gender inclusion similar to NBSAP.
Management Plan for the Forests & Tree Resources 2017 (Agroforestry)	Shares objectives with National Forest Policy and Agriculture Plan – sustainable timber, NTFP value chains and community participation; aligns with NBSAP and TSDF on forest restoration and biodiversity protection.
Tonga National Fisheries Policy 2018 (Coastal resilience)	Integrates SMA based community governance and aligns with NBSAP, TSDF and JNAP; overlaps with TFSP and Coastal Fisheries Plan on sustainable harvests, species closures and marine spatial planning; supports marine biodiversity similar to NBSAP and Climate Policy.
Tonga Fisheries Sector Plan 2016–2024 (Coastal resilience)	Shares SMA model and community co-management with National Fisheries Policy; aligns with TSDF and JNAP; references several subplans (aquarium, seaweed, tuna and shark) indicating cross integration; integrates climate risk measures and marine spatial planning.
National Coastal Fisheries Management & Development Plan 2023–2026 (Coastal resilience)	Builds on the SMA network and species-specific plans; aligns with National Fisheries Policy and TFSP; recognises climate threats and integrates marine spatial planning; linked to NBSAP through ecosystem protection goals.
Special Management Area (SMA) Strategy 2025–2030 (Coastal resilience)	Reinforces the SMA network established under fisheries policies; aligns with NBSAP, TSDF and JNAP on community based conservation; supports ecosystem protection and local stewardship similar to Climate Policy and JNAP.
Marine Aquarium Fishery Management & Development Plan 2024–2027 (Coastal resilience)	Ties into the broader fisheries sector plans; supports species-specific management and ecosystem protection; shares compliance and licensing frameworks with National Fisheries Policy and TFSP.
National Biodiversity Strategy & Action Plan (NBSAP) 2006 (Cross sectoral)	Provides the overarching biodiversity framework referenced by forestry, agriculture, fisheries and climate policies; reinforces ecosystem protection, habitat restoration, community stewardship and cross sector coordination; aligns with international conventions and informs sectors pecific plans.
National Invasive Species Strategy & Action Plan (NISSAP) 2013–2020 (Cross sectoral)	Complements NBSAP through invasive species control; aligns with fisheries and environment legislation; emphasises biosecurity and cross sector coordination; supports ecosystem health across terrestrial and marine domains.

Instrument (sector)	Linkages and overlaps with other instruments
Climate Change Policy (Resilient Tonga 2035) 2016 (Cross sectoral)	Serves as the national resilience framework linking multiple sectors (TSDF, JNAP, NBSAP, fisheries, tourism, infrastructure); emphasises climate adaptation, disaster risk reduction and community participation; includes financing mechanisms (e.g., climate fund).
Joint National Action Plan on Climate Change & Disaster Management II (JNAP2) 2018–2028 (Cross sectoral)	Unifies climate adaptation and disaster risk reduction across sectors; aligns with TSDF II and NBSAP; promotes community participation, early warning systems and resilient infrastructure; provides strong institutional coherence and budgeting.
Tonga Tourism Sector Roadmap 2021 (Cross sectoral)	Promotes environmentally and culturally sensitive tourism, marine protection and heritage sites; aligns with TSDF, NIIP and climate frameworks; encourages sustainable tourism and small-scale development similar to NBSAP.
National Infrastructure Investment Plan III (NIIP3) 2021–2030 (Cross sectoral)	Aligns with TSDF II, JNAP2 and Climate Policy; emphasises climate resilient infrastructure and improved asset management; establishes strong institutional coordination; supports disaster preparedness similar to JNAP.

5. Assessment of NBS Integration in Policy and Planning

The assessment of key policies, sectoral plans, strategies and action plans is a baseline stock-take of the NbS policy instruments in Tonga. The analysis suggests ways to integrate and strengthen NbS framing and principles that can be considered in the next revision or update phases of the policy instruments. The comprehensive list of policies, sector plans, strategies, codes and legislative instruments linked to NbS in the forestry and coastal sectors is provided in Annex 1.

Agro-Forestry Sector Assessment

National Forest Policy for Tonga (2009)

Provides a foundation for sustainable forestry, community participation and forest protection. Its key strength is stewardship and recognising multiple ecosystem services (timber, nontimber forest products, watershed protection). However, the policy is outdated and lacks modern climate adaptation targets and monitoring indicators. Updating the policy to incorporate ecosystem restoration, NbS terminology and integrated land–sea management will improve relevance.

Table 5-1 National Forest Policy 2009: Assessment Against Nature-based Solutions Criteria

Criterion	Assessment	Score
Ecosystem Protection & Restoration	Strong measures to halt deforestation, rehabilitate degraded forests, protect mangroves and wetlands, enforce soil conservation, and promote reforestation and agroforestry. Clear commitments to biodiversity conservation and watershed protection.	5
Climate Resilience & Adaptation	Explicit integration of climate mitigation and adaptation measures, including coastal strip protections, mangrove restoration, selection of climate-resilient species, forest fire management, and vulnerability monitoring. Strong alignment with NbS climate functions.	5
Community Stewardship	Emphasis on community participation, education, village engagement, inclusion of women and youth, and locally driven tree planting. Community-based forestry is central to the policy.	5
Land–Sea integration	Strong commitments to watershed and coastal protection, but limited explicit links to marine ecosystems, fisheries, or reef health; ridge-to-reef framing remains incomplete.	4
Institutional & Policy Coherence	Clear alignment with biodiversity policies, land-use considerations, EIA provisions, and climate commitments. However, institutional fragmentation and weak enforcement capacity reduce overall coherence.	4
Financing & Implementation Readiness	Heavy reliance on donor support for operations, with a lack of defined domestic financing mechanisms, incentive structures, or long-term funding pathways for restoration and conservation programmes.	3
Private Sector Engagement	Some reference to plantation sector, wood industries (ATFP) enterprises, carbon markets, NTFP value chains, or sustainable business models.	3

Table 5-2 Opportunities to Strengthen NbS Integration

Gaps / Weaknesses	Opportunity	Justification
Insufficient private-sector engagement, with minimal incentives for eco-enterprise development	Strengthen private-sector engagement in eco-enterprise, sustainable forestry, and NTFP value chains.	Encourages market-driven incentives for conservation, expands green livelihoods, and mobilises private investment into restoration
Weak enforcement capacity and institutional constraints, which limit effective implementation despite strong policy intent. Reference to EIA enforcement and the need for Land-use policy	Strengthen EIA enforcement capacity and institutional coordination across MAFF, MEIDECC, MLNR, and local authorities. Revisit status of Land-use policy	Improves compliance, supports effective implementation, and ensures NbS commitments lead to measurable restoration and protection outcomes.
Lack of community-driven initiatives and co-management management and engagement	Expand community-driven forest enterprises and co-management models.	Boosts local ownership, strengthens long-term stewardship, and increases the resilience and sustainability of NbS interventions at village and district levels.

Tonga Agricultural Sector Plan (MAFF)

Highlights food security, sustainable agriculture and climate smart practices with strong gender and community inclusion. Unique opportunities include integrating agroforestry and soil conservation into value chains and leveraging agricultural incentives for ecosystem services. To enhance NbS outcomes, the plan should set quantified ecological targets and link agricultural development to watershed health and biodiversity benefits.

Table 5-3 Tonga Agriculture Sector Plan: Assessment Against NbS Criteria

Criterion	Assessment	Score
Ecosystem protection & restoration	Forestry and coastal ecosystems are acknowledged and integration of ecosystem protection through soil health, agroforestry promotion, forest policy alignment, and circular economy approaches. However, lacks explicit restoration targets (e.g., hectares restored), biodiversity metrics, and dedicated ecosystem restoration programmes.	5
Climate resilience & adaptation	Strong integration of climate adaptation and resilience measures, including climate-smart agriculture, disaster risk management, agro-meteorological services, circular economy systems, and recognition of sea-level rise and extreme weather risks.	5
Community stewardship	Emphasis on community-driven development, with established Community Agricultural Development Plans across rural communities, participatory approaches, GEDSI integration, and partnerships with NGOs and local actors. Community ownership is central to implementation.	5
Land–Sea integration	The Plan is strong on watershed, soil, and water linkages but weak in addressing coastal-marine impacts, runoff management, lagoon protection, and integration with Fisheries, Marine, or Lands sectors.	3

Criterion	Assessment	Score
Institutional & policy coherence	The Plan is aligned with TSDF, regional (Blue Pacific Strategy), and sectoral policies. Clear institutional roles led by MAFF with multi-stakeholder engagement, reflecting strong institutional design and coherence.	4
Financing & implementation readiness	Defined cost range (USD 27–84M) and structured implementation framework with donor partnerships and matching grants. However, limited domestic financing mechanisms, and lack of long-term NbS investment pathways (e.g., carbon, PES)	3
Private sector engagement	Moderate engagement through agribusiness partnerships, value chain development, and circular economy initiatives (e.g., feed systems, biogas, processing). However, limited focus on ecosystem-based enterprises such as carbon markets, nature credits, agroforestry businesses, or NbS-driven private sector investment models.	3

Table 5-4 Opportunities to Strengthen NbS Integration

Gaps / Weaknesses	Opportunity	Justification
Limited explicit ecosystem restoration targets and lack of measurable biodiversity outcomes.	Introduce national ecosystem restoration targets and NbS indicators (e.g., hectares restored, tree cover increase, soil carbon improvement)	Enables measurable biodiversity gains, strengthens alignment with global NbS standards, and improves access to GEF/GCF and biodiversity finance.
Limited explicit alignment with climate finance frameworks (e.g., NDCs, adaptation plans, blue carbon strategies).	Align TASP II with Tonga's NDCs, NBSAP, JNAP II, and international climate finance frameworks	Positions the plan for climate finance access, enhances mitigation and adaptation outcomes and international investment appeal.
Overemphasis on production and commercial agriculture without ecological trade-offs (e.g., intensification vs soil degradation).	Introduce environmental safeguards and trade-off analysis framework (avoid–minimise–restore hierarchy).	Ensures sustainable intensification, prevents ecosystem degradation, and aligns agricultural growth with NbS principles.
Circular economy initiative (TCES) not fully framed or leveraged as a flagship NbS model.	Position circular economy (TCES) as a flagship NbS demonstration programme integrating waste-to-energy, nutrient cycling, and regenerative agriculture.	Demonstrates integrated NbS in practice, attracts innovation funding, and provides a scalable model for sustainable agriculture systems.

The Management Plan for the Forests and Tree Resources of Tonga (2017)

Strong on restoration and sustainable utilisation of timber and NTFPs. It introduces participatory forest management and outlines detailed activities such as seedling production and plantation maintenance. The plan would benefit from integrating climate resilience objectives, formal co-management agreements and innovative financing for largescale reforestation.

Table 5-5 The Management Plan for the Forests and Tree Resources of Tonga Assessment

Criterion	Assessment	Score
Ecosystem protection & restoration	Robust ecosystem protection and restoration framework, encompassing the rehabilitation of degraded lands, mangrove conservation, assisted natural regeneration, and sustainable forest management.	5
Climate resilience & adaptation	Clear recognition of ecosystem services, including soil stability, watershed protection, carbon retention, coastal resilience, and biodiversity conservation, erosion, drought, storms, coastal rehabilitation for degraded foreshores	4
Community stewardship	High level of community stewardship through cooperatives, community coastal committees, landholder training, and village-based forest management.	5
Land–Sea integration	Strong foreshore, mangrove, watershed actions for rehabilitation and protection; limited explicit marine-sector integration.	4
Institutional & policy coherence	Strong institutional and policy coherence, with alignment to the National Forest Policy (2009), Sandalwood Regulations, Environmental Impact Assessment (EIA) Act, and proposed Forest Bill reforms. Clear reference to national policies JNAP and NBSAP	5
Financing & implementation readiness	Largely donor-dependent, weak domestic financing, lacks incentives for long-term sustainability.	3
Private sector engagement	Mentions enterprises but lacks structured incentives, finance mechanisms, or market development pathways.	3

Table 5-6 Opportunities for Strengthening NbS Integration

Gaps	Opportunity	Justification
Limited integration with ridge-to-reef and marine frameworks, resulting in weak alignment with coastal zone management, marine spatial planning, or fisheries governance.	Strengthen ridge-to-reef and land–sea connectivity for managing degrading foreshores. Integrate Forestry in cross-sector governance mechanisms for coastal restoration.	Improves coordination between Forestry, MEIDECC, Fisheries, MLNR, and Agriculture; ensures forestry actions support national ridge-to-reef goals; enhances implementation efficiency and policy coherence.
Limited private sector engagement and insufficient incentives for ecosystem enterprises, sustainable timber markets, non-timber forest products (NTFPs), or green value chains.	Enhance private-sector and community ecosystem enterprises.	Provides livelihood incentives for conservation; expands sustainable timber, NTFP, eco-tourism, and agroforestry value chains; encourages community ownership of forest restoration.
Absence of measurable ecosystem service indicators, such as carbon stock changes, sediment reduction, water regulation metrics, or canopy cover monitoring. Mentions need for establishing National Forest inventory (NFI) and support for quantifying forest cover in Tonga.	Develop ecosystem-service monitoring indicators. Seek funding from NbS, NBSAP pathways, NDC pathways to strengthen NFI operation.	Enables tracking of NbS outcomes such as carbon, canopy cover, sediment reduction, and water regulation; strengthens investment cases; improves evidence-based management and reporting.

Coastal Resilience Sector Assessment

Tonga National Fisheries Policy 2018

The Tonga National Fisheries Policy shows clear alignment to the NbS principles, especially in ecosystem protection, community governance, and climate-aware management. Its SMA system is a leading Pacific model for locally-led stewardship. However, gaps in financing, enforcement, ridge-to-reef integration, and private-sector participation constrain the sector's full NbS potential.

Table 5-7 Tonga National Fisheries Policy 2018: Assessment Against Nature-based Solutions Criteria

Criterion	Assessment	Score
Ecosystem Protection & Restoration	Strong emphasis on conservation through Special Management Areas (SMAs), species-specific closures (e.g., beche-de-mer), marine reserves, and coastal habitat protection. SMAs explicitly aim to restore ecosystems and rebuild local stocks through community-led controls (Part 1, pp.10–13).	5
Climate Resilience & Adaptation	Climate threats are recognised (global warming, acidification, cyclones), and resilience is embedded through diversification (aquaculture), habitat protection, sustainable harvest controls, and community stewardship. The Policy links coastal degradation, overfishing, and environmental change.	4
Community Stewardship	Effective co-management governance model with strong community ownership and data collection responsibilities. The national SMA framework empowers villages with delegated decision-making, monitoring, and rule-setting. Support for fisher associations, cooperatives, and community committees reinforces locally driven governance (Part 1, pp.11–12; Part 1—Stakeholder Engagement pp.17–19).	5
Land–Sea integration	Recognises lagoon degradation and coastal pressures but contains limited integration with upland land-use, sedimentation sources, agriculture, or watershed management.	3
Institutional & Policy Coherence	Strong alignment with the Tonga Fisheries Sector Plan (TFSP), national legislation, sector plans, and collaboration with MEIDECC, Environment, Maritime, Navy, Police, and SPC/FFA/WCPFC regional frameworks (Part 1, pp.17–21). Clear governance structure.	4
Financing & Implementation Readiness	Heavy reliance on external funding (WB, IFAD, NZ MFAT, SPC). Limited domestic financing, insufficient long-term sustainability mechanisms, and capacity/staffing gaps (Part 1, p.9; Part 3—Pricing/Cost Recovery pp.40–45).	3
Private sector engagement	Recognises tuna longline, aquaculture, seaweed, sea cucumber, pearls, and coastal commercial fisheries. However, limited incentives for eco-enterprise development, value-added processing, ecosystem services markets, or blue-economy opportunities (Part 1, pp.15–17; Part 3, pp.34–39).	3

Table 5-8 Opportunities for Strengthening NbS Integration

Gaps	Opportunities	Justification
Heavy dependence on donor programmes with no long-term financing mechanisms for SMAs or coastal restoration.	Establish long-term SMA financing (Climate Change trust fund, user fees, levies, blended finance).	To sustain community enforcement, monitoring, and restoration beyond donor cycles.
Weak enforcement and compliance due to staffing shortages and limited monitoring technology.	Strengthen compliance capacity and marine surveillance (training, VMS expansion, community wardens)	Critical for protecting ecosystems, controlling illegal harvesting, and maintaining stock recovery.
Underdeveloped private-sector pathways for ecosystem enterprises (eco-tourism, blue carbon, value-added marine products).	Expand blue-economy and eco-enterprise development (eco-tourism, sustainable aquaculture, value-added processing).	Creates livelihoods linked to healthy ecosystems and aligns with NbS.
No explicit incorporation of blue carbon, ecosystem-services valuation, or coastal protection metrics.	Embed blue carbon (mangroves, seagrass) into fisheries planning. Strengthen the integration of ecosystem-service monitoring indicators (reef health, biomass, habitat cover).	Enhances climate finance eligibility and nature-based coastal protection. Supports adaptive management and provides measurable NbS impacts.

Tonga Fisheries Sector Plan

Central to the plan is SMA model, enabling communities to restore fish stocks and habitats while curbing overfishing. Measures like fishery closures, species-specific plans, marine spatial planning, and climate change adaptation enhance ecological resilience. Institutionally, the plan fits within national development and climate strategies but depends largely on external funding.

Table 5-9 Tonga Fisheries Sector Plan: Assessment Against Nature-based Solutions Criteria

Criterion	Assessment	Score
Ecosystem Protection & Restoration	Strong ecosystem protection focus including marine reserves, coastal habitat restoration through SMA programme, species closures and sustainable inshore (aquaculture) and offshore fisheries management (tuna, snapper fisheries).	5
Climate Resilience & Adaptation	Clear integration of climate threats and adaptation (cyclones, ocean warming, acidification). Includes DRM, diversification, habitat protection, ecosystem resilience measures.	4
Community Stewardship	SMA network, co-management, community committees, fisher cooperatives, and participatory planning	5
Land–Sea integration	Acknowledges coastal degradation and lagoon impacts but lacks systematic upstream watershed or land-based pollution integration.	3
Institutional & Policy Coherence	Strong alignment with TSDF, JNAP, MEIDECC climate frameworks, and coherent structures (National Fisheries Council, Fisheries Growth Council). Requires stronger governance and political commitment for effective implementation.	3

Criterion	Assessment	Score
Financing & Implementation Readiness	Mentions recurrent government funding to support phases 1-3 but largely dependent on development partners (WB, IFAD, NZ, etc.) and private sector investment. Weak long-term sustainability mechanisms for projects, and gaps in staffing and compliance capacity.	3
Private sector engagement	Recognises commercial fisheries and aquaculture but provides limited incentives for eco-enterprises, value-added processing, tourism–fisheries linkages, or blue-economy investments.	3

Table 5-10 Opportunities for Strengthening NbS Integration

Gaps	Opportunities	Justification
Limited domestic financing, and no long-term sustainable funding mechanism for SMAs or restoration activities.	Establish long-term sustainable financing mechanisms through trust fund, levies.	Reduces dependency on donor funding, secures ongoing support for monitoring, enforcement, and community stewardship.
Weak enforcement capacity, including limited compliance resources, staffing shortages, and challenges in monitoring illegal fishing and destructive practices.	Strengthen compliance and enforcement capacity (staffing, training, surveillance).	Improves protection of coastal ecosystems, reduces illegal fishing, protects habitat integrity, and supports the long-term success of SMAs and marine reserves.
Underdeveloped private-sector engagement, with limited incentives for ecosystem enterprises (eco-tourism, value-added marine products, blue-economy investments).	Expand private-sector engagement in blue-economy and eco-enterprise development (eco-tourism, sustainable aquaculture, NTFPs).	Mobilises investment into NbS-aligned activities, creates livelihoods linked to healthy ecosystems, and diversifies income sources for coastal communities.

National Coastal Fisheries Management & Development Plan

Establishes a comprehensive national framework focused on the conservation and sustainable management of coastal fisheries, addressing growing pressures from overharvesting, climate change, and habitat degradation, aiming to secure ecological sustainability, strengthen community livelihoods, and restore declining coastal resources.

Table 5-11 National Coastal Fisheries Management & Development Plan Assessment

Criterion	Assessment	Score
Ecosystem protection & restoration	There are strong species protection rules and strict controls on overharvesting vulnerable species such as giant clams, turtles, and pearl oysters, as well as closed seasons, gear limits, net controls, and habitat conservation measures. Restoration efforts, such as giant clam translocation, are explicitly included. Scientific monitoring, data collection, and stock assessments underpin adaptive management and ecosystem resilience.	4
Climate resilience & adaptation	The plan features climate-focused initiatives, including studies on climate impacts and community awareness programmes. However, climate adaptation is not fully integrated throughout all management measures and lacks concrete actions to address climate risk.	3
Community stewardship	There is a clear emphasis on community-based management, co-management principles, community fishing councils, Special Management Areas (SMAs), participatory monitoring, and compliance.	4
Land–Sea integration	The plan acknowledges threats from siltation, land runoff, and coastal development, but does not include explicit land-based management actions or mechanisms for cross-sector ridge-to-reef integration.	2
Institutional & policy coherence	Strong institutional coherence within the fisheries sector and collaboration with SPC, FFA, SPREP, and USP enhances technical capacity The plan maintains strong linkages to the Fisheries Act, CITES, national policies, and community regulations.	4
Financing & implementation readiness	The implementation plan is detailed, with specified actions, indicators, and responsibilities. However, it lacks defined financing mechanisms, costed activities, and long-term funding strategies.	3
Private sector engagement	The plan covers market research, fish market development, value-added products, and micro-credit access. However, ecosystem-enterprise development (such as community ecotourism, conservation businesses) and private sector co-investment in restoration are not deeply developed.	3

Table 5-12 Opportunities for Strengthening NbS Integration

Gaps	Opportunities	Justification
Limited ecosystem restoration strategies beyond clam translocation; the plan lacks initiatives focused on coral reef, mangrove, seagrass, or lagoon restoration.	Incorporate explicit ecosystem restoration actions, including coral reef rehabilitation, mangrove replanting, and seagrass protection.	Healthy ecosystems buffer impacts from cyclones, storm surges, and erosion; Protecting key habitats increases spawning biomass, ecological connectivity, and resilience.
There is weak multi-sector coordination (environment, lands, tourism, forestry), which is needed for integrated, landscape/seascape-based NbS approaches.	Promote nature-based enterprises, such as eco-tourism, sustainable shell craft, eco-certified fisheries, and community conservation enterprises.	These initiatives create economic incentives for conservation, reduce dependency on overharvesting, and align economic development with ecosystem stewardship.
Private sector engagement is limited, particularly in conservation finance, eco-enterprise development, and habitat restoration.	Improve private sector engagement in restoration, sustainable harvesting, eco-markets, and low-impact fishing technologies.	Increased private sector involvement mobilises investment, innovation, and partnerships that support ecosystem restoration and sustainable resource use.

Special Management Area (SMA) Strategy (2025–2030)

This presents a robust, community-centred framework for sustainable coastal fisheries governance and demonstrates strong alignment with several core principles of Nature-based Solutions (NbS). These include social inclusion, empowering locally led stewardship, strengthening compliance and monitoring systems, and embedding ecosystem protection through spatial management, gear controls, and community-developed coastal management plans. Overall, the Strategy offers a strong governance foundation with reference to SMA Manuals and Standard Operating Procedures for NbS implementation.

Table 5-13 Special Management Area Strategy: Assessment Against Nature-based Solutions Criteria

Criterion	Assessment	Score
1. Ecosystem protection & restoration	The Strategy strongly emphasises protection of coastal ecosystems via SMAs, community rules, exclusion of outside fishing, gear controls, and habitat-focused restrictions. It promotes biological monitoring, ecosystem threat identification, FAD management, and support for species recovery. The habitat restoration methods (target species, coral, mangrove, seagrass) is indicated in the SMA Manual 2030.	4
2. Climate resilience & adaptation	Climate and disaster resilience are recognised through alignment to JNAP2, incorporation of climate-threat information, and actions to integrate fisheries into disaster response systems. The plan encourages community preparedness, awareness of ecosystem threats, and information strategies including climate change proofing. Integration of fisheries into disaster response, strengthens resilience of coastal communities and recognises ecosystems in disaster impact pathways.	4
3. Community stewardship	The SMA Strategy is entirely community-centred, emphasizing community elections, CCMPs, CCMCs, inclusivity assessments (women, youth, landlocked fishers), participatory monitoring, voluntary compliance, and local ownership of rules. SMAs are explicitly positioned as community-governed MPAs.	5

Criterion	Assessment	Score
4. Land–Sea integration	The Strategy recognises land-based threats (pollution, runoff, development) and instructs communities to identify external impacts. It also calls for liaison with responsible agencies (Environment, NDMO). However, ridge-to-reef integration is not structured, and no cross-sector land–sea management actions, watershed strategies, or ICZM mechanisms are formally embedded.	3
5. Institutional & policy coherence	The SMA Strategy aligns with the National Fisheries Policy 2018, CFMDP 2022–25, Fisheries Corporate Plan, JNAP2, and Tonga Ocean Plan. It builds on SMA Manuals, SOPs and national legislation. Clear governance pathways, regulatory improvements, and multi-institution coordination (Fisheries, SPC, FAO, NDMO) strengthen coherence. Limited integration with non-fisheries agencies is the only constraint.	4
6. Financing & implementation readiness	The Strategy clearly outlines staffing, capacity gaps, cost drivers, monitoring loads, and funding risks (donor dependency). It proposes scaling reforms, streamlining processes, and workload prioritization. However, there is no dedicated sustainable finance model, and long-term budgeting for a 100-SMA network is uncertain.	3
7. Private sector engagement	The Strategy mentions livelihoods, value chains, and FADs but private sector engagement is minimal. There is no systematic approach to co-investment, eco-labelling, marine ecotourism, restoration enterprises, or market-based conservation incentives.	2

Table 5-14 Opportunities for Strengthening NbS Integration

Gaps	Opportunities	Justification
Weak ridge-to-reef integration: Land-based impacts (runoff, pollution, coastal development.	Develop a ridge-to-reef integration framework linking Fisheries with Lands, MEIDECC, Environment, and Agriculture.	Cross-sector coordination reduces pollution, sedimentation, and habitat degradation and strengthens whole-of-ecosystem resilience.
Limited disaster management integration to address impacts and recovery from natural disasters.	Formalise disaster-risk and ecosystem-linkages within SMA plans (e.g., natural habitat buffers, emergency fishery protocols, post-disaster ecological assessments).	Healthy ecosystems reduce disaster impacts. Integrating ecosystems into disaster planning strengthens coastal protection and food security under climate stress.
Limited monitoring methods and funding for national dialogue to determine effectiveness of SMA programme.	Scale up community-based ecological monitoring using simplified, smartphone-enabled tools and citizen-science methods. Leverage financing from pool of funds addressing coastal adaptation review (JNAP, NBSAP, NDCs)	Enhances local ownership, improves adaptive management, and provides real-time data to detect ecosystem changes which is a central NbS requirement.

Marine Aquarium Management & Development Plan (2024–2027)

Provides a structured regulatory framework for the sustainable harvesting and export of marine aquarium species (including soft and hard corals, small invertebrates and fish caught wild or cultured for the purposes of export), with strong emphasis on ecosystem protection, species-specific regulations, and industry compliance. Its alignment with NbS principles is evident in its biodiversity protection measures, monitoring requirements, and policy coherence across national legislation, CITES, and environmental regulations.

Table 5-15 Marine Aquarium Fishery and Development Plan Assessment

Criterion	Assessment	Score
1. Ecosystem protection & restoration	The Plan strongly protects marine ecosystems through bans on destructive practices (no live rock, no wild giant clams), strict gear restrictions, prohibitions on harmful species harvest (sharks, rays, turtles), annual catch limits, management zones, and habitat buffers	4
2. Climate resilience & adaptation	Climate impacts are acknowledged through awareness activities and public communications. The Plan links to national climate change policies and includes climate-related outreach under Strategy 3.2. Science-based management through pre-export inspections, monitoring obligations, biological surveys, species ID protocols, and stock assessments linked to adaptive management.	3
3. Community stewardship	The Plan promotes co-management, supports community participation in awareness events, and creates opportunities for employment and local involvement in monitoring and data collection.	4
4. Land–Sea integration	The fishery recognises that external factors (pollution, sedimentation) affect coral and species health, but no mechanisms exist to integrate management with watershed, land use, or coastal zone policies.	2
5. Institutional & policy coherence	The Plan is well aligned with the Fisheries Management Act 2002, Conservation Regulations 2008, Processing Regulations 2008, Environment Management Act 2010, and CITES.	4
6. Financing & implementation readiness	The Plan includes a detailed implementation plan (Appendix A), MEL framework, staffing responsibilities, and monitoring procedures. However, no long-term financing strategy exists, and the Plan recognises resource constraints (staffing, enforcement capacity, monitoring, control and surveillance challenges).	3
7. Private sector engagement	Private sector is embedded in management, and operators are required to support monitoring and sustainability practices. The plan mandates compliance and encourages local employment and supports industry value chains.	3

Table 5-16 Opportunities for Strengthening NbS Integration

Gaps	Opportunities	Justification
No active ecosystem restoration actions, such as coral rehabilitation, mangrove planting, lagoon recovery, or habitat enhancement for aquarium species.	Develop active ecological restoration programmes (coral planting, giant clam reseeding, lagoon habitat recovery).	Restoration enhances ecosystem function, increases habitat for aquarium species, accelerates biodiversity recovery, and directly delivers core NbS benefits such as coastal protection and ecosystem resilience.
Ecosystem-based adaptation actions, climate-risk assessments, or habitat-based resilience interventions and ecosystem health indicators are limited.	Introduce ecosystem-based climate adaptation measures (heat-resilient coral nurseries, species vulnerability assessments, climate-smart harvest limits).	Strengthens resilience of the aquarium fishery to warming seas, bleaching, and climate-driven habitat loss; embeds climate adaptation into resource management.
Community role is supplementary, not fully empowered in decision-making, monitoring, or co-management compared to best-practice NbS governance.	Strengthen community-based co-management by involving communities in species monitoring, habitat surveys, nursery operations and MCS.	Enhances stewardship, builds local ownership, supports social equity, and aligns the Plan with locally led NbS governance models.

Fanga'uta Lagoon Stewardship Plan

The Fanga'uta Stewardship Plan demonstrates strong alignment with NbS principles, particularly in community governance, ridge-to-reef integration, and ecosystem-based management. However, it requires strengthening in financing, measurable indicators, economic valuation, and private sector engagement.

Table 5-17 Assessment Against Nature-based Solutions Criteria

Criterion	Assessment	Score
Ecosystem Protection & Restoration	Strong emphasis on ecosystem protection, including mangrove conservation, pollution reduction, fisheries habitat protection, and watershed management. Recognises interlinkages between mangroves, seagrass, and reefs, and aims to restore ecosystem health through adaptive management. However, lacks quantified restoration targets and measurable biodiversity indicators.	4
Climate Resilience & Adaptation	Strong integration of climate resilience through ecosystem-based management, reduction of pollution pressures, coastal protection via mangroves, and alignment with JNAP and climate policy frameworks. Focus on strengthening ecosystem and livelihood resilience to climate change impacts.	4
Community Stewardship	Very strong community-based governance framework with 26 communities, Community Management Committee, participatory decision-making, and local stewardship principles embedded throughout the plan. Emphasises shared responsibility and inclusive engagement.	5
Land–Sea integration	Strong ridge-to-reef approach covering the entire lagoon catchment, integrating terrestrial, freshwater, coastal, and marine systems. Explicit recognition of land-based pollution impacts on lagoon ecosystems and fisheries.	5

Criterion	Assessment	Score
Institutional & Policy Coherence	Strong alignment with national laws (Environment Act, Fisheries Act, Waste Act), TSDF, NBSAP, and JNAP. Establishes structured governance (Steering, Technical, Community Committees). However, acknowledges existing weak enforcement and coordination challenges.	4
Financing & Implementation Readiness	Provides governance and implementation framework but lacks clear financing mechanisms, investment strategy, or long-term funding pathways. Heavy reliance on project-based and donor-driven support (e.g., UNDP-GEF R2R).	3
Private sector engagement	Includes private sector representation (Chamber of Commerce, Waste Authority) but limited explicit focus on ecosystem-based enterprises, blue economy, carbon markets, or livelihood-based NbS business models.	3

Table 5-18 Opportunities for Strengthening NbS Integration

Gaps / Weaknesses	Opportunity	Justification
Lack of defined financing mechanisms, with reliance on donor-funded programmes (e.g., UNDP-GEF), and no long-term NbS investment strategy.	Establish dedicated NbS and climate-finance mechanisms (e.g., blue carbon financing, PES schemes, national NbS trust fund for lagoon restoration).	Provides sustainable financing for mangrove restoration, pollution control, and fisheries recovery, reducing donor dependency and enabling long-term ecosystem management.
Limited economic valuation of ecosystem services and no cost-benefit analysis of interventions.	Conduct ecosystem service valuation and cost-benefit analysis of NbS interventions (e.g., mangroves for coastal protection, fisheries productivity).	Strengthens investment case, demonstrates economic returns, and improves access to GEF, GCF, and development finance.
Weak formalization of trade-offs and safeguards in development planning (despite EIA references).	Introduce NbS safeguards framework and trade-off analysis (avoid–minimise–restore hierarchy, spatial planning tools).	Ensures infrastructure and development decisions do not undermine ecosystems, improving sustainability and donor compliance.
Limited private-sector engagement in NbS and ecosystem-based enterprises.	Promote blue economy and ecosystem-based enterprises (eco-tourism, sustainable fisheries, mangrove restoration services, carbon markets).	Mobilises private investment, creates jobs, and scales NbS through market-driven approaches.

Cross-Sectoral Analysis

Tonga Strategic Development Framework

The TSDFII[3] presents a strategic, whole-of-government framework that prioritises climate resilience, environmental governance, and institutional strengthening. It demonstrates strong alignment with NbS principles through its focus on biodiversity conservation, environmental service delivery, improved hazard and climate data, and integration of climate-proofing across planning systems.

Table 5-19 Tonga Strategic Development Framework II Assessment

Criterion	Assessment	Score
Ecosystem protection & restoration	The Plan acknowledges biodiversity conservation, sustainable environmental management, pollution control, and the maintenance of ecosystem services. It promotes integrated environmental management systems and improved environmental data.	3
Climate resilience & adaptation	Strong focus on natural disaster risk reduction, climate-proofed planning guidelines, early warning systems, and mainstreaming climate considerations across sectors. It calls for improved climate and disaster impact data, indicating high alignment with climate resilience principles.	4
Community stewardship	Community participation is recognised in awareness, preparedness, and outreach programmes. Engagement in disaster risk management is highlighted. However, community stewardship in natural resource management or NbS co-management is not explicitly developed.	3
Land–Sea integration	The Plan emphasises land-based environmental protection and waste management, but there are no clear mechanisms linking terrestrial planning with coastal or marine ecosystem health.	2
Institutional & policy coherence	Strong alignment with TSDF II and clear emphasis on integrated planning, cross-ministerial collaboration, improved governance structures, and harmonised environmental and disaster-risk systems. The Plan identifies institutional tensions and proposes coherence improvements.	5
Financing & implementation readiness	The document outlines environmental service delivery improvements, budget alignment, and investment priorities. However, financing for ecosystem restoration or NbS-specific activities is not detailed. Implementation focuses primarily on infrastructure and governance strengthening.	3
Private sector engagement	The Plan promotes private-sector participation in waste management, environmental services, and pollution control.	3

3 https://finance.gov.to/sites/default/files/2020

Table 5-20 Opportunities for Strengthening NbS Integration

Gaps	Opportunities	Justification
Although coral reefs and mangroves are mentioned as important for climate and disaster resilience, forestry and agriculture are not explicitly mentioned as mechanisms for resilience.	Expand ecosystem-based climate adaptation to state enhancing Nature-based Solutions incorporating traditional ecological knowledge for agricultural practice and forestry, coastal buffers as natural hazard mitigation and resilience.	Enhances national resilience to cyclones, sea-level rise, and storm surges while providing social and ecological co-benefits across terrestrial and marine resource bases.
No defined financing pathways for NbS or long-term ecosystem protection.	Promote private-sector ecosystem-enterprise development (eco-tourism, sustainable resource businesses).	Mobilises investment, supports livelihoods, increases innovation, and creates financial incentives for conserving natural systems.
Lack of NbS framing and indicators	Embed NbS framing in the strategic concepts and specific NbS indicators for marine and terrestrial KPIs and safeguards into the planning and monitoring framework.	Ensures long-term accountability, tracking, and evaluation of NbS contributions to climate and development outcomes.

National Biodiversity Strategy & Action Plan 2030

The Tonga NBSAP provides a strong national foundation for biodiversity conservation and aligns closely with NbS by prioritizing habitat protection, ecological restoration, and community engagement. NbS integration is strengthened through explicit ecosystem-based adaptation frameworks, improved ridge-to-reef system coordination, and expanded marine restoration efforts, supported by donor funding while also exploring avenues for sustainable financing for long term implementation.

Table 5-21 National Biodiversity Strategy and Action Plan Assessment

NbS Criterion	Assessment	Score
1. Ecosystem Protection & Restoration	The NBSAP places ecosystem protection and restoration at the centre of its strategy, with explicit actions for rehabilitating degraded coastal habitats and safeguarding native biodiversity. It identifies priority ecosystems and species requiring urgent protection and sets clear targets for coastal, terrestrial, and marine restoration (strategy 9, 26&29). These measures strongly align with NbS principles and provide a robust ecological foundation for long-term resilience.	5
2. Climate Resilience & Adaptation	The plan acknowledges climate change as a major driver of biodiversity loss and integrates adaptation into coastal and ecosystem management. It supports ecosystem-based adaptation through restoring natural buffers and reducing vulnerability of ecosystems to climate impacts.	4
3. Community Stewardship	The NBSAP emphasises empowering local communities to participate in monitoring, conservation, and awareness-building activities. It recognises traditional knowledge and cultural stewardship as essential for effective biodiversity protection.	4

NbS Criterion	Assessment	Score
4. Land–Sea integration	The plan recognises that land-based activities affect coastal and marine biodiversity and calls for reducing sedimentation and land-derived pressures. It supports holistic management of ecosystems as there is integration across terrestrial, freshwater, and marine landscapes.	4
5. Institutional & Policy Coherence	The NBSAP is well-aligned with national frameworks such as TSDF II, JNAP2, and international commitments under the CBD. It clearly assigns responsibilities to ministries, civil society, and regional partners, demonstrating strong institutional coordination. This policy coherence enhances the plan's credibility and integration across sectors.	5
6. Financing & Implementation Readiness	The strategy provides a structured action framework with responsible agencies and thematic priorities, supporting implementation. However, it lacks costed action plans, sustainable financing mechanisms, or long-term resource mobilization strategies. This limits the full operationalization of NbS actions despite strong strategic intent.	3
7. Private sector engagement	The NBSAP as an overarching framework identifies tourism, fisheries and other commercial sectors as stakeholders to establish pathways for private-sector investment in ecosystem management. Opportunities for eco-enterprises, restoration partnerships, and conservation incentives need to be strengthened through individual sector-specific plans.	3

Table 5-22 Opportunities for Strengthening NbS Integration

Gaps	Opportunities	Justification
Limited sustainable financing pathways and mechanisms for NbS implementation.	Establish long-term NbS financing mechanisms such as biodiversity funds, payment for ecosystem services (PES), or blue carbon initiatives. The Ocean Management Fund has been enacted to support financing.	Sustainable financing reduces reliance on short donor cycles and ensures continuity of restoration programmes. It enables long-term planning by communities and government agencies and creates incentives for private and community investment in ecosystem health.
Need to strengthen public private partnerships in NbS delivery and ecosystem restoration.	Strengthen private-sector engagement through eco-enterprises, restoration partnerships (e.g.Toloa, fisheries), and sustainable tourism incentives.	Private-sector participation diversifies financing sources, accelerates restoration efforts, and creates livelihood opportunities linked to ecosystem protection. This reframes biodiversity from a regulatory obligation into a productive economic asset.
Limited funding for ecological outcome indicators to track NbS effectiveness.	Secure funding for ecosystem health indicators monitoring such as reef cover, mangrove extent, forest condition, and native species (Tongan megapode, Tongan whistler etc) recovery through multilateral funding.	ecological indicators provide measurable evidence of NbS performance and support adaptive management. They strengthen transparency and improve alignment with SDG, NDC, and CBD reporting requirements.

National Invasive Species Strategy and Action Plan 2027

Provides a strong national framework for safeguarding biodiversity and directly supports NbS through its focus on invasive species control, habitat protection, and ecological restoration. Its cross-ecosystem scope and emphasis on community participation, biosecurity, and rapid response contribute to resilient natural systems. Lack of long-term financing tools such as biodiversity funds, limit sustainability. Overall, NISSAP is a strong biodiversity instrument that can readily evolve into a more comprehensive NbS-centred strategy.

Table 5-23 National Invasive Species Strategy and Action Plan Assessment

NbS Criterion	Assessment	Score
Ecosystem Protection & Restoration	NISSAP focuses on ecosystem protection and restoration, prioritizing Tonga's biodiversity across all environments. The plan addresses invasive species with targeted actions like habitat restoration, eradication programmes, native replanting, and ecological recovery at key sites. Annexes list important biodiversity areas and species needing intervention.	5
Climate Resilience & Adaptation	The strategy acknowledges that climate change heightens invasive species risks through extreme weather and ecosystem disruption. NISSAP links climate and invasive threats, focusing on resilience through biosecurity, rapid response, eradication, and habitat recovery.	4
Community stewardship	NISSAP integrates community involvement, with local groups key to detection, monitoring, enforcement, and site restoration. The plan treats invasive species management as a shared responsibility across villages, schools, NGOs, civil society, and churches.	4
Land–Sea integration	NISSAP recognises that invasive species impact ecosystems from land to sea and highlights the importance of managing pathways between them. The plan focuses mainly on individual species, with less emphasis on system-wide approaches and marine invasives.	3
Institutional & Policy Coherence	The strategy aligns with key national and regional policies such as TSDF II, JNAP2, Tonga Climate Change Policy, NBSAP, and PRISMSS. It assigns roles, governance, coordination, and capacity-building responsibilities, featuring an implementation matrix for MEIDECC, MAFF, Biosecurity, Environment bodies, NGOs, and communities.	5
Financing & Implementation Readiness	The plan outlines timelines, responsible agencies, priority actions, and alignment with donors like GEF, UNDP, and SPREP. It is set up to attract external funding and offers a clear path for invasive species control. However, it relies mainly on donor project cycles and lacks long-term domestic financing options such as a biodiversity fund or conservation levy.	4
Private sector engagement	The plan notes the private sector's role in preventing invasive species but lacks clear avenues for involvement in ecosystem restoration, NbS investment, or conservation enterprises.	3

Table 5-24 Opportunities for Strengthening NbS Integration

Weaknesses / Gaps	Opportunities	Justification
Marine invasive species management is underdeveloped, with limited strategies for coral reefs, lagoons, ports, and coastal ecosystems.	Develop dedicated marine invasive species strategies for coral reefs, lagoons, ports, and coastal zones.	Marine ecosystems face distinct invasion pathways requiring tailored surveillance, control, and restoration measures. A dedicated strategy strengthens early detection, enforcement, and ecosystem recovery.
Sustainable financing and monitoring systems for NbS are weak, with heavy reliance on donor funding and limited ecosystem indicators.	Establish NbS financing instruments (e.g. biodiversity funds, blue carbon, PES) and integrate ecosystem health indicators into M&E systems.	Long-term financing and robust indicators enable sustained implementation, adaptive management, and credible reporting against climate and biodiversity commitments.

Climate Change Policy (2016)

The policy provides a national framework that aligns strongly with key principles of Nature-based Solutions. It emphasises ecosystem protection, mainstreams climate adaptation and disaster risk reduction across all sectors, and strengthens institutional coherence through integrated planning, governance reforms, and community-driven resilience initiatives. The policy outlines clear targets for biodiversity conservation, coastal protection, forestry expansion, and climate-proof development, reflecting a strong enabling environment for NbS.

Table 5-25 Tonga Climate Change Policy 2009: Assessment Against Nature-based Solutions Criteria

Criterion	Assessment	Score
1. Ecosystem protection & restoration	The policy strongly prioritises protected and restored ecosystems, including targets such as "native biodiversity is fully protected and enhanced" and 30% of land under agroforestry/forestry. It also promotes coastal protection, community development plans incorporating environmental sustainability, and strict regulations on sand removal, mangrove cutting, pollution, and environmental degradation.	4
2. Climate resilience & adaptation	The entire framework aims at "A Resilient Tonga by 2035" with deep integration of climate-proofing, disaster risk reduction, resilient infrastructure, early warning systems, food security, water security, and adaptation-focused targets. The policy takes a holistic, multi-sectoral approach combining adaptation, mitigation, and DRR .	5
3. Community stewardship	The policy emphasises community ownership, participation, and leadership in achieving resilience. It calls for community-aligned development plans, village committees, 23 champion villages, and community-led adaptation actions supported by government and NGOs.	4
4. Land–Sea integration	The policy recognises the interconnectedness of ecosystems and calls for coastal protection, forestry expansion, soil health monitoring, and coastal–terrestrial data integration. Targets include 100% coastal communities having protected coastal areas.	3

Criterion	Assessment	Score
5. Institutional & policy coherence	The policy provides one of Tonga's strongest cross-sectoral planning frameworks. It aligns with TSDF II, JNAP, Tonga Climate Change Fund Bill (now Act) sector plans, community plans, and island development plans. It mandates mainstreaming across ministries, strengthens national climate governance bodies, and promotes regional/international cooperation.	5
6. Financing & implementation readiness	The policy includes dedicated financing mechanisms such as the Tonga Climate Change Fund, simplified community access to finance, development partner coordination, and long-term sustainable finance targets.	4
7. Private sector engagement	The policy promotes private sector innovations, partnership in resilience, low-carbon development, waste management participation, and encourages a "proactive private sector that is a model for resilience" (Target #18).	3

Table 5-26 Opportunities for Strengthening NbS Integration

Weaknesses / Gaps	Opportunities	Justification
Lack of NbS specific framing, however NbS principles are embedded through ecosystem restoration of coastal systems.	Embed policy direction for using NbS terminology and promote hybrid solutions rather than hard infrastructure for coastal protection.	Supports resilience-building actions and activities in JNAP enhances adaptive capacity by restoring natural defences.
Private-sector roles in ecosystem-based enterprise (eco-tourism, restoration business models) are not well developed.	Expand private-sector ecosystem-enterprise models (eco-tourism, sustainable aquaculture, nature-based livelihoods) to support strategy for supporting women (pg 12).	Mobilises investment and supports economic diversification while incentivizing conservation.

Joint National Action Plan on Climate Change and Disaster Management (JNAP2)

The plan represents Tonga's most comprehensive national resilience framework, integrating climate adaptation and disaster risk reduction into a unified national strategy. It strongly aligns with key NbS principles by recognizing the critical role of healthy ecosystems in buffering climate and disaster impacts and embedding environmental protection within resilience-building objectives.

Table 5-27 Joint National Action Plan on Climate Change & Disaster Management Assessment

Criterion	Assessment	Score
1. Ecosystem protection & restoration	JNAP2 strongly recognises ecosystem degradation as a key climate and disaster risk issue. It identifies threats to biodiversity, coastal erosion, forest degradation, and coral reef decline. Objective 4 prioritises "Resilience-building actions" including ecosystem protection, environmental management, and Nature-based Solutions such as coastal re-vegetation and watershed protection.	4
2. Climate resilience & adaptation	JNAP2 is entirely structured around climate resilience, DRR, adaptive capacity, climate-risk data, coastal protection, risk-informed planning, and resilient infrastructure. Objectives 1–4 focus on mainstreaming resilience, improving data, enhancing adaptive capacity, and implementing resilience-building actions nationwide. Early warning systems, resilient agriculture, water security, energy resilience, and coastal protection are central features.	5
3. Community stewardship	JNAP2 emphasises village committees, community resilience planning, community-based monitoring, and local participation in preparedness, DRR and adaptation. It identifies the need for awareness, training, and inclusive participation (youth, women, vulnerable groups).	4
4. Land–Sea integration	The plan highlights land-use planning, coastal resilience, watershed management, coastal erosion, and integrated data management. It strongly recognises linkages between land degradation, runoff, erosion, and impacts on reef ecosystems.	4
5. Institutional & policy coherence	JNAP2 demonstrates exceptional institutional coherence. It aligns fully with TSDF II, sector policies, island development plans, and national climate governance frameworks. It integrates DRR and climate change into one unified national strategy and outlines clear institutional linkages across ministries, civil society, communities, NGOs, and regional/international frameworks.	4
6. Financing & implementation readiness	JNAP2 includes an indicative budget, resource mobilization plan, project pipeline, donor coordination strategy, and M&E framework. Financing instruments such as the Climate Change Trust fund has been developed for JNAP implementation.	4
7. Private sector engagement	The plan encourages private-sector participation in resilience infrastructure, waste management, preparedness, and innovation. However, it does not establish private-sector roles in ecosystem-based enterprises (eco-tourism, restoration business models, green–blue economy initiatives).	3

Table5-28 Opportunities for Strengthening NbS Integration

Weaknesses / Gaps	Opportunities	Justification
NbS or EBA terminology not explicitly used throughout the document.	Include NbS-specific indicators in JNAP M&E (ecosystem condition, carbon sequestration, habitat resilience).	Strengthens accountability, reporting, and integration into regional climate reporting (UNFCCC, Sendai).
Private sector not fully engaged in conservation enterprise or ecosystem restoration markets.	Promote private-sector nature-based enterprise development (eco-tourism, conservation aquaculture, restoration businesses).	Expands livelihoods and builds market-driven incentives for ecosystem health.

Tonga Tourism Sector Roadmap (2021)

The roadmap provides a comprehensive framework for developing tourism as a driver of sustainable economic growth, while recognizing the importance of Tonga's natural and cultural heritage. It promotes environmentally and culturally sensitive tourism, prioritizing small- to medium-scale developments, marine-based activities, heritage sites, and protected areas. Overall, this is a strong sustainable tourism and economic development instrument that could evolve into a NbS-supportive framework by integrating ecosystem protection, climate resilience, and nature-based tourism models into its investment, infrastructure, and monitoring systems.

Table 5-29: Tonga Tourism Sector Roadmap: Assessment Against Nature-based Solutions Criteria

NbS Criterion	Assessment	Score
Ecosystem Protection & Restoration	Supports protected areas, heritage sites, marine tourism (diving, whale watching), and environmentally based attractions. It promotes small- to medium-scale tourism with lower environmental impact. However, it does not mandate ecosystem restoration or no-net-loss principles for tourism development.	4
Climate Resilience & Adaptation	Environmental sustainability is acknowledged, but climate adaptation is not a central framing. Tourism development is not explicitly linked to ecosystem-based adaptation, coastal protection, or climate risk reduction.	3
Community stewardship	The roadmap recognises community benefits, cultural tourism, and outer-island livelihoods. However, community stewardship and co-management of natural assets are not formalised within governance or legal frameworks.	3
Land–Sea integration	Marine tourism is highlighted, but land-based pressures, watershed impacts, and ridge-to-reef connections are not systematically addressed in tourism planning or investment frameworks.	2
Institutional & Policy Coherence	Aligns well with TSDF, NIIP, TERM, and broader development frameworks. It establishes sector coordination mechanisms and clear institutional roles.	5
Financing & Implementation Readiness	The roadmap includes costed actions, budgets, and sequencing, enhancing implementation readiness. Financing focuses on tourism growth rather than ecosystem maintenance or NbS investment.	4
Private sector engagement	Strong private-sector focus for tourism investment, but limited emphasis on eco-enterprises, restoration services, or nature-based business models beyond conventional tourism operations.	3

Table 5-30 Opportunities for Strengthening NbS Integration

Weaknesses / Gaps	Opportunities	Justification
Community stewardship roles are informal and not institutionalised.	Formalise community co-management of tourism-linked natural and cultural sites.	Strengthens local ownership, improves site maintenance, and aligns tourism benefits with conservation outcomes.
No dedicated ecosystem or NbS financing mechanisms linked to tourism growth.	Introduce tourism-linked conservation levies or eco-fees to finance ecosystem restoration and monitoring.	Creates sustainable domestic financing for ecosystem maintenance supporting the tourism economy.
Lack of ecosystem condition indicators in tourism monitoring.	Integrate ecosystem health indicators (reef condition, water quality, habitat integrity) into tourism M&E systems.	Enables adaptive management and demonstrates the environmental sustainability of tourism development.

Tonga National Infrastructure Investment Plan 3 (NIIP3, 2021–2030)

The Tonga National Infrastructure Investment Plan (NIIP3) provides a robust framework for prioritizing climate-resilient infrastructure. There is significant scope to incorporate ecological screening, hybrid green–grey design standards, community stewardship and NbS financing to avoid infrastructure that degrades ecosystems.

Table 5-31 National Infrastructure Investment Plan III Assessment

NbS Criterion	Assessment	Score
Ecosystem Protection & Restoration	Mentions biodiversity and ecosystem management broadly but does not embed ecological protection into infrastructure decision-making; lacks restoration commitments.	2
Climate Resilience & Adaptation	Strong alignment with JNAP II; climate resilience is a core driver of NIIP3; focuses on Category-5-resilient infrastructure and strengthened disaster risk management.	4
Community Stewardship & Locally-Led Governance	Recognises need to align with community plans but provides no mechanism for stewardship, co-management, or community-based monitoring.	2
Land-Sea / Ridge-to-Reef Integration	Covers land and marine topics separately; lacks integrated watershed, coastal, and marine system planning; no R2R framework.	2
Institutional & Policy Coherence	Well-aligned with TSDF II, JNAP II, and Climate Policy; strong integration into national planning systems; roles of MDAs well defined.	4
Financing & Implementation Readiness	Clear prioritisation systems, funding lists, and M&E improvements; identifies gaps in data and asset registries; strong donor alignment.	4
Private sector engagement	Private sector mentioned mainly in infrastructure and utilities; no engagement with ecosystem-based enterprises or NbS-industry models.	2

Table 5-32 Opportunities for Strengthening NbS Integration

Weaknesses / Gaps in	Opportunities	Justification
Lack of explicit ecosystem restoration actions within infrastructure projects	Incorporate green–grey hybrid infrastructure standards, including mangrove buffers, reef restoration adjacent to hard structures.	Reduces climate and wave risks, lowers long-term maintenance costs, and enhances the protective function of natural systems alongside engineered assets.
Community stewardship mechanisms are missing, with no formal pathways for co-management, community maintenance agreements,	Formalise community co-management and maintenance agreements for natural buffers integrated into infrastructure projects.	Enhances asset longevity, improves compliance, reduces maintenance costs, and builds local ownership—key characteristics of effective NbS governance.
Private-sector participation in NbS is minimal, with limited incentives for green design, restoration partnerships	Develop private-sector pathways for NbS delivery, including eco-engineering PPPs	Mobilises private investment and technical innovation, creates green jobs, and supports ecosystem-based business models
Monitoring systems do not capture ecosystem outcomes associated with infrastructure investments.	Integrate ecosystem condition indicators into NIIP M&E systems (e.g. reef cover near ports, mangrove health near roads)	Ensures infrastructure performance accounts for environmental health, strengthens adaptive management, and supports climate, biodiversity, and NbS reporting obligations.

Policy Upgrades

NbS Upgrades for Policy/Plan

TIER 1 policies require urgent upgrading due to their high national influence. NIIP3 and TSDF III sit at the top because they determine long-term development and infrastructure pathways. Without embedding restoration, ecological safeguards, major investments risk exacerbating environmental degradation and increasing climate vulnerability.

TIER 2 policies have stronger baseline alignment with NbS but require targeted upgrades to fully operationalise ecosystem-based resilience. These plans need improved ecosystem-service indicators, land to sea governance, ecosystem-based adaptation and sustainable financing mechanisms.

TIER 3 policies demonstrate strong NbS alignment and require only incremental improvements such as strengthening monitoring frameworks, updating climate components, and expanding private-sector involvement.

Table 5-33 Tiers of Policy Upgrades for Nature-based Solutions

Policy / Plan	NbS Upgrades Needed	Justification
Tier 1 – Highest Priority		
NIIP3 (2021–2030)	Add ecological screening, restoration requirements, land to sea alignment, NbS financing, green–grey standards.	Infrastructure decisions shape long-term coastline, watershed, and ecosystem resilience; current gaps create national-scale risk.
TSDF II	Integrate ecosystem restoration requirements and nature-based climate adaptation.	TSDF II drives government-wide planning; embedding NbS ensures all sectors adopt ecosystem-based resilience.
Marine Aquarium Plan	Add habitat restoration, NbS finance, eco-enterprises.	Reef ecosystems face severe pressure; without NbS actions, long-term sustainability of the industry is at risk.
SMA Strategy (2025–2030)	Introduce NbS framing, establish sustainable financing, private-sector partnerships.	SMAs are the backbone of coastal stewardship; scaling NbS is essential for national coastal resilience.
Tier 2 – Medium Priority		
Coastal Fisheries Plan (2023–2026)	Strengthen restoration, climate adaptation, land to sea integration, ecosystem indicators.	Ensures long-term productivity of fisheries and reduces vulnerability to climate and sedimentation pressures.
Fisheries Sector Plan (2016–2024)	Add blue carbon pathways, NbS finance, private-sector ecosystem enterprises.	Supports sustainable coastal livelihoods and national food security.
NISSAP (2021–2027)	Add marine invasive strategies, NbS funding tools.	Invasive species undermine ecosystem resilience; NbS upgrades reduce biodiversity loss and climate vulnerability.
NBSAP 2030	Strengthen co-management, NbS indicators, financing tools.	New biodiversity threats require updated NbS governance and restoration models.
Agriculture Sector Plan (2016–2020)	Add NbS financing, land to sea ecosystem monitoring, green value-chains.	Agriculture impacts downstream ecosystems; NbS reduces erosion, runoff, and climate risk.
Tier 3 – Medium priority		
Forest Plan (2017)	Add blue carbon integration, private-sector incentives, NbS metrics.	Already strong; upgrades enhance reporting and long-term sustainability.
National Forest Policy (2009)	Improve cross-sector coordination, add NbS and climate change framing.	Strengthens national restoration and watershed resilience.
Climate Change Policy (2016)	Add NbS framing.	Ensures climate policy explicitly anchors NbS actions.
JNAP2 (2018–2028)	Add NbS language and ecosystem financing.	Enhances alignment across resilience, climate, and ecosystem systems.

6. Assessment of Legislative Instruments

The legislative instruments linked to Nature-based Solutions by each Ministry is an extensive list (see annex 1). To streamline the legislative assessment for more focus on pertinent legislation linked to NbS, the legislative assessment was guided by the recommendations derived from the policy analysis in section 5. Although the assessment places emphasis and high priority actions required for Tier 1 policies, the assessment focused on the Forestry and Coastal sectors to determine practical actions required.

Forestry Sector

Legislation	NbS Upgrades Needed	Justification
Forests Act (1961)	The Act should be revised to broaden its scope to cover areas such as plantation forests, agroforestry system approaches, urban forestry, coastal forest management, community forestry, and so forth.	High NbS instrument due to operational sustainability framework, licensing standards, and integration with environmental codes and cross-sector committees.
Forest Produce Regulations (1979)	Needs revision to align with NbS and blue carbon integration goals.	Need to broaden its scope to ensure illegal export of "vulnerable" and "rare" forest products is prohibited.
Sandalwood Regulations (2016)	Private-Sector Engagement: Introduce PPP models under the Sandalwood and Forestry Acts for agroforestry carbon crediting, eco-certification, and reforestation contracts. Climate Financing Mechanisms: Establish a Forest and Blue Carbon Fund using export levies, sandalwood license fees, and donor co-financing.	To embed sustainable management, monitoring, and coordination frameworks.
Tongatapu 2010 Code of Practice	Blue Carbon Integration: Amend forestry codes to link upland watershed protection with coastal carbon sinks (mangrove sedimentation benefits). NbS Metrics & M&E: Standardise reporting templates using measurable indicators (e.g., hectares replanted, erosion reduction etc).	High NbS instrument due to integration with environmental codes and embeds sustainable management, monitoring, and coordination frameworks.

Coastal Sector

Legislation	NbS Upgrades Needed	Justification
Aquaculture Management Act (2003)	requires explicit financial and blue carbon frameworks.	For effective operational sustainability framework, licensing standards, and integration with cross-sector committees.
Aquaculture Management Regulations (2022	Establish a Blue Carbon Finance Window under the Aquaculture Regulations, allocating permit revenue to restoration and carbon MRV. Incorporate private-sector incentives (eco-labelling, carbon credits, sustainable aquaculture certifications). Seaweed / Algae Farming needs recognition as carbon sink and inclusion in national NDC MRV.	High NbS instrument due to operational sustainability framework, licensing standards, and integration with environmental codes and cross-sector committees.
Fisheries Coastal Communities Regulations (2009)	Requires explicit financial and blue carbon frameworks. Need for MRV framework or carbon accounting standards.	Contains the principles of locally led NbS and ecosystem stewardship
Fisheries Management Act (2002)	Amend the Fisheries Act to recognise NbS and blue carbon ecosystems as national assets under the Fisheries and Environment Acts.	Outdated, emphasizing compliance and resource control over climate resilience or NbS-oriented restoration.
Conservation Regulations (2008)	Mangrove and seagrass protection (Fish Habitat Reserves) Need for MRV framework or carbon accounting standards. Requires updated species conservation measures/ penalties to meet emerging trends and enforcement issues	Outdated and current commercial fishing pressures undermine effective NbS support

7. Key themes from consultations

Existing momentum

Stakeholders noted that NbS initiatives are already underway in Tonga, especially via the Department of Environment and Department of Climate Change, MEIDECC, Ministry of Fisheries, MAFF, tourism authorities and NGOs such as the Tonga National Youth Congress and Civil Society Forum. The Ministry of Tourism is actively promoting ecotourism.

Policy updates required

Participants called for urgent updates to outdated sector policies, specifically, the Tonga National Forest Policy (2009) was cited as not reflecting current priorities (climate resilience, invasive species, community-based conservation), while newer frameworks such as TSDF III already incorporate NbS principles. Stakeholders recommended mainstreaming NbS within existing coordination structures, particularly NBSAP or JNAP Secretariat, rather than creating new NbS platforms. Funding constraints and duplication of roles were identified as barriers to multisector coordination.

Balancing economic and conservation goals

A central concern was the tension between economic productivity and ecological safeguards. Participants observed that many policies prioritise farming, fisheries or tourism revenue, while conservation is treated as secondary. Conflicts were noted where conservation activities (e.g., mangrove restoration) clash with commercial aquaculture or where invasive species complicate forestry management. Facilitators clarified that NbS seeks a balance using natural processes to support climate resilience, food security and disaster risk reduction and that long-term economic sustainability depends on ecosystem health.

Practical examples and definitional clarity

Stakeholders shared successful NbS practices such as agroforestry and mixed cropping, Mucuna for soil restoration, sustainable fallow systems, natural methods for soil, water and waste management, and mangrove replanting programmes. Debate over whether chemical control versus biocontrol qualifies as NbS, supported the need for clear definitions in future policy guidelines.

Enforcement, land tenure and coordination gaps

Participants highlighted institutional challenges, including overlapping mandates among land, infrastructure, environment, fisheries and forestry agencies; duplication of donor supported initiatives; and weak monitoring and enforcement capacity. Land tenure disputes were seen as major barriers to long-term stewardship. Stakeholders advocated for clearer zoning through establishing a Land-use policy and stronger government protection of NbS priority areas to prevent degradation from infrastructure expansion and commercial development.

8. Strategic Recommendations and Roadmap

Target 1: Strengthen Ecological Integrity and Restoration

Action	Policy Instruments	Lead Agency	Supporting Agencies	Timeline	Priority
Introduce ecological screening and restoration requirements for forestry and coastal developments, including post-harvest restoration, invasive species management, and blue-carbon ecosystem protection.	National Forest Policy (2009); Forests Act 1961; Land (Timber) Regulations 1988; Environment Management Act; Climate Change Policy	MAFF (Forestry)	MEIDECC, Fisheries, MLNR	Short–Medium	Quick Win
Establish habitat restoration standards and ecosystem rehabilitation programmes for forests, mangroves, coral reefs and coastal habitats.	NBSAP 2030; Climate Change Policy (2016); Fisheries Management Act (2004)	MEIDECC	MAFF, Fisheries, NGOs	Medium	System Reform
Strengthen EIA regulations to require NbS and hybrid green–grey solutions, biodiversity offsets in coastal and infrastructure development.	Environment Management Act (2010); EIA Regulations; Climate Change Policy	MEIDECC	MOI, MLNR, MAFF	Medium	System Reform
Integrate blue-carbon ecosystem protection and restoration zones within national ocean governance frameworks.	Tonga Ocean Management Act 2025; NBSAP	MEIDECC	Fisheries, MAFF	Medium–Long	System Reform

Target 2: Institutionalise NbS Governance, Indicators, and Cross-Sector Integration

Action	Policy Instruments	Lead Agency	Supporting Agencies	Timeline	Priority
Develop national NbS definitions, indicators and monitoring systems aligned with climate and biodiversity reporting.	NBSAP; JNAP II; Climate Change Policy; NDC	MEIDECC	Statistics Dept, MAFF, Fisheries	Short	Quick Win
Integrate NbS into national planning and sector strategies, including agriculture, fisheries, forestry and coastal development.	TSDF III; Sector Plans; JNAP	Ministry of Finance	MEIDECC, MAFF, Fisheries, MLNR	Medium	System Reform
Strengthen ridge-to-reef (R2R / H2H) governance mechanisms through technical committees and cross-agency coordination platforms.	NBSAP; JNAP; Ocean Management Plan	MEIDECC	MAFF, Fisheries, MLNR	Short–Medium	Quick Win
Integrate NbS actions into community and district development plans to support local ecosystem restoration and monitoring.	District Development Plans; JNAP	PMO / Local Government	MEIDECC, MAFF, NGOs	Medium	System Reform

Target 3: Enable Sustainable NbS Financing and Green–Grey Implementation Pathways

Action	Policy Instruments	Lead Agency	Supporting Agencies	Timeline	Priority
Establish NbS funding windows within the Climate Change Fund to support restoration, agroforestry and coastal ecosystem protection.	Climate Change Fund Act (2021); NBSAP	MEIDECC	Ministry of Finance	Short	Quick Win
Integrate NbS investment priorities into national development financing frameworks.	TSDF III Financing Framework	Ministry of Finance	MEIDECC, MAFF	Medium	System Reform
Promote NbS-based green value chains (native plant nurseries, agroforestry, eco-tourism).	Agriculture Sector Plan; Tourism policies	MAFF	Tourism, Fisheries, NGOs	Medium	System Reform
Require green–grey infrastructure standards for coastal protection and infrastructure projects.	NIIP 3, Environment Management Act, EIA Regulations	Ministry of Infrastructure	MEIDECC, MLNR	Medium–Long	System Reform

9. Conclusion and recommendations

The assessment finds that Tonga has a strong enabling policy environment for Nature-based Solutions (NbS), supported by key national frameworks including the Forest Policy (2009), NBSAP 2030, Climate Change Policy (2016), National Fisheries Policy (2018), and JNAP II (2018–2028). These instruments reflect clear alignment with NbS principles through ecosystem protection, climate resilience, and community-based resource management approaches. Operational mechanisms such as the Special Management Area (SMA) framework and coastal fisheries management systems demonstrate Tonga's capacity to translate policy commitments into practical action.

However, NbS integration across sectors requires coherence and stronger coordination to avoid duplication of mandates between and within institutions across government and NGOs. Stakeholder consultations identified persistent implementation challenges, including fragmented inter-agency coordination, weak regulatory enforcement, land-tenure complexities competing between development priorities and conservation goals, and the absence of clear spatial planning and zoning frameworks.

To strengthen NbS implementation and strengthen Tonga's climate resilience and sustainable development pathways, the assessment recommends:

1. Finalising the national Land Use Policy and updating outdated sector policies, particularly the Forestry Policy.
2. Systematically integrating NbS across sector plans to improve policy coherence and ridge-to-reef planning.
3. Using existing national platforms, notably NBSAP, JNAP II, and TSDF to coordinate NbS monitoring and implementation.
4. Developing nationally agreed NbS definitions, indicators, and technical guidance.
5. Strengthening land-use zoning and governance frameworks to reduce conflicts and support long-term ecosystem stewardship.

10. Annexes

Annex 1: List of Policies, Plans, and Legislation Linked to NbS

A. National Policies and Strategies

Policy / Strategy	Responsible Agency	Purpose	Relevance to NbS
Tonga Strategic Development Framework (TSDF III)	Ministry of Finance & National Planning	National development framework guiding economic, social and environmental priorities.	Provides overarching platform for integrating NbS across sectors including climate resilience and ecosystem management.
National Forest Policy (2009)	Department of Forestry, MAFF	Guides sustainable forest management and conservation.	Supports ecosystem restoration, watershed protection and forest-based climate resilience.
Climate Change Policy (2016)	Department of Climate Change, MEIDECC	Establishes national climate mitigation and adaptation policy direction.	Strong alignment with NbS through ecosystem-based adaptation and resilience planning.
Tonga National Fisheries Policy	Ministry of Fisheries	Provides policy guidance for fisheries management and marine resource use.	Supports ecosystem-based fisheries management and community stewardship of coastal ecosystems.

B. National and Sectoral Plans

Plan	Responsible Agency	Purpose	Relevance to NbS
National Biodiversity Strategy and Action Plan (NBSAP)	Department of Environment, MEIDECC	National strategy for biodiversity conservation and ecosystem restoration.	Core national framework supporting NbS including ecosystem restoration and invasive species management.
Joint National Action Plan on Climate Change and Disaster Risk Management (JNAP II)	Department of Climate Change, MEIDECC	Integrates climate adaptation and disaster risk management planning.	Supports ecosystem-based adaptation and community resilience.
Tonga Agricultural Sector Plan	MAFF	Guides agricultural development and food security priorities.	Potential platform for NbS agroforestry, soil conservation and sustainable land management.
Tonga Fisheries Sector Plan	Ministry of Fisheries	Strategic framework for fisheries management and development.	Supports ecosystem-based fisheries management and marine habitat protection.
National Coastal Fisheries Management and Development Plan (2023–2026)	Ministry of Fisheries	Strengthens coastal fisheries governance and sustainability.	Aligns with NbS through protection of coastal ecosystems and fisheries habitats.
Special Management Area (SMA) Strategy (2025–2030)	Ministry of Fisheries	Expands community-based marine resource management.	Strong NbS alignment through community stewardship of coastal ecosystems.
Tonga Ocean Management Plan	MEIDECC / Ministry of Fisheries	Framework for integrated ocean governance and marine spatial planning.	Supports blue-carbon ecosystems and ridge-to-reef ecosystem management.
Forests and Tree Resources Management Plan	Department of Forestry, MAFF	Operational guidance for forest management and restoration.	Supports reforestation, watershed protection and ecosystem restoration.
Fanga'uta Lagoon Stewardship Plan	Department of Environment, MEIDECC	Conservation and management framework for lagoon ecosystems.	Supports coastal ecosystem restoration and biodiversity protection.

C. Legislation and Regulations

Legislation / Regulation	Responsible Agency	Purpose	Relevance to NbS
Tonga Climate Change Fund Act (2021)	MEIDECC	Establishes national climate financing mechanism.	Key enabling instrument for financing NbS initiatives.
Environment Management Act (2010)	MEIDECC	Provides framework for environmental protection and sustainable development.	Enables ecosystem protection and safeguards NbS implementation.
Environmental Impact Assessment Act (2003) and Regulations (2010)	MEIDECC	Requires environmental assessment of development activities.	Strong procedural safeguard supporting ecosystem protection and NbS mitigation measures.
Forests Act (1961)	MAFF	Regulates forest areas and timber harvesting activities.	Relevant for forest ecosystem management and restoration.
Sandalwood Regulations (2016)	MAFF	Regulates sandalwood harvesting and regeneration.	Supports species restoration but limited broader ecosystem framing.
Land Act (1882)	MLNR	Governs land tenure and land-use rights.	Influences land stewardship and NbS implementation across landscapes.
Land (Timber) Regulations (1988)	MAFF	Controls timber harvesting on allotment lands.	Relevant to sustainable forest management.
Parks and Reserves Act (1976)	MLNR	Establishes protected areas for conservation.	Supports ecosystem protection and biodiversity conservation.
Birds Preservation Act (1989)	MLNR	Protects bird species and habitats.	Supports biodiversity conservation within NbS landscapes.
Fisheries Management Act (2004)	Ministry of Fisheries	Governs fisheries management and licensing.	Supports ecosystem-based fisheries management.
Fisheries Management (Conservation) Regulations (2008)	Ministry of Fisheries	Implements conservation measures for marine species and habitats.	Strong alignment with ecosystem protection.
Fisheries (Local Fishing) Regulations (2009)	Ministry of Fisheries	Regulates local fishing practices.	Supports community stewardship of marine ecosystems.
Fisheries (Coastal Communities) Regulations (2009)	Ministry of Fisheries	Enables community-managed coastal fisheries areas.	Strong NbS alignment through local ecosystem management.
Aquaculture Management Act and Regulations (2003)	Ministry of Fisheries	Regulates aquaculture development and environmental safeguards.	Moderate alignment depending on ecological safeguards.
Maritime Zones Act (2009)	Ministry of Infrastructure	Defines maritime boundaries and resource jurisdiction.	Provides jurisdictional framework for marine ecosystem management.
Marine Pollution Prevention Act (2002)	Ministry of Infrastructure	Prevents marine pollution from vessels and discharges.	Supports ecosystem protection indirectly.
Water Resources Act (2020)	MLNR	Governs water resource management and protection.	Supports watershed management and ecosystem services.
Tonga Ocean Management Act (2025)	MEIDECC	Establishes integrated ocean governance and spatial planning.	Strong NbS relevance through protection of marine ecosystems and blue-carbon habitats.

D. Regional Frameworks and Initiatives Supporting NbS

Regional Framework	Lead Organization	Purpose	Relevance to NbS
Pacific Islands Framework for Nature Conservation and Protected Areas (2021–2025)	SPREP	Regional framework for biodiversity conservation and ecosystem protection.	Promotes ecosystem-based management and protected area expansion.
Framework for Resilient Development in the Pacific (FRDP)	SPREP / Pacific Islands Forum	Integrates climate change adaptation and disaster risk reduction across Pacific countries.	Strong alignment with ecosystem-based resilience approaches.
Pacific Islands Nature-based Solutions (PPIN) Programme	SPREP / IUCN / GGGI / SPC	Supports Pacific countries to mainstream NbS in policy and practice.	Direct regional support for NbS implementation.
Kiwa Initiative	IUCN / SPC / SPREP	Supports nature-based solutions for climate resilience in Pacific islands.	Provides financing and technical support for NbS projects.
Pacific Coral Reef Action Plan (2021–2030)	SPREP	Regional framework for coral reef protection and restoration.	Supports marine ecosystem resilience and restoration.
Pacific Framework for Action on Scaling up Community-Based Fisheries Management (2021–2030)	SPC	Promotes community-based marine resource management across Pacific countries.	Strong alignment with NbS and community-led ecosystem stewardship.
Pacific Islands Framework for Nature Conservation (2026–2030 – under development)	SPREP	Next generation regional biodiversity strategy.	Expected to strengthen NbS integration across Pacific ecosystems.

Annex 2: List of Stakeholders Consulted

Date / Stakeholder	Main Discussion Points / Concerns
9 Feb 2026 – Lupe Matoto Director of Environment, MEIDECC	• NBSAP 2030 is the main framework supporting NbS across agroforestry and coastal sectors. • Alignment exists with TSDF and JNAP through biodiversity and ecosystem programmes. • Technical Working Group (TWG) coordinates NbS implementation and meets monthly. • Environmental laws (Environment Management Act, EIA Act) support NbS safeguards. • Challenges: limited financial resources and staff capacity. • NbS projects expanding under R2R Phase II, transitioning to Highlands-to-High-Seas (H2H) approach. • Major gap: delayed Land Use Policy, limiting zoning and spatial planning. • Conflicts in ecosystem restoration sites (e.g., mangrove nurseries). • Ocean Act 2025 enacted; regulations under development. • Plans for Ocean financing fund to support NbS initiatives.
5 Nov 2025 – Luisa Tuiafitu Director of Climate Change, MEIDECC	• NbS practices (tree planting, composting, organic agriculture) already embedded in JNAP programmes. • Need to clarify national NbS definition and align existing practices. • Priority to strengthen NbS implementation through NBSAP. • Recommends establishing NBSAP Secretariat similar to JNAP Secretariat. • NbS actions already contribute to NDC3 reporting (MPAs, SMAs). • Community management plans being developed with PMO and JICA. • Hard coastal engineering still dominant; soft solutions (mangroves) gaining recognition. • Cultural attachment to coastal land limits relocation. • EIA system requires revision to mandate NbS in development planning.
28 Oct 2025 – Heimuli Likiafu Director of Forestry, MAFF	• Forestry policies outdated and require revision. • Monitoring systems exist but require improvement. • Need financing and awareness programmes for community tree planting. • Target to plant 1 million trees by 2030. • Need support for propagating high-value species (e.g., heilala). • Weak community participation in planting programmes. • Limited coordination across ministries. • Issues with crop compensation system undervaluing mature trees. • Need to update Code of Practice for harvesting. • Climate finance and trust funds could support NbS scaling.

Date / Stakeholder	Main Discussion Points / Concerns
6 Nov 2025 – Siosina Katoa Deputy Director, Environment (Islands & Oceans Ecosystems), MEIDECC	• Coastal NbS threatened by land reclamation in Tongatapu communities. • Reclamation often occurs without EIA approval due to weak awareness and enforcement. • Reclamation causes habitat loss, sediment disruption, and coastal instability. • NbS practices already implemented (mangrove restoration, coral rehabilitation, invasive species control). • Ocean Management Bill 2025 strengthens marine governance. • NbS training programmes improving technical capacity. • Need stronger monitoring, penalties, risk mapping, and public awareness.
5 Nov 2025 – Folauhola Latuila Department of Geology, MLNR	• Department responsible for groundwater, hydrology, quarry monitoring, and coastal assessments. • Link to NbS through watershed protection and regulation of quarrying/ sand mining. • Major issue: quarries breaching groundwater table without penalties or rehabilitation requirements. • Sand mining widely occurring despite regulations. • Coastal vulnerability mapping undertaken using GIS. • Weak coordination between agencies managing land and coastal systems. • Need stronger enforcement, rehabilitation guidelines, and data sharing.
10 Nov 2025 – Felemi Ika Ministry of Tourism	• Developing Sustainable Tourism Guidelines for SMA communities. • Promoting ecotourism, homestays, and marine-based tourism. • Financing challenges for community tourism initiatives. • Proposal to introduce tourism levies (cruise and whale-watching) for research and sustainability. • Tourism expanding into nature-based and agritourism models. • Systemic constraints include funding shortages, policy shifts, and weak community participation. • Need stronger coordination across tourism, fisheries, agriculture, and environment sectors.
10 Nov 2025 – Vanessa Lolohea Tonga National Youth Congress	• Youth-led NbS projects across islands including mangrove restoration, forest conservation, and organic farming. • Key sites: Sopu mangrove nursery, ‘Eua National Park, Vava’u wetlands, Ha‘apai restoration. • Community governance models proposed through Green Management Areas (GMA). • Challenges include land tenure disputes, conflicts with commercial activities, and coastal relocation resistance. • NGOs depend heavily on short-term donor funding. • Weak integration of NGO data into national monitoring systems. • Need stronger policy support and coordination with government agencies.

Date / Stakeholder	Main Discussion Points / Concerns
11 Nov 2025 – Fisheries Officers Ministry of Fisheries	• Fisheries manages 64 Special Management Areas (SMAs) nationwide. • Community committees regulate marine resource use. • Coastal reclamation threatens marine ecosystems near SMA sites. • Limited funding for monitoring and enforcement. • Challenges include illegal fishing and weak compliance. • Need improved monitoring systems and climate finance support. • Strengthening existing community-led management seen as key pathway for NbS.
27 Feb 2026 – Penikoni Aleamotua Tonga Citizen Science Initiative / Tonga Coastal Green Initiative	• Organizations lead community-based mangrove restoration and environmental monitoring. • Coastal Green Nursery produces native mangrove seedlings for restoration. • Tonga Citizen Science promotes participatory monitoring and environmental education. • Successful community mobilization in Sopu and other sites. • Challenges include project-based funding and limited monitoring capacity. • Coastal development pressures affecting restoration sites. • Need stronger integration with national policies and sustainable financing.

Annex 3: Mechanisms for long-term policy coherence, implementation monitoring, and adaptive management.

Institutional Mandates and Coordination Mechanisms for Forestry, Coastal Management, and Environment

Institution / Ministry	Core Mandate (Legal & Policy Basis)	Key Divisions / Functions	Coordination Mechanisms / National Plans	Cross-sector Linkages & Relevance to Forestry, Coastal, and Environment
MEIDECC (Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications)	Mandate: National lead on environment, climate change, energy, and disaster risk management under: • Environment Management Act 2010 (EIA, pollution control, waste) • Climate Change Policy 2016 • Disaster Risk Management Act 2021 • Energy Act 2021	• Environment and Climate Change Division (ECCD) • Department of Climate Change (NDC coordination, GCF NDA) • Department of Environment (EIA, biodiversity monitoring) • Meteorology & Climate Services	• JNAP 2 (2018–2028) – integrates DRM + CC adaptation • NBSAP– biodiversity strategy coordination • Tonga NDC Implementation Roadmap 2022 – mitigation/ adaptation actions • Coastal Resilience Project (GCF) – MEIDECC lead EA	• National focal point for CBD, UNFCCC, and GCF. • Oversees coastal resilience, EIA of forestry/ ocean projects. Coordinates cross-sector planning via JNAP Secretariat. • Integrates forestry (carbon sinks), coastal adaptation, and biodiversity.
MAFF / MAFFF (Ministry of Agriculture, Food and Forests portfolios in some policy cycles)	Mandate: Sustainable management of agriculture, forestry, and food systems under: • Forestry Act 1961 (and amendments) • Agriculture Sector Act 2000 • Biosecurity Act 2015	• Forestry Division – plantations, agroforestry, timber harvesting • Research & Extension Division – climate-smart farming • Quarantine/Biosecurity Division	• Tonga Agriculture Sector Plan (TASP) 2016–2020 – national roadmap • National Food Security Framework (2021)	• Forestry Division implements plantation & community forestry (carbon sequestration, erosion control). • Coordinates with MEIDECC (EIA, climate) & MLNR (land tenure). • Implements agroforestry & sustainable land-use programmes. • Contributes to AFOLU mitigation in NDC Roadmap.
Ministry of Fisheries (MoF)	Mandate: Conservation, management and development of Tonga's aquatic resources under: • Fisheries Management Act 2002 • Aquaculture Management Act 2003	• Offshore Fisheries Division • Inshore/Coastal Fisheries Division • Aquaculture Division • Monitoring, Control & Surveillance Unit (MCS) • Compliance & Licensing	• Tonga Fisheries Sector Plan (TFSP) • Community-based Special Management Areas (SMAs) framework • Tonga Fish Pathway Project (2018–2023)	• Implements coastal and marine resource management and SMAs. • Coordinates with MEIDECC (Environment) and MLNR (Land / marine tenure). • Critical to coastal ecosystem resilience and sustainable livelihoods. • Supports integration of marine biodiversity and blue-economy approaches.

Institution / Ministry	Core Mandate (Legal & Policy Basis)	Key Divisions / Functions	Coordination Mechanisms / National Plans	Cross-sector Linkages & Relevance to Forestry, Coastal, and Environment
MLNR (Ministry of Lands and Natural Resources)	Mandate: Administration of land tenure, minerals, and natural resources under: • Land Act 1927 • Minerals Act 1989 • Cabinet mandates on marine spatial planning	• Land Administration Division • Natural Resources Division • Survey & Mapping Division	• Oceans 7 Mechanism – co-chair for marine spatial planning • Tonga Ocean Management Plan (2021)	• Oversees land allocation for forestry/ agroforestry. • Manages coastal land tenure, reclamation, and erosion zones. • Co-leads integrated ocean-land planning via Oceans 7. • Enables coordination across forest, coastal, and marine spatial boundaries.
Oceans 7 Mechanism (Cross-sectoral body)	Mandate: Implement Cabinet Decision (22 July 2015) to establish integrated ocean governance and marine spatial planning framework for Tonga.	Composed of senior technical reps from: MEIDECC, MLNR, MAFF, Fisheries, Infrastructure, Tourism, Ports Authority, Finance	• Tonga Ocean Management Plan (approved 2021) • Supports 2050 Blue Pacific Strategy, regional MSP roadmap	• Provides integrated coordination across ministries for EEZ and coastal zone management. • Defines spatial zones for marine use, biodiversity, energy (ocean RE), and fisheries. • Core coordination mechanism linking coastal management to national planning.
NBSAP (2030)	Mandate: Strategic framework for biodiversity conservation (terrestrial, coastal, and marine).	Managed by MEIDECC's Environment Division; Technical Working Groups on ecosystems, species, and genetic resources.	• NBSAP (2018–2030) • CBD Sixth National Report (2022)	• Covers terrestrial forests, mangroves, coral reefs, and marine ecosystems. • Guides biodiversity actions for forestry (native replanting), coastal rehabilitation, and species protection. • Provides reporting linkages to JNAP 2 and NDC framework.
JNAP 2 (2018–2028)	Mandate: Integrate climate change adaptation and disaster risk management across all sectors.	JNAP Secretariat under MEIDECC; multi-agency steering committee.	• National Resilience Framework – Resilient Tonga 2035	• Provides national umbrella for all resilience actions. • Aligns sectoral plans (agriculture, fisheries, lands) with climate & DRM targets. • Mechanism for monitoring and reporting on environment and ecosystem resilience.
Cross-sector & Partner Institutions	• Ministry of Infrastructure (MOI) – coastal engineering, seawalls, drainage. • Ministry of Tourism – marine/coastal ecotourism and blue economy. • Tonga Power Ltd / Energy Division (MEIDECC) – energy-environment integration. • Tonga Development Bank / MOF – environment financing.	–	• FESRIP 2021–2030, FRDP 2017, 2050 Blue Pacific Strategy	• Partners for financing, climate-resilient infrastructure, and integration of ocean/ land energy activities with environment safeguards.

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Cover photo- Aerial View of Tonga'tapu, Utulei Lui

The Promoting Pacific Island Nature-based Solutions (PPIN) project is funded by New Zealand's Ministry of Foreign Affairs and Trade (MFAT). PPIN seeks to support the development of policy and legislation for Nature-based Solutions (NbS), build regional awareness and capacity, and strengthen regional cooperation amongst Pacific Island countries on NbS. PPIN is managed by IUCN in partnership with the Pacific Community (SPC), the Secretariat of the Pacific Regional Environment Programme (SPREP) and Global Green Growth Institute (GGGI).

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ISBN 978-982-04-1528-7