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6TH National Report for the Convention on Biological Diversity

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Sixth National Report

Section I. Information on the targets being pursued at the national level

Country

Vanuatu

National Targets

National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.

Rationale for the National Target

This target aims to increase the representative examples of conservation areas, which are managed in either of the two conservation management systems in Vanuatu - traditional customary areas in which certain activities are prohibited (known as 'tabu' areas) under community and customary governance or management, or through the legislative pathway of the *Environmental Protection and Conservation Act* (EPC Act), supported by the Department of Environmental Protection and Conservation. This target aligns with Aichi Biodiversity Target 11 most directly, though the timeframe for the national target has been extended by an additional 10 years than the ABT, to ensure it is has a greater chance of being achieved and implemented in a sustainable manner, and so that it aligns with the Vanuatu National Sustainable Development Plan 2016-2030 timeframe. The target contains three important focus areas: - Ecologically representative examples in the protected area network	EN

- Community managed areas

- Government managed areas.

It is understood that a protected areas network cannot be effective in biodiversity conservation if it does not adequately represent the range of ecosystems throughout the country (Elliot et. al, n.d.). For Vanuatu, this is particularly important due to the high level of endemism in the country (DEPC, 2017). Achieving ecological representation requires a systematic approach to identify, assess and measure biodiversity (Elliot et. al, n.d.), and the establishment of such a system in Vanuatu to achieve this target is an important goal which will assist in the management of the country's biodiversity, in a more comprehensive way that has not been part of conservation area selection processes in the past. This of course, will need to be balanced with practical and budgetary constraints, and the level of awareness and understanding of conservation principles in communities.

IUCN's *Guidelines for Applying Protected Area Management Categories* defines a protected area as: "A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (2008, p.8). The IUCN guidelines provide an opportunity for Vanuatu to ensure that our conservation area efforts towards sustainable resource management qualify as protected areas and therefore meet our international commitments and obligations (DEPC, 2018).

Vanuatu saw it vital that both community and government management measures were encompassed by this target. In Vanuatu, constitutionally vested, inalienable land ownership rights rests with customary tenure, with recognised leasing arrangements under ministerial consent. All land in Vanuatu belongs to the indigenous 'custom owners' and almost all land is held under customary tenure, whether leased (9.3%) or un-leased (89.7%) (Stefanova et. al, 2012).

Under the National Land Use Planning Policy (GoV, 2013) 'kastom' provides one of three pillar foundations informing the way forward for land use planning. Vanuatu's traditional societies and the inter-relationships between units of family, clans, and tribes is organised in meaningful patterns of customary resource access rights, which are communally shared, and which in turn supports a highly resilient traditional economy. Of particular note is that such access rights are inextricably linked to kinship ties, which transcend the physical boundaries of defined localities. Although direct and physical access to land and its produce is guaranteed

to those that hold active stewardship over customary land/marine areas, participation and access (to land/sea and its produce) is open to kin-folk in urban areas (DEPC, 2018).

Community 'tabu' areas (marine and terrestrial) have always been, and are increasingly being used as conservation measures by villages/communities, as unique and time-tested customary tools in resource management, accepted and understood through kastom in ni-Vanuatu cultures. It is important that effective customary management is acknowledged in conservation evaluation in Vanuatu.

Existing tabu areas, in combination with other priority sites which have been identified for their biodiversity values, have the potential to provide the basis of a representative system of protected areas. The intention is for the representative system of protected areas to be strengthened by a large number and variety of protected areas which are important at the national, provincial or local level.

DEPC will also work towards the establishment of more legally-protected Community Conservation Areas, as per Part 4, Division 2, Section 37 of the EPC Act. The Vanuatu Department of Environmental Protection and Conservation would like to provide support and extension to all community conservation initiatives in Vanuatu, regardless of what they are called or how they are expressed. The DEPC is especially interested in supporting Community Conservation Areas that are of national "biodiversity significance" (DEPC, 2013, p.1).

All protected areas should also be established and managed in close collaboration with, and through equitable processes that recognise and respect the rights of indigenous and local communities, and vulnerable populations, and this principle will underpin the processes used in achieving this target.

Reference list:

- Department of Environmental Protection and Conservation, 2013, *Information Booklet on the Registration of Community Conservation Areas*, Government of Vanuatu.
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.
- Dudley, N. (Ed.), 2008, *Guidelines for Applying Protected Area Management Categories*, with Stolton, S., P. Shadie and N. Dudley (2013), *IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types*, Best Practice Protected Area Guidelines Series No.

21, Gland, Switzerland: IUCN.
- Elliott, J., Gah, E., Hartley, K. and C. Vis, no date, Discussion paper: Ecologically Represetation, Department of Environment, Canada.
- *Environmental Protection and Conservation Act* CAP238, 2011 (latest consolidation), available at <http://www.paclii.org/countries/vu.html>
- Government of Vanuatu, 2013, *National Land Use Planning Policy*, Ministry of Lands and Natural Resources.
- Stevanova, M., Porter R. and R. Nixon, 2012, *Towards More Equitable Land Governance in Vanuatu: Ensuring Fair Land Dealings for Customary Groups*, World Bank.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

At least 17 per cent of terrestrial and inland water areas are protected.
At least 10 per cent of coastal and marine areas are protected
Areas of particular importance for biodiversity and ecosystem services protected
Protected areas are ecologically representative
Protected areas are effectively and equitably managed
Traditional knowledge, innovations and practices of indigenous and local communities are respected
With the full and effective participation of indigenous and local communities

Sub-Aichi Targets or Target components

People are aware of the steps they can take to conserve and sustainably use biodiversity
Governments, business and stakeholders at all levels have taken steps to achieve, or have implemented, plans for sustainable production and consumption

Have kept the impacts of use of natural resources well within safe ecological limits
Degradation and fragmentation are significantly reduced
The impacts of fisheries on stocks, species and ecosystems are within safe ecological limits, i.e. overfishing avoided
Multiple anthropogenic pressures on coral reefs are minimized, so as to maintain their integrity and functioning
Multiple anthropogenic pressures on other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning
Protected areas are well connected and integrated into the wider landscape and seascape
Extinction of known threatened species has been prevented
The conservation status of those species most in decline has been improved and sustained
Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded
Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration
At least 15 per cent of degraded ecosystems are restored, contributing to climate change mitigation and adaptation, and to combating desertification
NBSAPs are being implemented
Traditional knowledge, innovations and practices are fully integrated and reflected in implementation of the Convention
Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved
Biodiversity knowledge, the science base and technologies are widely shared and transferred and applied

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.

Rationale for the National Target

This target is supporting Aichi Biodiversity Target 11, which aims to increase the area under conservation globally. It is also a target of Vanuatu's National Environmental Policy and Implementation Plan (NEPIP) 2016-2030 (DEPC, 2017).	EN

In Vanuatu, legally registered community conservation areas (CCAs) "are those that have met the requirements of the EPC Act, and have been registered by the Director of DEPC" (EPC Act, 2011). The EPC Act, consolidated most recently in 2011, is the most comprehensive national environmental legislation in Vanuatu. The Act provides the most workable model for the development of conservation of nature reserves and environmental conservation areas, termed CCAs, on customary land. Under the Act the guidelines for the registration of a CCA by the Director of the Department of Environment require that: the boundaries of the area are identified, 'consent and approval are obtained from all persons having rights and interests in any land that is to be included in the proposed Community Conservation Area' and that a management plan is developed over the area (s. 37) (Carodenuto et. al, 2017).

DEPC recognises the basis for conservation in Vanuatu as being customary protection and sustainable resource management through traditional means. There are hundreds of informal conservation areas under customary protection of their chiefs, tribes, communities, families and resource users in Vanuatu (DEPC, 2018). Registered CCAs are intended to complement the traditional environmental management system already in place in Vanuatu. They provide an option for those communities who wish to enforce legal protection over their resource areas. The EPC Act provides legal protection of CCAs in line with the CCAs management plan and the rules and penalties for non-compliances, bolstering the strength of enforcement options for some communities (noting that this is community-dependent), based on existing laws under customary governance (known as 'kastom'). DEPC would like to provide support and extension to all community conservation initiatives in Vanuatu, regardless of what they are called or how they are expressed (In-person interview with DEPC Director, 2019).

However, the DEPC is especially interested in supporting Community Conservation Areas that are of national "biodiversity significance" (DEPC, 2013, p.1), which constitutes areas with the following characteristics:

- Represents the best example of an important ecosystem or habitat type
  is needed for sustainability of harvesting activities (i.e. timber or trochus)
- High species diversity area is a location of intense biological activity (i.e. reef fish spawning aggregation)
- Aesthetic beauty, sustainable tourist attraction or is a natural monument
- Provides a crucial habitat for a particular species or groups of species
- Special cultural values, educational, historic, religious or recreational values
- Important for resource maintenance
- Site of resource rehabilitation, restocking or re-vegetation

- May accommodate ex-situ and in-situ conservation activities (for example, tree seedling nurseries or giant clam gardens)
- Covers important land features
- Includes a customary or sacred site
- Is part of or includes an important water catchment area
- Is a tourist site/attraction
- Is a research area
- Is an area that is threatened by current or future development.
- Provides critical ecosystem services such as (but not limited to) watershed management and climate mitigation
- Special geological features (e.g. Lake Letas in Gaua is a geopark)

The registration of CCAs also provides DEPC an avenue to instigate the protection of particular terrestrial or marine protected areas that have been identified as boasting one or more of these nationally-significant qualities, and to support communities in awareness of their local environmental contexts.

As such, it was considered essential for one national target to focus on increasing the registration of CCAs under the EPC Act, providing a catalyst for the identification and protection of scientifically significant ecosystems that are vital for the protection of nationally-significant biodiversity areas.

Reference list:

- Carodenuto, S., Schwartz, B., Andre, G., Kampai, J., Nelson, A., McDonnell, S. and S. Weaver. 2017, *Analytical Studies for Reducing Emissions from Deforestation and Forest Degradation (REDD+) in Vanuatu - Final Report*, UNIQUE Forestry and Land Use.
- Department of Environmental Protection and Conservation, 2013, *Information Booklet on the Registration of Community Conservation Areas*, Government of Vanuatu.
- Department of Environmental Protection and Conservation, 2017, *Vanuatu National Environment Policy and Implementation Plan 2016–203,*.
  Apia, Samoa : SPREP, 2017.
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster

Management, Government of Vanuatu.

- *Environmental Protection and Conservation Act* CAP238, 2011 (latest consolidation), available at <http://www.paclii.org/countries/vu.html>.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

At least 17 per cent of terrestrial and inland water areas are protected.
At least 10 per cent of coastal and marine areas are protected
Areas of particular importance for biodiversity and ecosystem services protected
Protected areas are effectively and equitably managed
Traditional knowledge, innovations and practices of indigenous and local communities are respected
With the full and effective participation of indigenous and local communities

Sub-Aichi Targets or Target components

People are aware of the steps they can take to conserve and sustainably use biodiversity
Governments, business and stakeholders at all levels have taken steps to achieve, or have implemented, plans for sustainable production and consumption
Have kept the impacts of use of natural resources well within safe ecological limits
Degradation and fragmentation are significantly reduced
The impacts of fisheries on stocks, species and ecosystems are within safe ecological limits, i.e. overfishing avoided
Multiple anthropogenic pressures on coral reefs are minimized, so as to maintain their integrity and functioning
Multiple anthropogenic pressures on other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning

Protected areas are ecologically representative
Protected areas are well connected and integrated into the wider landscape and seascape
Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded
Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration
At least 15 per cent of degraded ecosystems are restored, contributing to climate change mitigation and adaptation, and to combating desertification
NBSAPs are being implemented
Traditional knowledge, innovations and practices are fully integrated and reflected in implementation of the Convention
Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved
Biodiversity knowledge, the science base and technologies are widely shared and transferred and applied

National Target 3: By 2030, 90% of CCA management committees are complying with their reporting obligations to DEPC (NEPIP, 2016).

Rationale for the National Target

This target has been taken from the Vanuatu National Environmental Policy and Implementation Plan 2016-2030 (DEPC, 2017). In Vanuatu, registered CCAs are, under the EPC Act, "responsible for the development and implementation of any conservation, protection or management plan established for a registered Community Conservation Area" (Part 4, Div. 2, Section 37, Clause 1) and will face de-registration of their CCA if the management plan is not implemented. All management plans require the inclusion of reporting processes that will be undertaken to monitor the progress and changes in the CCA. As such, a CCA Annual Report must be submitted to the DEPC as part of the registration requirement (DEPC, 2013).	EN

Specifically,the DEPC seeks clarification on how the CCA management committee or coordinating body has fulfilled the activities described in the management plan. This report is required every year during the terms of legal registration of the CCA under the EPC Act. A copy of the Annual Report template is contained in the Information Booklet on the Registration of Community Conservation Areas attached (Appendix 11).

At present, CCAs are completing their compulsory reporting obligations to the DEPC, though this is generally achieved with much assistance from the department (National Conservation Area Reporting Registry, 2019). Due to several reasons, such as a lack of technical capacity, lack of familiarity with reporting processes, lack of training and support or lack of technology, CCA management committees find it challenging to submit their Annual Reports indpendently. The quality of the reporting requires improvement, for the benefit of both the CCAs, and data collection and analysis at the national level. As such, status updates on the CCAs are often anecdotal or observational, if departmental staff do not have the opportunity to visit every site themselves each year to physically collect data.

Improvement in reporting regarding CCAs is part of a broader goal for DEPC to "Enhance environmental monitoring, evaluation and research with relevant, open and transparent data sharing among relevant agencies'"(DEPC, 2017). This vital need is supported by broader trends across the region as "concerns remain over coverage and management of the protected area networks" in Oceania (IPBES, 2018).

Moreover, it must be noted that these compulsory reporting requirements relate only to registered conservation areas. For those numerous protected areas that exist under traditional management structures across Vanuatu, further investigation is required as to the status of their resources, and the effectiveness of their conservation measures, to determine if these communities require any further assistance.

Reference list:

- Department of Environmental Protection and Conservation, 2013, *Information Booklet on the Registration of Community Conservation Areas*, Government of Vanuatu.
- Department of Environmental Protection and Conservation, 2017, *Vanuatu National Environment Policy and Implementation Plan 2016–2030*,
  Apia, Samoa : SPREP, 2017.
- Department of Environmental Protection and Conservation, 2019, National Conservation Area Reporting Registry, 2019, excel spreadsheet of Senior Conservation Officer.

Government of Vanuatu, 2016, *National Environmental Policy and Implementation Plan*, SPREP, Apia, Samoa.
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), 2018, *The IPBES regional assessment report on biodiversity and ecosystem services for Asia and the Pacifi,*. Karki, M., Senaratna Sellamuttu, S., Okayasu, S., and Suzuki, W. (eds), Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

Protected areas are effectively and equitably managed
With the full and effective participation of indigenous and local communities

Sub-Aichi Targets or Target components

People are aware of the values of biodiversity
People are aware of the steps they can take to conserve and sustainably use biodiversity
Biodiversity values incorporated into national accounting, as appropriate
Governments, business and stakeholders at all levels have taken steps to achieve, or have implemented, plans for sustainable production and consumption
Have kept the impacts of use of natural resources well within safe ecological limits
Multiple anthropogenic pressures on coral reefs are minimized, so as to maintain their integrity and functioning
Multiple anthropogenic pressures on other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning

At least 17 per cent of terrestrial and inland water areas are protected.
At least 10 per cent of coastal and marine areas are protected
Areas of particular importance for biodiversity and ecosystem services protected
Protected areas are well connected and integrated into the wider landscape and seascape
Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded
Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration
At least 15 per cent of degraded ecosystems are restored, contributing to climate change mitigation and adaptation, and to combating desertification
NBSAPs are being implemented
Traditional knowledge, innovations and practices of indigenous and local communities are respected
Traditional knowledge, innovations and practices are fully integrated and reflected in implementation of the Convention
Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved
Biodiversity knowledge, the science base and technologies are widely shared and transferred and applied

Relevant documents and information

Other relevant website address or attached documents

Information_Booklet_CCA.pdf

National Target 4: Targets for conservation areas set in provincial strategic plans are achieved.

Rationale for the National Target

National Target 4 refers directly to Vanuatu's National Environmental Policy and Implementation Plan (NEPIP) 2016-2030 EN

(DEPC, 2017). Targets for conservation areas in provincial strategic plans are related to achieving Aichi Biodiversity Target 11.

It is recognised by DEPC that meeting conservation targets can not, nor should be driven only by the national level (DEPC, 2018). The achievement of national targets will need to involve many different groups, including government agencies at municipal, provincial and national levels, the private sector, CSOs, local communities and the public. Integration of environmental considerations in all policies, planning and development processes is critical (DEPC, 2017), and is particularly important at the provincial level, where more localised actions are carried out.

Participatory consultation sessions carried out in each provincial headquarter, to assist the development of the NEPIP and the NBSAP, helped to identify the priority areas that affect environmental protection and management in Vanuatu, in each province (DEPC, 2018). In each province, contextual environmental information, identification of threats, and potential areas for conservation were identified and formed into a provincial strategic plan. Targets were then set related to the number of conservation areas to be established.

To ensure that these targets are worked toward, and that resources and support are channelled to the provincial level, this target has been included as a national-level priority.

Reference list:

- Department of Environmental Protection and Conservation, 2017, *Vanuatu National Environment Policy and Implementation Plan 2016–2030*, Apia, Samoa : SPREP, 2017.
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.

Level of application

Jurisdiction

Sub-national

Details on the level of application

The six provinces of Vanuatu, particularly their provincial governments including Torba Province, Sanma Province, Penama Province, Malampa Province, Shefa Province and Tafea Province.	EN

Relevance of National Targets to Aichi Targets

Aichi Target components

Biodiversity values integrated into national and local planning processes
Biodiversity values incorporated into reporting systems
At least 17 per cent of terrestrial and inland water areas are protected.
At least 10 per cent of coastal and marine areas are protected
Areas of particular importance for biodiversity and ecosystem services protected

Sub-Aichi Targets or Target components

People are aware of the values of biodiversity
People are aware of the steps they can take to conserve and sustainably use biodiversity
Have kept the impacts of use of natural resources well within safe ecological limits
Degradation and fragmentation are significantly reduced
The impacts of fisheries on stocks, species and ecosystems are within safe ecological limits, i.e. overfishing avoided
Multiple anthropogenic pressures on coral reefs are minimized, so as to maintain their integrity and functioning
Multiple anthropogenic pressures on other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning
Areas of particular importance for biodiversity and ecosystem services protected
Protected areas are effectively and equitably managed
Protected areas are well connected and integrated into the wider landscape and seascape
Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded
Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration
NBSAPs are being implemented
Traditional knowledge, innovations and practices of indigenous and local communities are respected

Traditional knowledge, innovations and practices are fully integrated and reflected in implementation of the Convention

National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.

Rationale for the National Target

National Target 5 is linked to Aichi Biodiversity Target 11, in its reference to "areas of particular importance to biodiversity and ecosystem services".

No nationally-driven systematic assessment has been conducted to determine important terrestrial biodiversity areas. Vanuatu currently utilises the CEPF 2012 East Melanesian Islands Biodiversity Hotspot (USP, 2012), and the Key Biodiversity Areas identified in that study, to prioritise the focus of major donor-funded conservation projects. The CEPF report identified 27 terrestrial (some with inland waters combination) hotspots.

Vanuatu has gone through a national-level process to determine biophysically special and unique marine areas, through various studies conducted as part of the MACBIO project. The project has identified both biophysically special and unique marine areas, as well as the marine bioregions of Vanuatu. This baseline information, though yet to be verified by fieldwork, will assist in national decision-making as to important biodiversity areas to protect.

EN

Reference list:

- USP, 2012, *Ecosystem Profile: East Melanesian Islands Biodiversity Hotspots*, CEPF, Samoa.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

At least 17 per cent of terrestrial and inland water areas are protected.
At least 10 per cent of coastal and marine areas are protected
Areas of particular importance for biodiversity and ecosystem services protected

Sub-Aichi Targets or Target components

Protected areas are ecologically representative
Protected areas are effectively and equitably managed
Extinction of known threatened species has been prevented
The conservation status of those species most in decline has been improved and sustained
Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded
Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration
NBSAPs are being implemented
Traditional knowledge, innovations and practices of indigenous and local communities are respected
Traditional knowledge, innovations and practices are fully integrated and reflected in implementation of the Convention
With the full and effective participation of indigenous and local communities

National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.

Rationale for the National Target

National Target 6 is aligned to the other Forest and Inland Waters targets, which refer to Aichi Biodiversity Targets 5, 6, 7, 8 and 11.

Natural forests

Vanuatu's natural forest covers about 890,000ha or approximately 74% of Vanuatu's land mass (DEPC, 2018). Forest types include tropical lowland evergreen rain forest, broad-leaved deciduous forest, closed conifer forest, montane rain forest, cloud forest and coastal forest. Other notable vegetation includes swamp forest on Efate, kauri pine strands on Erromango and scattered mangrove forests covering around 3,000 ha (most of which occur on Malekula Island).

Lowland forest has largely been cleared and replaced by anthropogenic vegetation but forested areas remain the dominant landscape element on most islands. High forests are restricted on most of the islands (especially those that are densely populated, such as Pentecost, Ambae, Tanna and Shepherd; or have active volcanoes, such as Ambrym). However low montane forests are generally well preserved and occupy large areas. Secondary forests (often consisting of a Hibiscus community) are dense and extensive in Vanuatu (DEPC, 2018).

The forests of Vanuatu have been impacted by human activities, which have diminished and altered forest cover and biodiversity (DoF, 2013). There has been immense pressure on some timber species on the larger islands, where harvesting is concentrated. In 1998, for instance, 92% of logs harvested were of just two species, *Endospermum medullosum* (Whitewood or Basswood), and *Antiaris toxicaria* (known in Vanuatu as Milk Tree) (Bakeo and Qarani, 2005). Most heavy logging in Vanuatu occurred in the 1980s and 1990s. While this logging led to severe degradation of the forest, about 50% of the deforestation in Vanuatu is due to subsistence land use (DoF, 2013). Large areas of logged-over forests and abandoned agricultural land have been invaded by the introduced invasive vine *Merremia peltata* (*Merremia spp.*), which impedes the natural regeneration of the logged forest (DEPC, 2018).

As such, it was considered for a national target to focus on protection of Vanuatu's natural forests, particularly intact pockets of native forest ecosystems such as indigenous rainforest or lowland forests.

EN

Wetlands

National Target 6 draws upon the Ramsar Convention's broad definition of wetlands, to include 'all lakes and rivers, underground aquifers, swamps and marshes, wet grasslands, peatlands, oases, estuaries, deltas and tidal flats, mangroves and other coastal areas, coral reefs, and all human-made sites such as fish ponds, rice paddies, reservoirs and salt pans' (Ramsar Convention Secretariat, 2014).

Wetlands of Vanuatu include large rivers, floodplains, lakes, freshwater swamps, coastal lagoons and inlets, seagrass beds, coral reef systems geothermal wetlands, sinkholes, subterranean wetlands, blue holes and mangroves. Mangroves constitute the most extensive wetland vegetation in Vanuatu, with estimates lying between 2,500 and 3,000ha (Kalfatak and Jaensch, 2014). Sizeable stands of mangroves occur on 9 of the islands, and 24 species of mangroves (known locally as 'natongtong') have been recorded (*ibid.*).

Although the freshwater wetlands are currently little disturbed by human activity, they are likely to come under increasing pressure as populations increase and the development of mining, forestry and agriculture proceeds. Because of their limited extent, swamp forests in particular are likely to come under threat (Kalfatake and Jaensch, 2014). Agricultural pressures are already high on some islands, and with a growing population these pressures are likely to increase considerably in the coming decades, with impacts to riparian zones already apparent due to a lack of awareness and regulation. The inadequate disposal of various pollutants, including sewage and solid waste, is resulting in some contamination of coastal wetlands. Invasive species such as *Merremia sp.* and introduced fish species such as tilapia, guppy and gambusia are abundant on some islands of Vanuatu which are impacting wetland environments. Some threats to wetlands from clearance due to tourism (on Efate and Santo) and for traditional subsistence reasons such as firewood collection on other islands.

Wetland ecosystems are not extensive in Vanuatu, and therefore their protection is vital, particularly those ecosystems which are in pristine condition.

Reference list:

- Bakeo, R. and F. Qarani, 2005, 'Country report on the forestry invasive species situation in Vanuatu' in P. Mckenzie, C. Brown, S. Jianghua, W. Jian, Eds., *Asia-Pacific Forest Invasive Species Conference*, Food and Agriculture Organisation, Kunming, China.
- Department of Forestry, 2013, *National Forest Policy 2013-2023*, Ministry of Agriculture, Livestock,

Forestry, Fisheries and Biosecurity, Government of Vanuatu.
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.Kalfatak, D. and R. Jaensch, 2014, Directory of Wetlands of Vanuatu – 2014, Report to the Secretariat of the Pacific Regional Environment Programme.
- Kalfatak, D. and R. Jaensch, 2014, *Directory of Wetlands of Vanuatu – 2014*, Report to the Secretariat of the Pacific Regional Environment Programme.
- Ramsar Convention Secretariat, 2014, 'The Ramsar Convention and Its Mission', Switzerland, available at <https://www.ramsar.org/about/the-ramsar-convention-and-its-mission>

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

The rate of loss of forests is at least halved and where feasible brought close to zero
Degradation and fragmentation are significantly reduced
Fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems
The impacts of fisheries on stocks, species and ecosystems are within safe ecological limits, i.e. overfishing avoided
Areas under forestry are managed sustainably, ensuring conservation of biodiversity
Multiple anthropogenic pressures on other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning
At least 17 per cent of terrestrial and inland water areas are protected.
At least 10 per cent of coastal and marine areas are protected
Areas of particular importance for biodiversity and ecosystem services protected

Sub-Aichi Targets or Target components

Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-

being, are restored and safeguarded
Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration
At least 15 per cent of degraded ecosystems are restored, contributing to climate change mitigation and adaptation, and to combating desertification
Traditional knowledge, innovations and practices of indigenous and local communities are respected
Traditional knowledge, innovations and practices are fully integrated and reflected in implementation of the Convention
With the full and effective participation of indigenous and local communities

National Target 7: By 2030, 30% of Vanuatu’s natural forest (Forestry) is being actively managed and protected.

Rationale for the National Target

National Target is aligned to the other Forest and Inland Waters targets, which refer to Aichi Biodiversity Targets 5, 6, 7, 8 and 11.

The Vanuatu Forest Policy 2013 – 2023 includes a ‘Forest Conservation and Environment’ section, which includes a specific objective being that "Forests with high biological, cultural, spiritual, and historical values are conserved and protected", and a target to "Actively manage and protect 30% of Vanuatu’s natural forests" (DoF, 2013, p.24). As such, it was decided to also refer to this target in Vanuatu’s NBSAP to align national targets of both DEPC and Department of Forestry.

The overall vision of the Forest Policy is that "Trees and forests of Vanuatu are equitably, sustainably and profitably managed and conserved, contributing to development for the ongoing well-being of all people in Vanuatu in the context of global change" (DoF, 2013, p.16).

Reference list:

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- Department of Forestry, 2013, *National Forest Policy 2013-2023*, Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity, Government of Vanuatu.
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

Areas under forestry are managed sustainably, ensuring conservation of biodiversity
At least 17 per cent of terrestrial and inland water areas are protected.
Areas of particular importance for biodiversity and ecosystem services protected
Protected areas are effectively and equitably managed

Sub-Aichi Targets or Target components

Have kept the impacts of use of natural resources well within safe ecological limits
The rate of loss of forests is at least halved and where feasible brought close to zero
Degradation and fragmentation are significantly reduced
Protected areas are ecologically representative
Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded
Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration

At least 15 per cent of degraded ecosystems are restored, contributing to climate change mitigation and adaptation, and to combating desertification
Traditional knowledge, innovations and practices of indigenous and local communities are respected
Traditional knowledge, innovations and practices are fully integrated and reflected in implementation of the Convention
With the full and effective participation of indigenous and local communities

National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.

Rationale for the National Target

National Target 8 refers directly to Aichi Biodiversity Target 11, which calls for conservation of 10% of coastal and marine areas of particular importance.

Vanuatu’s maritime jurisdiction comprises 98% of the nation, with land area covering only 2% (Ocean Sub Commitee, 2016). Vanuatu’s EEZ covers 680,000km2 and 4,110km2 of this is reef area (MACBIO, 2018). Vanuatu’s marine space includes living and non-living marine resources that contribute significantly to the country’s economy, that are fundamental to the well-being of its citizens and are an integral part of Vanuatu’s culture. The summary of the annual economic value of Vanuatu's marine and coastal ecosystem services is shown in the table below.

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Ecosystem service	Annual value-added (US$ million)	Minimum (US$ million)	Maximum (US$ million)
Subsistence fishery	**6.49**	**5.84**	**7.14**
Commercial fisheries (total)	**7.01**	**5.80**	**8.22**
Reef fish, deep slope fish, crabs and lobster	3.3	2.97	3.64
Trochus and similar	0.1	0.085	0.115
Bêche-de-mer	0.05	0.03	0.07
Aquarium trading	0.15	0.09	0.21
Offshore fishing	1.8	1.26	2.34
Game fishing	1.6	1.36	1.84
Minerals and aggregates	**0.17***	**0.17**	**0.17**
Tourism and recreation	**9.59**	**6.89**	**12.31**
Coastal protection	**18.37**	**13.78**	**22.96**
Carbon sequestration	**1.41**	**0.02**	**8.55**
Research, management and education	**4.9**	**4.9**	**4.9**
Total	**47.94**	**37.4**	**64.25**

*Gross value — costs could not be estimated.

Source: MACBIO - National Marine Ecosystem Service Valuation: Vanuatu (Pascal et. al, 2015)

While the economic potential of many of the resources in this area remains un-assessed and under-utilized, some resources are being overexploited or damaged and there is an urgent need to resolve Vanuatu's territorial disputes and maritime boundaries (Ocean Sub Committee, 2016). Vanuatu is developing and its ocean is coming under increasing pressure from multiple uses and external stressors, including climate change. Vanuatu stands to protect and enhance the contribution made by its marine environment to its national development, and to do this with conservation of the most important marine areas and ecosystems prioritised.

Vanuatu’s ocean environment includes an amazing variety of habitats which are interlinked and inter-reliant, for example, seamounts, coral reefs, deep ocean ridges, mangroves, seabed troughs, seagrass beds, hydrothermal vents, oceanic trenches and deepwater basins (Pascal et. al, 2015). Some of Vanuatu’s marine environment is well-known and understood, and some may require special consideration when planning forward for the optimal use and management of Vanuatu’s ocean (Pascal et. al, 2015). In order to fully benefit from the range of resources of these habitats, there is a need to better coordinate management across different marine sectors and resource users and to integrate environmental management directly with economic development, fiscal policy and social goals. Social goals include protecting Vanuatu’s maritime culture which is central to Vanuatu’s customary cultures (Ocean Sub Committee, 2016).

National Target 8 therefore aligns with Vanuatu’s broader recognition of and move towards protection of its oceans, marine and coastal environments.

Reference list:

- Marine and Coastal Biodiversity Management in Pacific Island Countries (MACBIO), 2018, *Vanuatu Country Details*, available at <http://macbio-pacific.info/vanuatu/>
- Ocean Sub Committee, 2016, *Vanuatu’s National Ocean Policy*, National Committee for Maritime Boundary Delimitation, Government of Vanuatu and MACBIO.
- Pascal N., Leport G., Molisa V., Wendt H., Brander L., Fernandes L., Salcone J and A. Seidl, 2015, *National Marine Ecosystem Service Valuation: Vanuatu*, MACBIO (GIZ/IUCN/SPREP), Fiji.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

At least 10 per cent of coastal and marine areas are protected
Protected areas are effectively and equitably managed

Sub-Aichi Targets or Target components

All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches
Fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems
The impacts of fisheries on stocks, species and ecosystems are within safe ecological limits, i.e. overfishing avoided
Multiple anthropogenic pressures on coral reefs are minimized, so as to maintain their integrity and functioning
Multiple anthropogenic pressures on other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning
Protected areas are well connected and integrated into the wider landscape and seascape
Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded
Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration
Traditional knowledge, innovations and practices of indigenous and local communities are respected
With the full and effective participation of indigenous and local communities

National Target 9: By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

Rationale for the National Target

National Target 9 is linked to Aichi Biodiversity Targets 12 and 13.

Under the IUCN Red List of Endangered Species, 65 species endemic to Vanuatu have been assessed for their

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conservation status (DEPC, 2018). Of these, 18 were found to be of conservation concern. This includes 12 bird species, one of which, the Tanna Ground Dove (*Gallicolumba ferruginea*) is considered extinct. Five are considered 'vulnerable': the Santo Mountain Starling (*Aplonis santovestris*), Green Palm Lorikeet (*Charmosyna palmarum*), Royal Parrotfinch (*Erythrura regia*), Vanuatu Mountain Pigeon (*Ducula bakeri*) and Vanuatu Megapode (*Megapodius layardi*) (DEPC, 2018).

Of the mammals, the Banks Flying Fox (*Pteropus fundutas*) is 'endangered' and the Vanuatu Flying Fox (*Pteropus anetianus*) is 'vulnerable'. There are nine endemic reptiles of which the Anatom Emo Skink (*Emoia aneityumensis*), found only on Aneityum, is endangered and the common Emo Skink (*E. erronan*), found only on Futuna and Aniwa, is endangered (DEPC, 2018).

One endemic land snail (*Partula milleri*) is critically endangered and *P. eurania* is endangered. There are 38 recorded endemic freshwater species, of which only the Lobed River Mullet (*Cestraeus plicatilis*) is listed on the IUCN Redlist. The remainder of the species still require assessment. These endemic species are threatened with extinction by a variety of factors and invasive species are likely to be one of the most important. Rats, particularly the ship or Black Rat (*Rattus rattus*) which is a very good climber, are known to prey on the eggs and chicks of many birds and take lizards. They are implicated in the extinction of the Tanna ground dove. Big leaf rope (*Merremia peltata*) (or locally, Big Lif) and other weeds damage the forest habitats in which most of these species live, and rats and Mice (Mus musculus) eat the fruits and seeds of trees and alter the composition of the forest. Native partulid land snails have been wiped out in several countries by the Rosy Wolf-Snail (*Euglandina rosea*). Lizards are a favourite food of feral cats though this is not an issue for the two threatened skinks as they live up in trees, but they will be vulnerable to rats. Yellow Crazy Ants (*Anoplolepis gracilipes*) have been recorded, for example, on Australia's Christmas Island) killing crabs, lizards and nestling birds and can change the forest structure leading to declines in other native species. Important terrestrial ecosystems occupied by a range of species can also be threatened by invasive species (DEPC, 2018).

It was therefore essential to include a national target focussed on the conservation of threatened species in Vanuatu.

Reference list:

- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

Extinction of known threatened species has been prevented
The conservation status of those species most in decline has been improved and sustained

Sub-Aichi Targets or Target components

Recovery plans and measures are in place for all depleted species
Fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems

National Target 10: By 2030 Vanuatu’s invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

Rationale for the National Target

National Targets 10, 11 and 12 are linked to Aichi Biodiversity Target 9, however the timeframe has been extended by an additional 10 years than the ABT, to ensure they have more chance of being achieved and implemented in a sustainable manner. Invasive alien species (IAS) are arguably perhaps the major threat to native biodiversity, species and ecosystems in the Pacific islands (SPREP, 2013). Pacific islands are particularly vulnerable to IAS due to the evolution of native species in contexts absent of larger mammalian predators or aggressive weeds (USP, 2012). There is little natural resistance to	EN

the more competitive invasive and alien species in Vanuatu. The small and isolated nature of many of Vanuatu's islands make them more vulnerable to disturbances. At least 30 invasive plants are considered to have become serious threats to native habitats on Pacific islands, resulting in decreased dominance of native species, decreased overall species richness and a lower range of biodiversity overall (Meyer, 2000).

Many introduced species have been found to be invasive and pose threats to Vanuatu's native flora and fauna. These include *Cordia allidora* (Cordia), *Panicum maximum* (Elephant Grass), *Cycling sp.* (Agriculture Rope), the freshwater fish *Gampusia sp.* (Gampusia), *Oreochromis sp.* (Tilapia) and *Poecilia sp.*, *Acridothere tristis* (Indian Mynah Bird) and *Euglandina rosea* (Predatory Snail). The Vanuatu NISSAP 2014-2020 identifies 20 national priority species for focus on management, control and eradication. These species were brought to Vanuatu for commercial cultivation, biological control purposes or as curiosities or pets. Once in Vanuatu, species are spread from one island to another for similar reasons.

Given the multiple pathways for invasive alien species introductions and that multiple alien species are already present in many countries in the region, it will be necessary to prioritise control and eradication efforts on those species and pathways which will have the greatest impact on biodiversity and/or which are the most resource effective to address. While well-developed and globally-applicable indicators are lacking, some basic methodologies do exist which can serve as a starting point for further monitoring or provide baseline information.

In Vanuatu, invasive and alien species are causing major degradation and destruction to terrestrial and marine ecosystems, and are considered the major threat and cause of species extinctions. Introductions of invasive species have been both accidental and deliberate, but there has not yet been a systematic review of external and internal species pathways, to action the prevention of further species spread (In-person interviews with Department of Biosecurity and DEPC, 2019). This is particularly vital to undertake on a domestic scale, as some islands in Vanuatu are not yet infested with invasive species and therefore have the opportunity to be protected if adequate biosecurity measures are rapidly enacted. Due to the geography of Vanuatu, as an island archipelago spread across 1,300km north to south, encompassing over 83 islands, implementing domestic biosecurity measures will be an important and challenging measure. Pathways for the introduction of invasive alien species can be managed through improved border controls and quarantine, including through better coordination with national and regional bodies responsible for plant and animal health.

Management of other potential international pathways also requires improvement, especially in the marine sector, with an increasing number of cruise ship dockings being planned for Vanuatu's tourism market (In person interview with Department of Tourism, 2019). Invasive alien species are a major threat to agriculture, tourism and biodiversity and ecosystem services, and increasing trade and travel means that this threat is likely to increase unless additional action is taken.

Currently there is only very limited awareness of internal quarantine requirements and this is confined to species of agricultural or economic significance; biodiversity values are not included. Biodiversity issues need to be very thoroughly evaluated in the licencing of introduced plants and in biocontrol programmes.

It was considered vital for Vanuatu to prioritise a national target to improve the status of invasive species spread across the country. The aim of the target is to "facilitate and guide the protection of the pristine biodiversity and livelihoods of Vanuatu from invasive alien species through strong collaboration" (DEPC, 2018). The target also hopes to address the issue that information on invasive alien species and pathways "remains patchy and geographically biased" in the Pacific, which is particularly relevant to Vanuatu (IPBES, 2018, p.218). Moreover, all three national targets related to invasive species mirror the Vanuatu National Invasive Species Strategy and Action Plan (NISSAP) 2014-2020 (DEPC, 2014).

Reference list:

- Department of Environmental Protection and Conservation (DEPC), 2014, *National Invasive Species Strategy and Action Plan 2014-2020*, Government of Vanuatu.
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), 2018, *The IPBES regional assessment report on biodiversity and ecosystem services for Asia and the Pacific*, Karki, M., Senaratna Sellamuttu, S., Okayasu, S., and Suzuki, W. (eds), Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany.
- Meyer J. Y., 2000, 'Preliminary Review of the Invasive Plants in the Pacific islands' in Sherley G. (Ed.) *Invasive Species in the Pacific: A Technical Review and Draft Regional Strategy*, SPREP, Samoa.
- Secretariat of the Pacific Regional Environment Programme (SPREP), 2013, *State of Conservation in Oceania - Regional Report*, Apia, Samoa.
- USP, 2012, *Ecosystem Profile: East Melanesian Islands Biodiversity Hotspots*, CEPF, Samoa.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

Invasive alien species identified and prioritized
Pathways identified and prioritized
Priority species controlled or eradicated
Introduction and establishment of invasive alien species prevented

National Target 11: Emphasis will be placed on maintaining current status of native species, improving border control, developing inter-island biosecurity programmes, IAS eradication and control.

Rationale for the National Target

Due to the similarity of these national targets, please refer to National Target 10 for rationale related to the development of targets regarding invasive and alien species. EN

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

Biodiversity values integrated into national and local planning processes
Biodiversity values incorporated into reporting systems
Invasive alien species identified and prioritized
Pathways identified and prioritized
Priority species controlled or eradicated
Extinction of known threatened species has been prevented
The conservation status of those species most in decline has been improved and sustained

National Target 12: Communities’ understanding on invasive alien species is increased.

Rationale for the National Target

Due to this target being covered above, please refer to National Target 10 for rationale related to the development of targets regarding invasive and alien species.	EN

Relevance of National Targets to Aichi Targets

Aichi Target components

People are aware of the values of biodiversity
People are aware of the steps they can take to conserve and sustainably use biodiversity
Invasive alien species identified and prioritized
Pathways identified and prioritized
Priority species controlled or eradicated
With the full and effective participation of indigenous and local communities

Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved
Biodiversity knowledge, the science base and technologies are widely shared and transferred and applied

Sub-Aichi Targets or Target components

The rate of loss of forests is at least halved and where feasible brought close to zero
Degradation and fragmentation are significantly reduced
Extinction of known threatened species has been prevented
The conservation status of those species most in decline has been improved and sustained
The genetic diversity of wild relatives is maintained
The genetic diversity of socio-economically as well as culturally valuable species is maintained
Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration
At least 15 per cent of degraded ecosystems are restored, contributing to climate change mitigation and adaptation, and to combating desertification
Traditional knowledge, innovations and practices of indigenous and local communities are respected

National Target 13: By 2020, government has put in place relevant legislations and policies and Access and BenefitSharing (ABS) protocols to support NBSAP implementation; businesses and production sectors are adopting Vanuatu’s National Sustainable Development Plan; and stakeholders at all levels have taken steps and implemented plans for sustainable production and consumption.

Rationale for the National Target

The rationale for the various elements of this national target are outlined below. **Access and Benefit Sharing legislation and policies** Vanuatu became a signatory to the Nagoya Protocol on 18 November 2011, and ratified the Protocol on 1 July 2014 (entered into force on 12 October 2014) (Convention on Biological Diversity, 2019). As such, Vanuatu has agreed	EN

to take measures in relation to access to genetic resources, benefit-sharing and compliance, in accordance with the requirements of the Protocol.

The first major step toward putting in place Access and Benefit Sharing protocols is the development and enactment of legislation and appropriate policies, supported by relevant and widespread community consultations. This target also includes capacity building of DEPC staff to empower and enable Vanuatu to develop nationally-specific ABS plans and policies.

Adoption of Vanuatu's NSDP by businesses and production sectors

This part of National Target 13 is drawn from the alignment of Vanuatu's NBSAP and NSDP, which contains an 'Environment Pillar', consisting of four environmental targets (DSPPAC, 2016):

- ENVIRONMENT 1: A nation that ensures our food and nutrition security needs are adequately met for all people through increasing sustainable food production systems and improving household production.
- ENVIRONMENT 2: An economy which fosters sustainable growth and development through low impact industries and modern technologies to ensure the well-being of future generations.
- ENVIRONMENT 3: A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards.
- ENVIRONMENT 4: A nation which utilises and sustainably manages our land, water and natural resources.
- ENVIRONMENT 5: A nation committed to ensuring the conservation and sustainable management of our biodiversity and ecosystems.

Business and the production sector have largely existed outside the realm of considering the environment for many decades. It is important that these two sectors begin to mainstream environmental considerations upheld in the NSDP into their business and production practices, for the sustainability of Vanuatu.

Sustainable production and consumption plans implemented by stakeholders at all levels

This portion of National Target 13 also refers to Vanuatu's NSDP. Whilst Environment 4 and 5 are largely the focus of Vanuatu's NBSAP (DEPC, 2018), being related to biodiversity and conservation, it is important that the national targets encompass the other important environment targets. As such, National Target 13 refers to the environment targets 1 and 2, and includes such areas as Vanuatu's consumption practices, and related legislation and activities towards reducing unsustainable packaging and waste, including the promotion of handicrafts.

Reference list:

- Convention of Biological Diversity, 2019, 'Parties to the Nagoya Protocol', available at <https://www.cbd.int/abs/nagoya-protocol/signatories/default.shtml>
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.
- Department of Strategic Policy, Planning and Aid Coordination (DSPPAC), 2016, *Vanuatu 2030: The People's Plan – National Sustainable Development Plan 2016-2030*, Government of Vanuatu.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

Biodiversity values integrated into national and local development and poverty reduction strategies
Biodiversity values integrated into national and local planning processes
Biodiversity values incorporated into national accounting, as appropriate
Biodiversity values incorporated into reporting systems
Incentives, including subsidies, harmful to biodiversity, eliminated, phased out or reformed in order to minimize of avoid negative impacts
Positive incentives for conservation and sustainable use of biodiversity developed and applied
Governments, business and stakeholders at all levels have taken steps to achieve, or have implemented, plans for sustainable production and consumption
Strategies have been developed and implemented for minimizing genetic erosion and safeguarding genetic diversity
The Nagoya Protocol is in force

The Nagoya Protocol is operational, consistent with national legislation
NBSAPs adopted as effective policy instrument
NBSAPs are being implemented

National Target 14: The Ministry of Finance will need to set realistic annual budgetary targets and DEPC to do 3 yearly resource mobilisation plan based on realistic NBSAP Actions & Targets.

Rationale for the National Target

The rationale for this national target stems from discussions at COP 11 in October 2012, when the parties agreed to include resource mobilisation into the NBSAP reviews and endeavored to include biodiversity in their national priorities or development plans by 2015 (DEPC, 2018). This was to include the assessment of the intrinsic, ecological, genetic, socioeconomic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components.

There is no greater challenge for the achievement of the targets in Vanuatu's NBSAP than locating adequate funding for biodiversity management. Current funding for biodiversity conservation is from two principal sources:

- Government's annual departmental budget; and
- Donor assistance.

The NBSAP envisages a major 'step-change' from the current predominantly passive approach based on resource management for extractive purposes with little inherent biodiversity management capacity, to an active, 'hands on' management with adequate domestic technical capacity.

Experience with the national environment strategies and plans has shown that although Government may endorse a strategy, it is most unlikely to have funds available to initiate actions other than provide administrative frameworks. This situation is expected to continue for the NBSAP. The majority of the funding can, therefore, be expected to come initially from donor assistance with government providing a more active funding role in the medium term.

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Significant problems which inhibit Vanuatu's ability to achieve its targets, which arise as a result of an undue reliance on donor assistance are:

- A lack of continuity in funding and inability to provide recurrent expenditure (i.e. lease-rental and/or management of protected areas; CITES implementation; threatened species management; invasive species management etc.);Donors are inevitably selective in their choice of projects and their priorities may not coincide with those of the Government;
- Undue reliance on expatriate technical specialists;
- A lack of flexibility or the ability to meet changing circumstances or emergency situations;
- Government neglecting its funding role because of availability of project funding; and
- Sustainability of donor funded projects.
- In these circumstances, the NBSAP envisages the Government's main initial contribution will be:
- To endorse the NBSAP as Government's policy on biodiversity planning and management;
- Put in place the required legislative and administrative framework;
- To develop a national capacity for biodiversity management with trained specialists; and
- To address the issues of a rapidly increasing requirement for recurrent funding for biodiversity management.

The inclusion of a national target that sets specific actions and responsibilities related to financial planning for the NBSAP is considered vital to ensure DEPC begins to develop strategies, budgets and plans to guide how the country will achieve all its national targets. This financial planning will be the foundation for Vanuatu to move towards achieving its national targets in an organised and realistic manner. It will also help guide requests for donor assistance.

Reference list:

- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.

Level of application

Jurisdiction

National / Federal

Relevance of National Targets to Aichi Targets

Aichi Target components

NBSAPs adopted as effective policy instrument
Mobilization of financial resources implementing the Strategic Plan for Biodiversity from all sources have increased substantially from 2010 levels

Sub-Aichi Targets or Target components

Biodiversity values integrated into national and local planning processes
Biodiversity values incorporated into national accounting, as appropriate
Biodiversity values incorporated into reporting systems

Section II. Implementation measures, their effectiveness, and associated obstacles and scientific and technical needs to achieve national targets

1.1 - Conservation Area Management: Mapping of existing conservation areas

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CA1.2 in Vanuatu's NBSAP. The Department of Environmental Protection and Conservation (DEPC), in collaboration with relevant community conservation management committees, has undertaken GPS mapping of the boundaries of the nine existing Community Conservation Areas (CCAs), being:	EN

- Vatthe CCA in Santo
- Wairua CCA in Santo
- Loru CCA in Santo
- Penaoru CCA in Santo
- Tabwemasana CCA in Santo
- Lake Letas CCA in Gaua (pending approval)
- Amal Crab Bay CCA in Malekula
- Apuma Lelepa Island Tours CA in Lelepa
- Malakloplop CCA in Gaua.

All of these conservation areas have been mapped since 2014 (with the exception of Vatthe which was mapped prior to 2014). The mapping process is a compulsory part of the registration process for CCAs (DEPC, 2013).

Another major step undertaken (in 2016-17) was the mapping of site locations of informal 'tabu' (taboo) areas or community conservation areas, which are conservation areas not registered under the Environmental Protection and Conservation Act, but established under customary law, and managed by chiefs and/or communities (DEPC, 2018). It is thought that there are approximately 250 informal conservation areas across Vanuatu, including both terrestrial, inland waters and marine conservation areas (DEPC, 2018). As part of the consultation process for the preparation of the Vanuatu's National Biodiversity Strategy and Action Plan (NBSAP), workshop participants in each provincial capital (of the 6 provinces in Vanuatu) were asked to pinpoint the location of existing local conservation areas on each of Vanuatu's inhabited islands (DEPC, 2018).

The boundaries of these sites has not been mapped, only spot locations, thus total area covered by informal conservation areas is unknown, and for the most part of this Sixth National Report have therefore been excluded from area coverage for protected area calculations for this report. This work will however, assist with providing a recent foundation for national mapping of conservation area boundaries in coming years.

The interactive map of Vanuatu's conservation areas (link below) is not currently up-to-date, but does display some legitimate conservation area boundaries.

With regard to marine areas, the MACBIO project has designated SUMA (biophysically special unique marine areas) of Vanuatu for both offshore and inshore environments (link to report below) (Ceccarelli et. al, 2018). The designation of SUMAs will be used in government (and other) decision-making about how best to use Vanuatu's marine environment, and will be considered in licence and permitting decisions, Environmental Impact Assessments and marine spatial planning, including for marine protected areas and Community Conservation Areas. For maps of the SUMAs please refer to the report link below. The project has also developed an interactive national marine atlas (MACBIO, 2018). A link to the marine atlas is provided below.

Reference list:

- Ceccarelli D.M., Molisa V., Wendt H., Davey K., Kaitu'u J., and L. Fernandes, 2018, *Biophysically special, unique marine areas of Vanuatu*, MACBIO (GIZ, IUCN, SPREP), Suva, Fiji.
- Department of Environmental Protection and Conservation, 2013, *Information Booklet on the Registration of Community Conservation Areas*, Government of Vanuatu.
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.
- MACBIO, 2018, Marine Atlas of Vanuatu, MACBIO (GIZ, IUCN, SPREP), available at <http://macbio-pacific.info/Interactive-Atlas/Vanuatu/Vanuatu.html>

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 3: By 2030, 90% of CCA management committees are complying with their reporting obligations to DEPC (NEPIP, 2016).
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Registered conservation areas have been mapped
- Comprehensive mapping of marine protected areas has occurred as part of the MACBIO project.
- Informal conservation area locations have been mapped.

Progress is left to complete in the following areas:

- Uploading of mapped boundary data to the World Protected Area database.
- Mapping of informal area boundaries.
- Assessment of the effectiveness of all informal areas (to evaluate their inclusion in the official list of conserved areas of Vanuatu).

The tools and methodology used for the assessment of effectiveness included:

- Expert opinion from DEPC Director.
- Expert opinion from DEPC Senior Conservation Officer.
- Stakeholder input from Vanuatu NBSAP Consultation Consultant.
- Stakeholder input from DEPC/IUCN Project Liaison Officer.
- Stakeholder input and expert opinion from Live and Learn Vanuatu Program Manager.
- Community consultation sessions including informal scoring/reflection exercises with chairpersons and committee members of Vatte CCA, Wairua CCA, Loru CCA, Lake Letas CCA and Amal Crab Bay CCA.
- Analysis and cross-check of National Conservation Registry.
- Review of Vanuatu NBSAP.
- Cross-check of GIS mapping files.

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- Review of Vanuatu Environmental Data Portal (SPREP).
- Review of MACBIO Vanuatu Marine Atlas.
- Review of MACBIO Vanuatu Biophysical Special and Unique Marine Areas report.

Other relevant website address or attached documents

Interactive map - Department of Environmental Protection and Conservation - Conservation Areas in Vanuatu
Map - Ambae island - Conservation area locations.png
Map - Ambrym island - Conservation area locations.png
Map - Aneityum island - Conservation area locations.png
Map - Aniwa island - Conservation area locations.png
Map - Efate island - Conservation area locations.png
Map - Epi island - Conservation area locations.png
Map - Erromango island - Conservation area locations.png
Map - Futuna island - Conservation area locations.png
Map - Gaua island - Conservation area locations.png
Map - Hui island, Torres group - Conservation area locations.png
Map - Maewo island - Conservation area locations.png
Map - Makira and Emae islands - Conservation area locations.png
Map - Malekula island - Conservation area locations.png
Map - Mataso and Etarik islands - Conservation area locations.png
Map - Mere Lava island, Banks group - Conservation area locations.png
Map - Merig island, Banks group - Conservation area locations.png
Map - Mota island, Banks group - Conservation area locations.png
Map - Mota Lava island, Banks group - Conservation area locations.png
Map - Paama island - Conservation area locations.png
Map - Pentecost island - Conservation area locations.png
Map - Reef Islands, Banks group - Conservation area locations.png
Map - Santo island - Conservation area locations.png
Map - Tanna island - Conservation area locations.png
Map - Tongoa island - Conservation area locations.png
Map - Ureparapara island - Conservation area locations.png

Map - Vanua Lava island, Banks group - Conservation area locations.png
Map - Vot Tande island, Banks group - Conservation area locations.png
Report - MACBIO - Biophysically Special and Unique Marine Areas of Vanuatu
Interactive Tool - MACBIO - Marine Atlas of Vanuatu

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs relate to the measure include:

- **Funding:** Lack of adequate national funding for the mapping of all conservation areas.
- **Coordination:** Require a more nationally coordinated approach to protected area management, involving all stakeholders who work in this space.
- **Time:** It is estimated that it would take several years to map the boundary of all conservation areas due to the number and travel difficulties between areas in rural Vanuatu.
- Geography: Mapping the boundary of some conservation areas is extremely difficult from a geographical perspective, due to topography, remoteness and density of forest in some parts of Vanuatu.
- **Customary land and management:** The lack of defined and mapped boundaries for traditionally-managed conservation areas must also be considered a necessity for the success of local conservation areas. Vanuatu's customary system of managing land and resources has not relied on a 'lines on a map' approach, and many programs operating in this space have found the process of attempting to create set boundaries to be fraught with issues. The most important part of the Vanuatu conservation philosophy and system is that locally-managed tabu areas are under the control of the traditional customary owners of that land/sea/resource area.

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1.2 - Conservation Area Management: Improving tools for effective monitoring and governance of conservation areas

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Actions CA2.3, CA2.4 and CA4.3 in Vanuatu's NBSAP.

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Currently, the primary monitoring and evaluation tool in place to assess the effectiveness of registered conservation areas is the Annual Report, a compulsory template required to be completed annually by local conservation area management committees) (DEPC, 2013) (refer link to booklet below with Annual Report template). Monitoring should be carried out against the baseline collected during the rapid biodiversity assessments which are required prior to registration of conservation areas. The template is attached below.

In the past four years, compliance with the completion of the reports by conservation areas has increased, with support given from DEPC to the conservation areas. The reporting template is however, entirely subjective, based on observational data and collected on an ad-hoc basis. It relies solely on honesty, and a committee proactive in assessing changes in the conservation area.

It has been recognised that more reliable quantitative data is required, to adequately assess the impact of conservation areas on the environment and ecosystems. Two key materials have been produced or are in the stages of development, which will provide for a toolkit with which to train community members in assessment of their environments, in both the terrestrial and marine spheres.

Live and Learn – National Ranger Toolkit:

For the terrestrial CAs, a CEPF grant is currently providing budget for Live and Learn, in collaboration with Eco-livelihoods Development Association and Department of Environmental Protection and Conservation, to build the capacity of 10 community conservation rangers and 25 land management committee members in order to improve management of five community conservation areas (CCAs) in Vanuatu (Live and Learn, 2018). The project is funding the preparation and dissemination of Vanuatu's first National Ranger Toolkit, field training in the five CCAs, carrying out biodiversity surveys, a gender assessment, establishment of a national ranger network, and fundraising. The toolkit will include basic flora and fauna identification guides, and information about how to determine the occurrence and abundance of species. Field-training of a pilot group of rangers from existing conservation areas has commenced in two pilots. The first pilot has been completed, and has focussed on guidance provided to local community conservation committee members by technical officers on how to use the toolkit so that they can commence collecting data and providing feedback on any changes required to the toolkit. The second pilot will focus on the local rangers using the toolkit without supervision, to ensure that they are capable of, and comfortable using this tool without guidance. It is intended that the information collected will be

sent to DEPC for analysis and safe-keeping. A Kobo Toolbox version of the toolkit is also being developed and trialled to allow for real-time collection of data in the field. The Department is in the process of establishing a monitoring and evaluation database on the effectiveness of conservation plans.

C2O and RESCCUE - Marine Management and Monitoring Toolkit:

C2O developed a comprehensive and practical toolkit in partnership with community resource networks in Vanuatu, and with the Vanuatu Fisheries Department, as part of a broader environmental management and climate change adaptation project funded by the SPC RESCCUE project, the study area for which was located in north Efate and the offshore islands of Lelepa, Moso, Nguna and Pele (Johnson et al., 2018). The toolkit includes 6 modules and provide standard methods for monitoring fish catch, intertidal invertebrates, coral reefs, mangroves, seagrass and crown-of-thorns starfish. In the training for the toolkit, a focus is also placed on leadership training, and the skills of taking initiative and motivating others to participate in team work. In the development of the toolkit, the organisations have also prioritised the need for communities themselves to be empowered to make decisions about the changes in their fishing practices. This decision-making process, is supported but not led by the toolkit training. Answers must come from within communities themselves to desire changes to their current resource management methods. The toolkit is now being implemented under the guidance of C2O in select communities in North Efate. SPREP is also funding toolkit training for community marine champions from three islands where the establishment of MPAs are in progress.

Reference list:

- Department of Environmental Protection and Conservation, 2013, *Information Booklet on the Registration of Community Conservation Areas*, Government of Vanuatu.
- Johnson, J.E., Welch, D.J., Hooper, E., Moore, B., Edney, G. and J. Waterhouse, J., 2018, *Community Marine Monitoring Toolkit: Vanuatu,* Prepared under the Restoration of Ecosystem Services and Adaptation to Climate Change (RESCCUE) Vanuatu project for the Pacific Community (SPC), Noumea, New Caledonia.
- Live and Learn Vanuatu, 2018, *Biodiversity Toolkit for Community Conservation in Vanuatu*, Live and Learn Environmental Education, available at <https://livelearn.org/stories/biodiversity-toolkit-community-conservation-vanuatu>

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 3: By 2030, 90% of CCA management committees are complying with their reporting obligations to DEPC (NEPIP, 2016).
National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Steps have been taken toward the improvement in quantitative data management in both terrestrial and marine conservation areas in Vanuatu.
- Training in the toolkits are being undertaken to empower and build the capacity of those on conservation committees, on the importance of data collection and in soft skills such as leadership and initiating activities.

Progress is left to complete in the following areas:

- Pilot testing of the toolkits to assess their effectiveness and whether they can be sustainable in the Vanuatu context.
- Spread of the toolkit throughout Vanuatu in a standardised manner.

The tools and methodology used for the assessment of effectiveness included:Stakeholder input from Live and Learn Vanuatu Program Manager.

- Stakeholder input from DEPC Senior Conservation Officer.
- Expert opinion and advice from C2O Principal Scientist.
- Stakeholder consultation with Live and Learn Program Manager.

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- Review of Live and Learn Vanuatu website.
- Literature review of C2O Marine Monitoring and Management Toolkit.
- Observation of and participation in project evaluation of SPC RESCCUE.

Other relevant website address or attached documents

Article - Live and Learn Vanuatu - National Ranger Toolkit
Toolkit - C2O (RESCCUE Project) - Marine Monitoring and Management Toolkit
Information Booklet - DEPC - Community Conservation Area Registration Process.pdf

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Financial constraints:** Community representatives involved in toolkit training often request monetary incentives or wages to undertake monitoring activities. However the government is generally unable to meet these financial demands on an ongoing basis thus programs do tend to suffer from a lack of sustainability.
- **Competing livelihoods:** Local community members tend to be drawn into the regional Seasonal Workers' Program which sees many ni-Vanuatu citizens travelling to Australia or New Zealand to work in the agricultural sector in these countries, due to the appeal of much higher wages than those available in Vanuatu. The negative impacts of this growing trend is that there is less interest in or commitment to the grassroot level.
- **Strategic planning:** Strategic thinking around conservation planning in Vanuatu is not strong. This extends to issues of community monitoring, and how and where this should be carried out. A national plan for sustainability of the monitoring toolkits needs to be developed to ensure that the toolkits have viability going forward. Moreover, strategic planning around which threats and in what areas they should be targeted should be prioritised.
- **Coordination and leadership skills:** Due to the lack of resources at the national level, and Vanuatu's focus on bottom-up conservation planning, monitoring of resources and collection of data relies on community members undertaking monitoring activities on a consistent basis. Soft skills such as leadership, planning, time management and motivating teams to participate in conservation activities are often lacking at the grassroots level. These initial skills are necessary as a foundation for the more

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technical monitoring skills to be taken up by communities and utilised. Developing behaviour change is not a common part of conservation awareness in Vanuatu and needs to be prioritised.

- **Policy and legislation contradictions and weaknesses:** National policies that should be supporting the development and materials in these toolkits are often not strong enough. For example, legislation currently contains only limited restrictions on illegal fishing gear (being that 3-finger nets are prohibited), which is one of the major threats to the marine environment and contributors to overfishing in communities. The Marine Monitoring and Management Toolkit seeks to bridge this gap. Moreover, fisheries policy in Vanuatu is pushing major increases in commercial fish catch, leading to conflicting priorities between departments and messaging in communities.

1.3 - Conservation Area Management: Registration of new protected areas, Community Conservation Areas (CCAs) and establishment of new unregistered conservation areas

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CA1.1 and CA2.12 in Vanuatu's NBSAP, as well as national targets identified below.

Vanuatu has nine legally-registered conservation areas, under the Environmental Protection and Conservation Act. Five of these have been established in the period 2014 to 2019. Their names, the island on which they are located and the years they came to be registered are:

- Loru Community Conservation Area, Santo – 2015
- Tabwemasana Community Conservation Area, Santo - 2018
- Apuma Lelepa Island Tours Conservation Area, Lelepa - 2018
- Wairua Community Conservation Area, Santo – 2019
- Malakloplop Community Conservation Area, Gaua - 2019

In addition, significant progress has been made toward registration for the following conservation areas, which are likely to be registered in the coming few years:

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- Lake Letas Community Conservation Area, Gaua
- Homo Bay Community Conservation Area, Pentecost
- Kauri Reserve Community Conservation Area, Erromango
- Lolathe Community Conservation Area, Santo
- Port Olry Community Conservation Area, Santo
- Hog Harbour Community Conservation Area, Santo

More local ‘tabu’ areas or unregistered conservation areas have also been established across Vanuatu in the past four years, as a result of community initiative, and collaborations with partner organisations and projects. They are shown in the table below. Those in grey cells have had significant progress made and will be registered in the coming few years.

Province	Name	Island	Year established
Torba	Vetyayah	Mota Lava	2014
Sanma	Port Olry MPA	Santo	2017
Sanma	Lolathe Marine Conservation Area	Santo	2017
Sanma	Hog Harbour Marine Conservation Area	Santo	2017
Malampa	Peskarus	Uluveo, Maskelynes	2017
Malampa	Lutes	Uluveo, Maskelynes	2017
Malampa	Pellongk	Uluveo, Maskelynes	2017
Malampa	Lohbakalo	Malekula	2018
Malampa	Vendikdik	Malekula	2018
Malampa	Lampitet	Malekula	2018
Malampa	Yapinobong	Malekula	2018
Malampa	Labo	Malekula	2018
Malampa	Lamango	Malekula	2018
Malampa	Batnatamp	Malekula	2018
Malampa	Benour	Malekula	2018
Malampa	Rahutem	Malekula	2018
Shefa	Unnamed	Epi	2016
Shefa	Unnamed`	Epi	2016
Shefa	Unnamed	Epi	2016
Shefa	Unnamed	Epi	2016
Shefa	Unnamed	Epi	2016
Shefa	Unnamed	Epi	2016
Shefa	Unnamed	Epi	2016
Tafea	Western Tabu Area	Aniwa	2016
Tafea	Eastern Tabu Area	Aniwa	2016
Tafea	Unnamed	Erromango	2017

Source: National Conservation Area Registry (Department of Environmental Protection and Conservation, 2019)

Due to the lack of recorded data in Vanuatu, this list is not the exhaustive record of all conservation areas that have been established in the last four years, but those that have expressed interest in becoming registered to the DEPC.

A comprehensive assessment of all existing informal tabu areas in Vanuatu, including their boundaries, size and

status is yet to be completed in detail, though the location of unregistered conservation areas was collected during consultations for the NBSAP, as described in Implementation Action 1.1.

Reference list:

- Department of Environmental Protection and Conservation, 2019, National Conservation Area Registry, Government of Vanuatu.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.
National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Worked with communities to formalise the registration of three new conservation areas which are now legally protected under the EPC Act.
- Numerous further 'tabu' areas established under customary law for the protection of resources across Vanuatu.

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Progress is left to complete in the following areas:

- Proper assessment of the number and status of conservation areas in every island.
- Registration of further conservation areas, if communities wish to take this avenue.
- Commencement of Expanding Conservation Areas Reach and Effectiveness (ECARE) project in Vanuatu, which will commence in 2020. ECARE will seek to strengthen and expand Vanuatu's network of protected areas, as well as provide a more accurate and comprehensive set of baseline information.

The tools and methodology used for the assessment of effectiveness included:

- Stakeholder input from DEPC Senior Conservation Officer.
- Community consultation sessions with the following community conservation areas (registered and non-registered):
  - Amal Crab Bay - Malekula
  - Jinarong - Uripiv
  - Jinong Marine Park - Uripiv
  - Losenwai - Malekula
  - Navov - Uripiv
  - Uri Narong Marine Park - Uri
  - Vatthe - Saama, Matantas - Santo
  - Wairua - Santo
  - Loru - Santo
  - Imaio - Tanna
  - Nusumetu - Tanna
  - Port Resolution - Tanna
  - Rockwater - Tanna
  - Waisisi - Tanna
  - Lake Letas - Gaua
  - Nerenigman - Mota Lava
  - Var - Mota Lava

    - Rah - Rah
    - Totolang - Mota Lava
    - Vuslengleng - Vanua Lava
- Analysis and stocktake of Vanuatu National Conservation Area Registry.

Other relevant information

Case study: Matnakara Water Protection Zone - Port Vila, Vanuatu

The majority of legally protected areas in Vanuatu are legislated under the Environmental Protection and Conservation Act, which designates areas as Community Conservation Areas. However, there are other legal means for protection in Vanuatu's legislative suite, one of which is the Water Resources Management Act. Under this Act, an area can be designated as a Water Protection Zone, for the purposes of protecting and conserving water catchment areas, water sources and the biodiversity within them, to ensure the ecosystem service of the provision of clean water is safeguarded.

The Tagabe River Catchment Area is the only catchment source of potable water for the city of Port Vila. With a rapidly increasing population, the spread of peri-urban communities on the fringes of urban Port Vila, and escalating climate change impacts, the vulnerability of the TRCA environment and its ability to provide a secure water supply was in question. The catchment area provides potable water through both a formal system (operated by the water utility company, Unelco) as well as via the natural rivers which flow from the island's interior through Port Vila's urban areas. The interior of the island boasts indigenous forest, important geological features, and a variety of Efate's biodiversity.

On 20 September 2018, the declaration of Matnakara Water Protection Zones (Tagabe River) order No. 119 of 2017 under the Water Resource Management Act [CAP 281] was declared by Minster of Lands and Natural Resources, Honourable Ralph Regenvanu, to officially register the Matnakara Water Protection Zone over part of the mid-lower Tagabe River Catchment Area. The WPZ is divided into three zones, for which different rules and permissible activities ensure the protection of parts of the WPZ most vulnerable to impacts by the surrounding urban communities. The image below shows the three zones.

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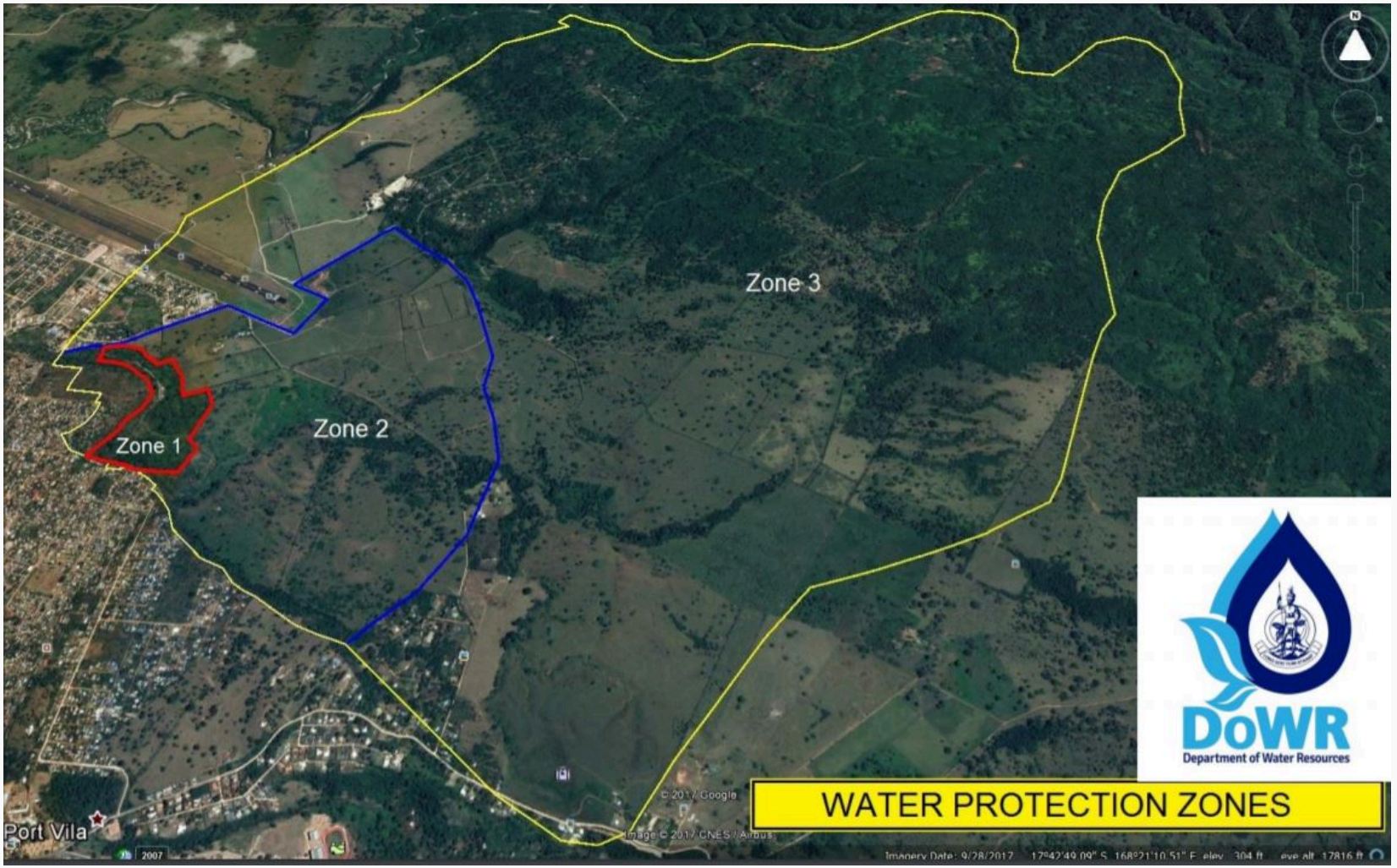


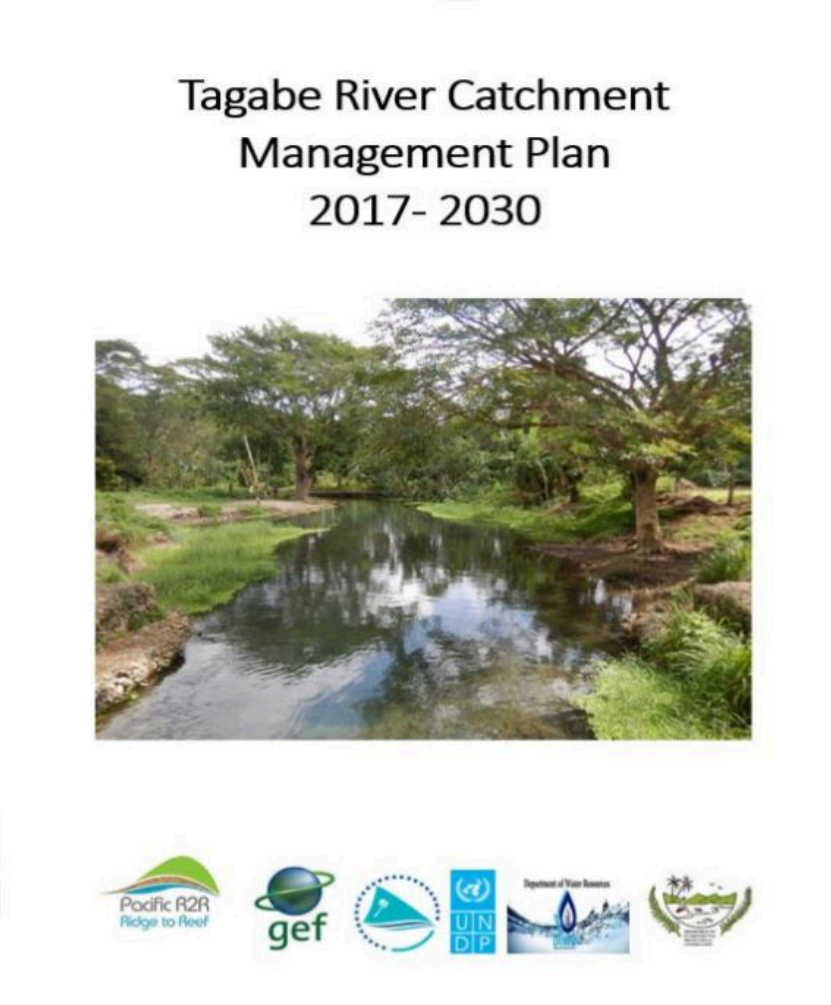
Source: Department of Water Resource, Government of Vanuatu, 2017

The purpose of the declaration is to protect the quality and quantity of water of the Tagabe River, and to ensure the sustainability of the environment within the WPZ. The WPZ was designed as a sustainable, multi-purpose land use management water catchment model, which sets an example for other mixed use water

catchment areas in Vanuatu, as to how conservation and human activity can co-exist if properly managed. This is significant in Vanuatu due to the small size of islands, which creates the need to think and plan on an island-wide ridge-to-reef scale.

The declaration was the outcome of long-term negotiations and collaborative decision-making between the key parties involved, most notably the Department of Water Resources, Department of Lands and the water service company Unelco. This partnership was forged through the shared understanding of the necessity of the preservation of this important ecosystem service.

Moreover, the committee which manages the area, the Tagabe River Management Committee is comprised of a public-private-community partnership, with representatives from Unelco, Department of Water Resources, Department of Environmental Protection and Conservation, Department of Lands, Department of Public Health, Department of Tourism, Department of Agriculture, Department of Public Works, Shefa Provincial Government, Wan Smolbag (local community youth organisation) and a series of Tabage community committees which surround or live near or in the Matnakara zones. The committee in 2017, revised and published the Tagabe River Management Plan, which includes actions to ensure the safeguarding to the WPZ.



Source: Department of Water Resources, 2017

The Plan includes actions for all parties involved, including Unelco, the relevant departments and the communities. In this way responsibility for the protection of the area is shared. Actions include biodiversity-related measures, including reforestation measures and a plan to establish a native botanical garden within the area to assist with preservation of endangered botanical species.

The committee also ran an effective awareness campaign for the education of people impacted by the changes to the zoning of the WPZ. Creative awareness strategies were used, such as the commissioning of a song and music video by a popular local reggae artist Metoxide, to assist explaining the rules for each zone of the WPZ in an engaging way for communities (video provided below). This utilised the popularity of facebook in Port Vila for its distribution.

An overview of the establishment of the Matnakara Water Protection Zone is provided in the attached presentation by the Vanuatu Department of Water Resources.

The Tagabe River Management Committee is supported by the GEF Pacific Ridge to Reef Programme operating in Vanuatu.

Other relevant website address or attached documents

Video - Community Awareness Material - Matnakara Water Protection Zone.mp4
Presentation - Matnakara Water Protection Zone - Department of Water Resources.pdf

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Funding:** DEPC currently does not have access to sufficient finances at the national level to enable the establishment of numerous conservation areas. The departmental budget is stretched to cover limited services for existing registered conservation areas, if possible. Donor-funded projects are required to provide the funding that is necessary for the investment of time and resources to assist communities with awareness and capacity-building to lead to registration of a conservation area.
- **Resources:** DEPC is under-resourced and struggles to provide the full support required to all interested communities who wish to register their conservation areas. The single Conservation Officer is stretched in her duties and, whilst helping those communities who approach the department with whatever support can be offered, her reach can not cover the extent of the country.
- **Planning:** Strategic planning related to conservation activities is not carried out within DEPC. As such, a planned and methodical approach is lacking in relation to the formalisation of protected areas. Rather, the approach employed is quite opportunistic.
- **Customary context:** Customary systems in Vanuatu encompass strong principles of environmental stewardship through customary 'tabu' processes, whereby areas or resources are prohibited from

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poaching either permanently or for set periods of time. The system of legal registration for conservation areas is new in Vanuatu, and introduces an avenue which seeks to empower customary methods of protection, but does introduce new management methods for conservation. As such, it is a challenge when working with communities to ensure that the legal registration process does not erode traditional protection methods, but support them. It is challenging to manage expectations of what registration will mean for a community, and the support that may be expected from the government, which as seen above, is limited due to a lack of available resources. Enforcement and compliance of management rules in conservation areas is the responsibility of local conservation committees. Assistance sought by communities from DEPC in relation to these processes can not always be met, due to funding or resource constraints.

1.4 - Conservation Area Management: Improved national coordination on protected areas

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure will provide a stronger foundation for Vanuatu to carry out the entirety of actions identified in Focus Area: Conservation Areas, in Vanuatu's NBSAP. Specifically, this measure contributes to the implementation of Actions CA2.9 and CA4.5 in Vanuatu's NBSAP.

In 2018, a Protected Areas Advisory Committee (PAAC) was established and formalised to ensure that Vanuatu’s protected area targets and broader protected area priorities are met through a coordinated and inclusive manner. The establishment of the PAAC was supported and guided by SPREP, through the EU's 11th EDU Fund BIOPAMA programme (Leannem, 2019).

Since the establishment of the committee, a national protected area workshop engaging the PAAC members including the Vanuatu Fisheries Department, Vanuatu Department of Forests, Vanuatu Environmental Science Society (VESS), Vanuatu Environmental Advocacy Network (VEAN), Wan Smolbag theatre, Live and Learn Vanuatu and others was held, with the goal of ensuring accurate and reliable information for decision making and to inform policy formulation for future programs and projects

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development and monitoring of progress towards the achievement of protected area targets for Vanuatu. The workshop was organised and led by DEPC.

Participants shared progress of their current protected area-related initiatives, challenges faced and lessons learnt – staffing, funding and conflicting data held by government and NGOs were highlighted. An update on the progress of implementation of Vanuatu's National Roadmap for Aichi Target 11 was provided and challenges faced with its implementation highlighted. It was determined that because most conservation information resides with communities, NGOs or government agencies, but is not linked through these organisations, better coordination and dialogue is essential between these players to ensure success of current and future work involving protected areas.

The Pacific Islands Protected Area Portal (PIPAP), a 'one stop online portal' for all Pacific protected areas information, was promoted during the workshop, with basic training delivered on the key features and use of the portal. Participants learned how to access and view their country data, conduct searches for information resources and locate technical guidance on different aspects of protected area management available through the portal.

Prior to the establishment of the committee, a preliminary BIOPAMA workshop was hosted by SPREP in Vanuatu in 2017, involving protected area stakeholders. The workshop aimed to initiate measures to consolidate and improve national data and information on Vanuatu's protected areas. A live demonstration and interactive GIS activities were led by a SPREP GIS specialist, to demonstrate the PIPAP. The most useful outcome of this workshop was the creation of Vanuatu's PAAC.

The more recent workshop of the BIOPAMA project demonstrated a timelier and shared sense of urgency to better coordinate, share knowledge and proposed solutions to address protected areas management issues and to reach Vanuatu's obligations to the CBD and Aichi Targets. Having leadership and a coordinated approach will be more likely to ensure the sustainability of the group. The committee will now continue to meet to push forward the objectives of a coordinated approach to protected area management in Vanuatu.

Reference list:

- Leannem, 2019, 'Vanuatu Improves Coordination On Protected Areas', SPREP, available at <https://www.sprep.org/news/vanuatu-improves-coordination-on-protected-areas>

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.
National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.
National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- A national committee for the coordination of protected area data has been established, which has been long overdue for Vanuatu.Workshops have commenced to educate key stakeholders in the use of the PIPAP and national databases to collate and store information.
- Momentum has been built for the continued coordinated approach led from a national level.

Progress is left to complete in the following areas:

- Collection of accurate data on conservation area locations and boundaries.

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- Collection of data on governance structures and status of conservation areas.
- Review of methodology for setup of legal conservation areas, and reporting/data collection requirements.

The tools and methodology used for the assessment of effectiveness included:

- Stakeholder input and expert advice from DEPC Senior Conservation Officer.
- Stakeholder input from SPREP Country Manager.
- Stakeholder input from Live and Learn Vanuatu Program Manager.

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Data records:** The majority of conservation data and knowledge is not recorded in Vanuatu. To better manage and support protected areas, the recording of data at the community level may have to increase, to meet Vanuatu's national and international targets with authentic and reliable records that reflect the reality on the ground.
- **Leadership:** Due to the many constraints on resources in Vanuatu, leadership of committees often wanes with multiple pressures on time. The leadership of this committee is particular important in a coordinating role, to ensure that momentum is not lost and real partnerships are built between national government and protected area stakeholders.
- **Logistics:** Undertaking data collection from the grassroots level for inclusion in national level databases is a logistical challenge in Vanuatu, due to the number of community conservation areas, and their locations spread across the country. Due to poor telephone and internet network reach, lack of technology and awareness at community level, the most effective form of communication is face-to-face – a difficult task to achieve due to the distance, time and expense of reaching all villages in Vanuatu.

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1.5 - Conservation Area Management: Traditional environmental knowledge initiatives

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

This measure contributes to the implementation of Vanuatu's NBSAP more generally, and upholds Vanuatu's conservation philosophy and traditions, which are based on customary processes and laws, such as local customary 'tabu' areas and utilising traditional environmental knowledge for the management of resources and the environment.

The Vanuatu Kaljoral Senta (VSK) (meaning the Vanuatu Cultural Centre) focuses on understanding, recording and encouraging traditional resource management and traditional environmental knowledge in Vanuatu.

The Traditional Environmental Knowledge project at VKS has completed the following activities in the reporting period:

- **School curriculum inputs:** Created traditional environmental knowledge modules for the school curriculum (in both French and English), which are environmentally-related and focussed on education primary-school level children in customary and cultural knowledge.
- **VKS Fieldworker Network:** A nation-wide network of voluntary ‘fieldworkers’ are connected to VKS and conduct work in their communities on behalf of VKS, or assist in informing cultural-related programs. Traditional resource management awareness and education is promoted through the fieldworker network, most of whom attend an annual training in Port Vila including TEK training.
- **Awareness and educational materials:** Development of booklets, posters and video materials for the training of VKS fieldworkers.
- **Canoe culture and sailing revival program:** This program has seen the promotion of the use of traditional canoes for livelihood and resource management purposes. With increasing development on the outer islands, the traditions of canoe-cutting is being lost and replaced by the use of fibreglass boats. The benefits of canoes are that they save millions of vatu each year for communities, and assist in maintaining biodiversity due to their low-carbon impact and low-cost which allows for more flexible and regular monitoring of resources.
- **Supporting customary and community governance structures that support traditional resource management:** VKS staff conduct fieldwork with communities in rural Vanuatu, particularly those communities that request their involvement, to encourage and support the establishment or strengthening of the ‘traditional toolbox’ for environmental management which already exists in ni-Vanuatu culture. VKS assists communities to better understand and implement measures to sustainably

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manage resource populations, using concepts which are already understood in communities, such as tabu areas and land management practices, as well as respect for the natural world, and understanding of reserving resources as a resilience measure to account for the vulnerabilities of living on small islands with few resource pools.

- **Research:** VKS also participates in research projects which promote and inform traditional resource management methods. These have included conducting sea grass surveys, mangrove surveys and reef surveys (particularly progress of coral bleaching) and collecting data on the stranding of marine mammals. Papers on traditional resource management have been published (primarily in grey literature), with the aim of reducing the erosion of customary knowledge, particularly in this time of rapid economic, social and infrastructural development.

Reference list:

This summary is based on in-person interviews and consultations undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.
National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.
National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Work completed to maintain the clauses and underlying principles of the Vanuatu constitution, which grants customary rights to people’s land and resources.'
- Various forms of awareness, including establishment of strong connections in the field with communities and the development of the VKS Fieldworker Network.
- Continuing research including collection of scientific data as well as anthropological research.
- Promotion of the ‘traditional toolbox’ to uphold and strengthen traditional knowledge and customary environmental management.

Progress is left to complete in the following areas:

- Organisation, analysis and publication of much of the data collected by VKS.
- Work towards establishing a balance between traditional and non-traditional environmental management processes, which are currently at odds in some regard.

The tools and methodology used for the assessment of effectiveness included:

- Expert opinion and advice from Vanuatu Kaljoral Senta Traditional Environmental Knowledge Officer.
- Literature review of hard copy awareness materials on traditional environmental knowledge and management (produced materials by VKS).

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Other relevant website address or attached documents

Research articles - Vanuatu Kaljoral Senta - TEK Officer research publications

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Balance of conservation systems and processes:** Practices and understandings of conservation are implemented via two different systems – the traditional and the non-traditional. These two systems are discussed in other sections of this report. Challenges are extremely evident in the balancing of these

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two systems, and in developing a solid model for how the two can interact and collaborate effectively. The legal process for establishing CCAs through the EPC Act, does have strong foundations in community instigation and consultation, and building upon existing traditional tabu areas. The effectiveness and practicalities of the newer non-traditional process, does rely on the strength of customary practices and respect for traditional tabus. It appears to depend on the community, island and context, as to which conservation approach is most appropriate. However, a streamlined method which accounts for both traditional and non-traditional processes, with a healthy respect from each side for the other, has not yet been reached in Vanuatu and requires more collaborative work from the key agencies involved in either camp.

- **Increasing modernisation:** Respect for, and knowledge of, customary protocols and ways of life are rapidly diminishing in Vanuatu, as a result of a conscious destruction of culture during colonisation and missionary development in Vanuatu, and growing modern practices and moves away from traditional economies and daily practices. This makes for growing difficulty in the promotion of traditional environmental knowledge and management, against modern development pressures.

1.6 - Conservation Area Management: Provincial conservation plans

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CA2.1 in Vanuatu's NBSAP. Moreover, this measure contributes directly to the national targets identified below.

Vanuatu’s NBSAP was published in June 2018. In the years leading up to the completion of the document, especially in 2016 and 2017, extensive consultations were undertaken across the country (DEPC, 2018). Every provincial centre was visited (six provinces in Vanuatu), with workshops held involving all relevant conservation, government and CSO stakeholders.

The result was a more locally-informed NBSAP, and the most comprehensive and strategic collection of biodiversity and conservation data on a national level, than has ever before been completed in Vanuatu. The information collected culminated in the development of six provincial conservation plans for each of the provinces – Torba,

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Sanma, Penama, Malampa, Shefa and Tafea. These can be found starting on page 108 of the NBSAP at the link below, and are referred to as the Provincial NBSAP Implementation Frameworks.

Information collected and objectives developed for each provincial conservation plan included:

- Listing and mapping of existing and proposed conservation areas for marine, forest and inland waters and terrestrial ecosystems.
- Status of existing conservation areas.
- List of important marine and terrestrial species.
- Key threats to marine and terrestrial species.
- Key actions to address depletion of marine and terrestrial resources.
- Setting of a provincial target for existing or proposed conservation areas (to register or improve management effectiveness), with specific conservation objectives for each protected area.
- Timeframes in which to complete the activities.

Reference list:

- Department of Environmental Protection and Conservation (DEPC), 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 4: Targets for conservation areas set in provincial strategic plans are achieved.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective. EN

Progress has been achieved in the following ways:

- First national strategic collection of conservation and protected areas information across Vanuatu.
- Development of provincial level conservation plans.

Progress is left to complete in the following areas:

- Communication of these plans to provincial-level government and protected area stakeholders. Integration of conservation objectives and protected area targets into provincial planning policies and strategies.
- Planning and allocation of conservation champions to lead the initiatives at a provincial and community level.
- Hiring of provincial extension officers for the implementation of provincial-level plans.
- Further prioritisation of provincial conservation targets and additional planning and review of plans at provincial level.

The tools and methodology used for the assessment of effectiveness included:

- Expert advice from NBSAP National Consultation Coordinator.
- Stakeholder input from DEPC Provincial Outreach Officer.
- Expert opinion from Torba Provincial Government Provincial Planner.
- Stakeholder workshop with Torba Provincial Government including:
    - Torres and Ureparapara Area Council Area Administration.
    - Torba Provincial Government Provincial Planner.
    - Torba Provincial Government Project Officer.
    - Torba Provincial Government - Councillor for Merelava.
    - Mota Lava Community Liaison Officer.
    - Ureparara Community Liaison Officer.
    - Torba Provincial Government Accountant.
- Stakeholder feedback session with Sanma Provincial Government including:
    - Sanma Province Acting Secretary General.
    - Sanma Provincial Government Provincial Planner.
- Stakeholder consultation session and expert opinion with Malampa Provincial Government Secretary General.

- Expert opinion with Shefa Provincial Government Environment Coordinator (former).
- Stakeholder consultation session with Tafea Provincial Government Consultant for the *Tafea Plan*.

Other relevant website address or attached documents

Plans - DEPC - NBSAP Provincial Implementation Plans

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Communication of plans:** A trip taken to all provincial centres (with the exception of Penama who are undergoing a location change due to volcanic activity on the island where the former provincial headquarters were located), as part of the consultation process for this Sixth National Report, made clear the lack of awareness of the provincial conservation plans. Provincial governments were not aware of the plans unless particular stakeholders had been present at the initial NBSAP workshops, in which case they had not communicated the plans to their colleagues. Stakeholders around the islands had also not had the NBSAP made available to them. Follow-up on a provincial and community level of national planning processes and documents is a major challenge in Vanuatu, due to the difficulty in distribution and lack of coordinated approaches at provincial government levels in disseminating important national information.
- **Further planning:** The development of the provincial conservation plans is a major step in the right direction for Vanuatu. The targets contained within the plans are extremely ambitious and aspirational considering current resources available, including time and funding at a local level. It is seen as vital that more applied planning is undertaken at each provincial level to more realistically plan objectives based on the provincial plans, for the period until 2030.
- **Provincial extension officers:** A major need observed on the ground in provincial centres was the need for DEPC Extension Officers to be present in each province. At present, environmental messaging and activities are left to extension officers of other departments, resulting in incomplete and insufficient activities being carried out in order to adequately meet Vanuatu's national environmental targets. Moreover, the presence and benefit on the ground of other major departments is clear, and the request from these staff for an Environment Officer with whom to collaborate and support their work in promoting environmental messaging is a major gap.

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1.7 - Conservation Area Management: Development of remuneration options for resource owners for conservation initatives

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

Vanuatu's NBSAP contains objectives for the investigation into, and establishment of sustainable financing mechanisms such as payment of ecosystem services, alternative income generating best practices and national financing mechanisms (DEPC, 2018) (CA3.2 and CA3.4). Whilst national-level initiatives related to financial benefits for customary landowners who protect their resources have not been developed, select environmental projects have worked with local stakeholders to establish sustainable financial revenue streams from their conservation initiatives, which will be investigated for roll-out, from these pilot activities to similar conservation contexts across Vanuatu. These programs are described further below.

RESCCUE project - Feasibility Study of Financial and Economic Mechansims for Integrated Coastal Management in North Efate, Vanuatu

As part of the SPC RESCCUE project, the pilot site for which was North Efate and the offshore islands, a feasibility study was undertaken to assess potential financial mechanism options that could assist in funding conservation activities in North Efate (Greenhalgh and Gibson, 2016) (study provided below). As a result, a conservation trust was established for the two main environment networks in the area (Tasivanua Environment Network and Nguna Pele Land and Marine Protected Area Network). A tourism levy was introduced in 2017, the contributions from which are deposited in the trust, which is under the management of a multi-party board.

Loru Community Conservation Area - Payment for Ecosystem Services:

Another example of remuneration from conservation area establishment in Vanuatu is the Loru Community Conservation Area, managed by the Serkar Clan of Kole village on the east coast of Santo (Nakau Programme Ltd., 2019).

A payment-for-ecosystem services program has been set up through the collaboration of the traditional landowners, Live and Learn Vanuatu and the Nakau Programme, a rainforest conservation financing programme. The landowners have given up rights to clear land for coconut plantations in exchange for the opportunity to sell rainforest carbon offsets as a way of generating revenue for local economic development. This is to help the Loru landowners manage the rainforest conservation project and develop spin-off community businesses - the first of which is a community business producing and selling agroforestry produce (e.g. Canarium nuts) from adjacent lands that they own and manage. Sales income has being flowing to the landowner business and generating employment since August

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2016.

GEF5 - Payment for Ecosystem Services on Aneityum, Tanna, South Pentecost and Efate:
Through the GEF5 project, which is running through DEPC, it is proposed that on Aneityum and Efate, the project will partner with the NGO Live and Learn in developing socially appropriate and sustainable schemes for generating financial resources, and channelling them in support of resource management initiatives, managed by local people, which promote positive flows of ecosystem goods and services in accordance with R2R principles, within the framework of the Nakau Programme (FAO, 2015).

Reference list:

- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.
- FAO, 2015, 'GEF5 Integrated Sustainable Land and Coastal Management Project', Project Identification Form, FAO/GEF.
- Greenhalgh, S. and D. Gibson, 2016, *Feasibility Study of Financial and Economic Mechanisms for Integrated Coastal Management in North Efate, Vanuatu*, RESCCUE Project for the Secretariat of the Pacific Community (SPC), Noumea, New Caledonia.
- Nakau Programme Limited, 2019, 'Loru Forest Project', Nakau Programme Ltd., available at <http://www.nakau.org/loru---vanuatu.html>

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 7: By 2030, 30% of Vanuatu’s natural forest (Forestry) is being actively managed and protected.
National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

- Expert advice and interviews with SPC RESCCUE Landcare Research consultant.
- Community consultation with Chairperson and Land Management Manager of the Loru Community Conservation Area in Santo.
- Stakeholder input from Program Manager at Live and Learn Vanuatu.
- Stakeholder input from FAO GEF5 National Coordinator.
- Review of the Nakau Programme website.
- Analysis of the SPC RESCCUE Feasibility Study of Financial and Economic Mechansims for Integrated Coastal Management in North Efate, Vanuatu.
- Literature review of the GEF5 Project Identification Form.

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Other relevant website address or attached documents

Project overview - Loru Conservation Area
RESCCUE project - Feasibility Study of Financial and Economic Mechansims for Integrated Coastal Management in North Efate, Vanuatu
Video - SPC RESCCUE - Conservation Trust Fund Initaitive

1.8 - Conservation Area Management: Development of livelihood options related to conservation

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Vanuatu's NBSAP contains numerous reference to the need for alternative livelihoods development, which are sourced from, or linked to, conservation activities and the protection of biological diversity (DEPC, 2018) (CA1.4 and many of the national targets). With tourism and tourism-related services sectors (wholesale and retail trade, hotels and restaurants, and transport and communication) accounting for approximately 40 per cent of

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GDP and one third of people in formal employment (DFAT, 2017), this sector is one that provides the most potential for generating income from sustainable tourism activities that are linked to conservation activities across the country. It is recognised that Vanuatu's greatest asset for the development of alternative livelihoods is its natural environment and ensuring that it is not degraded through tourism activities. The information below covers significant national-level and provincial-level tourism activities.

National sustainable and conservation-related tourism

National Sustainable Tourism Policy:
In 2017 Vanuatu commenced development of its Sustainable Tourism Policy, which encompasses 5 goals centred on strong environmental principles which should guide the Vanuatu tourism industry should be developed going forward (DoT, 2019). Due to internal departmental politics, the Sustainable Tourism Policy 2019-2030 has just been released despite its earlier completion. Moreover, DoT has recently had a change in Directorship, with new management pursuing objectives to mainstream sustainability into all aspects of tourism operation and development. As part of this objective, DoT is in the process of creating a Sustainable Tourism division, the key priority of which is to ensure that all national and provincial work plans are effectively encompassing sustainable tourism principles and policy objectives.

Biodiversity and conservation-related tourism development:
The Department of Tourism has also been working with the Global Sustainable Tourism Council towards Sustainable Tourism Certification, which will ensure Vanuatu can be certified as a sustainable tourism destination. Domestically, DoT is developing voluntary sustainable tourism criteria to be met by operators, in close consultation with DEPC and other environmental and biodiversity consultants and NGOs in-country. A key priority of the GSTC certification is related to conservation, and Vanuatu is currently developing criteria and a code of conduct for tourism operators who are located in, or who wish to develop products related to conservation areas.

DoT is also working to target capacity building and product development in conservation areas to establish eco-tourism activities, and in order to provide livelihood options for those active in the management of their conservation areas. Plans are underway for collaboration between DoT and the new GEF5 Integrated and Sustainable Land and Coastal Management project. Furthermore, DoT wishes to develop conservation levies for tourism operators, to assist in producing sustainable funding sources for conservation activities.

Vanuatu Environmental Science Society (VESS) were contracted in 2017 to develop biodiversity and conservation

minimum standards for tourism operators. The criteria relates particularly to wildlife, and the handling of endangered species and animals of attraction such as turtles. These criteria will be included as minimum standards against which businesses will be audited going forward. It is expected that operators who are not meeting these minimum standards will be temporarily or permanently closed until proof is met that environmental standards have been improved.

In 2017, DoT held workshops in Santo and Efate relating to biodiversity and the importance of environmental protection and conservation, to improve awareness and capacity for both ni-Vanuatu and expatriate tourism operators. Further promotion of this messaging and awareness will be undertaken through the provincial tourism offices.

Provincial sustainable and conservation-related tourism

Discussions with provincial tourism offices indicated a variety of activities targeting conservation and biodiversity through its activities, particularly in the provinces of Sanma, Torba and Tafea.

Sanma Province:
The Sanma Tourism Office will commence visiting conservation areas this year, to work with local operators in the development of eco-tourism products. In the newly-registered conservation area at Mt. Tabwemasana, Ecotourism Australia is working with customary landowners to develop tourism products that are sustainable, with financial assistance from DoT. The office is also reviewing existing products in Sanma for their sustainability, and work with operators to build awareness on environmental protection. Sanma Tourism also monitor current operators for environmental non-compliances, and impacts on biodiversity and the natural environment, in conjunction with the Sanma DEPC Officer (DEPC's only Extension Officer). Sanma Tourism were an active part of a 2018 conference in Santo called the Blue-Green Sanma Summit, at which they advocated for better environmental protection and waste management amongst tourism operators.

Torba Province:
In the past four years, the Torba Tourism Office has worked extensively to develop more commercially-viable ecotourism products which are underpinned by the protection of the natural environment and promotion of conservation areas and natural features in the province. Torba Tourism has been key in working with the Lake Letas Conservation Area on Gaua in the Banks group, to promote ecotourism through tours of the volcanic crater lake and associated waterfall, as well as other geopark features. The development of this tourism product has led to increased income for the customary landowners of the conservation area. Torba Tourism have collaborated with

DEPC to secure funds for the improvement of ecotourism activities on Gaua, to increase accessibility to the area, and subsequently the possibility for more visits by tourists to the island. This work is nationally-significant due to the pending list of Lake Letas as a Ramsar site.

Tafea Province:
Tafea Tourism Office has been, in collaboration with the Australian Government-funded Vanuatu Skills Partnership (TVET) program, developing its plan to venture further into nature-based tourism. It is currently working with the conservation committee chairperson of Imanaka Marine Protected Area in western Tanna, to develop an ecotour of his conservation area. They will continue to develop this aspect of their program further.

Malampa Province:
The Malampa TVET program has assisted Malampa Tourism in the development of some ecotourism products, primarily on the island of Malekula. The primary example is the assistance provided to Amal Crab Bay Community Conservation Area to develop their ecotourism attractions. These are unfortunately not well-frequented by tourists.

Reference list:

- Department of Environmental Protection and Conservation (DEPC), 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.
- Department of Foreign Affairs and Trade (DFAT), 2017, *Vanuatu Country Brief*, Australian Government, available at <https://dfat.gov.au/geo/vanuatu/Pages/vanuatu-country-brief.aspx>
- Department of Toursim, 2019, *Vanuatu Sustainable Tourism Policy 2019-2030*, Ministry of Tourism, Trade, Commerce and ni-Vanuatu Business, Government of Vanuatu.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Significant shifts have been made by the national Department of Tourism toward sustainable tourism and direct policy objectives around the promotion and development of tourism related to conservation areas. Commencement of planning for a Sustainable Tourism Division within DoT.
- Development of some ecotourism products which provide alternative income-generation to customary landowners of conservation areas, particularly on the island of Santo.

Progress is left to complete in the following areas:

- Implementation of Vanuatu’s new Sustainable Tourism Policy.Targeted capacity development of conservation area committees in tourism development.
- Increased collaborations between DoT and DEPC.
- Development of provincial sustainable tourism plans.
- Auditing and retrofitting of current tourism products to ensure their compliance with GSTC requirements.
- Analysis of those conservation areas where ecotourism has failed to succeed and provision of further sustainable support.
- Investigation into further linkages between tourism and sustainable financing mechanisms such as conservation trusts and tourism levies.

The tools and methodology used for the assessment of effectiveness included:

- Expert opinion from Department of Tourism Director.
- Stakeholder input from Department of Tourism Sanma Tourism Manager.
- Stakeholder input from Department of Tourism Sanma
- Stakeholder input from Department of Tourism Torba Tourism Manager.
- Stakeholder input from Tafea Vanuatu Skills Partnership Officer.
- Stakeholder input from Malampa Vanuatu Skills Partnership Manager.
- Community consultation session with:
    - Vatte CCA.

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    - Amal Crab Bay CCA.
- Literature review of Vanuatu’s Sustainable Tourism Policy 2019-2030.
- Author opinion.

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Politics:** Internal politics exist in Vanuatu in the tourism sector, both within the government, and between the government and the major tourism promoter for Vanuatu, the Vanuatu Tourism Office. These issues can cause obstacles in the full tourism sector working towards a more sustainable tourism future for Vanuatu, which is imperative due to its importance for the local economy. Progress has been made under new leadership for the government to more closely regulate and collaborate with VTO in its operations.
- **Customary context:** DoT has reported the challenge in the tourism sector of marrying the Western concept of tourism and income-generation with the traditional economy in which many tourism operators function, particularly those in remote but tourism-worthy destinations.
- **Geography:** The development of ecotourism products as alternative livelihood options which will relieve pressure on natural resources as a source of income, and promote the conservation of the natural environment for communities, is a challenge due to the difficulty of creating accessible tourism destinations in the expensive and dispersed remote outer islands of Vanuatu. The reliability of the market to ensure livelihood generation for ecotourism operators is not strong in some parts of Vanuatu.

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1.9 - Conservation Area Management: Research and actions related to governance and inclusion options for better management of conservation areas

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CA2.5, CA2.8 and CA4.1 in Vanuatu's NBSAP. The governance of community conservation areas in Vanuatu is a major issue, due to the integral role

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of community-led and owned conservation areas, and the limits to government involvement in resource management decisions over community-owned resources. Good governance at the community level is therefore vital for successful conservation across Vanuatu. Moreover, how to expand the protected area network to ensure the coverage of protected areas increases in line with international targets is the subject of investigation in Vanuatu. The following two measures have assisted in research into better ways in which to guide and expand the conservation area network.

Policy Brief on Advancing Transaction Tools:

The SPC RESCCUE project funded the development of a Policy Brief entitled 'Advancing Transaction Tools for Conservation and Climate Resilience in Vanuatu' (EcoAdvisors, 2018). The objective of the brief was to investigate the best tools with which Vanuatu could expand its terrestrial area under protection or conservation management. Land and land-rights transaction tools are important elements of the global toolkit for achieving conservation and climate resilience objectives, but remain underutilized throughout Pacific Island Countries and Territories. The brief considered prospects for expanded use of such tools in Vanuatu. The recommendations of the policy brief included:

- Enhancing the capacity (in terms of human resources as well as operational budget) of the DEPC to strengthen its role in mapping, zoning and supporting CCAs. A survey to inform DEPC work on a spatially explicit national CCA strategy, examining CCA potential, community commitments and management capacity, risk of landownership disputes, and the potential for eventual transition to long-term leases.
- A more proactive role for the DEPC in providing knowledge and infrastructure support to communities to encourage CCA establishment in priority sites, following a national strategy.
- The establishment of a national trust body and associated financing mechanism for environmental conservation.
- Expansion of international conservation NGO efforts to facilitate CCA establishment with local communities..

Guide to Effective Tabu Areas:

As part of the SPC RESCCUE project, a local consulting company C2O developed a Guide to Effective Tabu Areas (Welch et al., 2018). The Guide was developed in response to requests from communities in North Efate, Vanuatu participating in the RESCCUE project. It provides a set of design principles that can guide community-based management in the Pacific region and is intended as a simple checklist for setting up and managing local marine areas. However it is noted by DEPC that tabu areas are established

differently by different provinces, tribes and communities, according to varying traditional knowledge and customary approaches, and that acknowledgement of the community's traditional customary processes must be the foundation of any conservation work at a local level. Tabu or marine protected areas are used as community-based management tools in Vanuatu primarily to protect marine resources. When implemented successfully, tabu areas have the potential to ensure activities in coastal marine areas, particularly fishing, are sustainable. However, their effectiveness in many locations is unknown or doubtful due to their design and implementation. There appears to be no standardised local approach to select the size of tabu areas, although there may be some link between a community's overall marine customary area and the size of their tabu area. This guide summarises the key principles needed to ensure that tabu areas can be effective in helping to provide marine resources for future generations.

Reference list:

- EcoAdvisors, 2018, *Policy Brief: Advancing Transaction Tools for Conservation and Climate Resilience in Vanuatu*, RESCCUE Project for the Secretariat of the Pacific Community (SPC), Noumea, New Caledonia.
- Welch, D.J., Johnson, J.E., and E. Hooper, 2018, *Community-based Marine Management: A Guide for Effective Tabu Area,*. Prepared under the Restoration of Ecosystem Services and Adaptation to Climate Change (RESCCUE) Vanuatu project for the Secretariat of the Pacific Community (SPC), Noumea, New Caledonia.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Potential avenues for how to expand the reach of conservation areas, and how to effectively manage areas have been investigated and documented through donor-funded projects.
- The pathways investigated and guides/briefs produced have provided recommendations which build on existing pathways in Vanuatu's formal legislative and customary law systems.

Progress is left to complete in the following areas:Implementation or uptake of the recommendations provided in these reports.

- Development of a national prioritised and budgeted strategy for achieving effective conservation.
- Grassroots work with communities to enhance their existing customary toolbox for the management of tabu areas.

The tools and methodology used for the assessment of effectiveness included:

- Stakeholder input from SPC RESCCUE Policy Brief consultant.
- Stakeholder input from SPC RESCCUE Landcare Research consultant.
- Expert opinion from C2O Principal Scientist.
- Review of the SPC RESCCUE Policy Brief.
- Review of the SPC RESCCUE Community Based Marine Management: A Guide to Effective Tabu Areas.

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Other relevant information

Case study: Catalysing women's leadership in conservation and natural resource management

In Vanuatu, gender inclusion and equity is a significant issue across all sectors. In conservation and natural resource management, grassroots activities and community leadership in conservation is heavily male-dominated, with most local committees being led by and including primarily male members of the communities in which activities or protected area establishment and management is taking place.

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This gender divide has been very evident in the largest resource management network in Vanuatu – the Vanua'tai Resource Monitors Network, an extensive grassroots network of over 500 monitors around Vanuatu, which was founded for the protection and monitoring of Vanuatu's turtle species, but which has now extended to include the management of the broader environment and natural resources.

It was also recognised that the inclusion of women in conservation governance and decision-making could likely lead to more effective implementation on the ground of management measures, due to the high involvement of women in the use of natural resources in their local areas.

To begin to address this issue, the Vanua'tai, in partnership with their supporting organisation - the NGO Island Reach – commenced a series of activities in 2016 to eventually lead to a women's arm of the national network. In 2017, the mission was recognised by the Critical Ecosystems Partnership Fund (CEPF) with a grant for a broader project entitled 'Promoting gender equity for conservation intiatives through catalysing a women's environmental network across CEPF priority sites'. Activities undertaken so far have included:

- Community visits and engagements to CEPF priority sites in Aneityum, Tanna, Futuna and Gaua which resulted in new female monitors joining the network.
- A new female monitor leading a newly constituted Tanna Usiusi environment network.
- Workshops in Sola, Vanua Lava to build the capacity of 6 women monitors from Torba Province, including multiple guest speakers, turtle monitoring activities.
- Workshops in Tanna for eight women from Tanna, Futuna and Aneityum which included discussions about biodiversity and roles, goals and challenges for women as leaders and decision-makers in natural resource management.
- Completion of a 17-minute video about the growing participation of women in the Vanua'tai network and screening of this video at the 2018 Vanau'tai Annual General Meeting.

These actions led to the launching of a new women's Vanua'tai Resource Monitors Network sub-branch.

The women involved in this network have been increasingly active across Vanuatu. Some examples of work initiated and undertaken by the female monitors include:

- In the northern province of Torba on the island of Mota Lava, a female monitor has formed a local women's network and they have established the first ever female-run conservation area, focused on sea grass and a local clam important for food security.

- In southern Tafea province on the island of Aneityum, two female monitors have been helping establish a tree nursery to address reforestation.
- In the central province of Shefa, on Moso island, the female monitor has led a program for local youth on conservation and the importance of monitoring.

The women's network is gaining popularity and recognition, and the Vanau'tai network hopes that this work can encourage more females to join the network.

As is made clear in the video, whilst men are the usual participants at workshops and capacity building sessions about environmental management, women in Vanuatu are often the ones engaging in resource use, for subsistence purposes as they are the main carer of children.

New female monitors attending the 2017 Annual General Meeting of the Vanua'tai

Source: Annual Report 2017, Island Reach, 2017

Female monitors attending the 2018 Annual General Meeting of the Vanua'tai in record numbers (roughly half of the participants were female)

Source: Annual Report 2018, Island Reach, 2018

Reference list:

- Steele J. and B. McCutchen, 2015, *Annual Report 2015*, Island Reach, available at <https://www.islandreach.org/2015-annual-report.html>
- Steele J. and B. McCutchen, 2016, *Annual Report 2016*, Island Reach, available at <https://www.islandreach.org/2016-annual-report.html>
- Steele J. and B. McCutchen, 2017, *Annual Report 2017*, Island Reach, available at <https://www.islandreach.org/2017-annual-report.html>

- Steele J. and B. McCutchen, 2018, *Annual Report 2018*, Island Reach, available at <https://www.islandreach.org/2018-annual-report.html>

- Community consultation sessions with Vanua'tai Resource Monitors Network Mota Lava monitor in Nerenigman, Mota Lava and Vanua Lava monitor in Vuslengleng, Vanua Lava (manager of Yemen Turtle Conservation Area

Other relevant website address or attached documents

Policy Brief - SPC RESCCUE project - Advancing Transaction Tools for Conservation and Climate Resilience in Vanuatu
Guide - SPC RESCCUE project - Community-based Marine Management: A Guide for Effective Tabu Areas
Video - Women Vanua'tai Resource Monitors of Vanuatu - Island Reach

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Funding:** Consistent and sustainable national funding to fully implement the recommendations of this report is not available for the scope required. Donor-funded projects currently underway through DEPC are focussed on particular sites rather than developing the capacity for effective governance of conservation areas across the country. The BIOPAMA project which will more actively kick-off this year will hopefully be able to assist national level strategic planning.
- **Timeframes:** Developing capacity in communities to more comprehensively assess and improve the management of conservation areas requires a long-term investment of time and detailed collaboration with the community.
- **Planning:** Capacity in organisation and strategic financial planning within national government requires more development.

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1.10 - Conservation Area Management: National ecosystem service valuations

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action FIW1.5, RM1.2 and RM2.2 in Vanuatu's NBSAP.

The Pacific Ecosystem-based Adaptation to Climate Change project (PEBACC), led by the Secretariat of the Pacific Regional Environment Programme (SPREP), undertook an Ecosystem and Socio-economic Resilience Analysis and Mapping (ESRAM) study, which was completed in 2017 (Mackey et. al, 2017).

The report provides a Vanuatu-wide:

- Mapping of key ecosystems for Vanuatu in terms of their type, condition and the ecosystem services they potentially generate.
- Economic evaluation of the benefits to local communities arising from these ecosystem services.
- Assessment of the risk to community sustainability from threats and pressures on ecosystem health, including climate change-related hazards, for three of the most important ecosystem/land use types: coral reefs, kastom forest, and subsistence gardens).

The report provided an updated land cover assessment for Vanuatu (based on literature review only, except for the island of Tanna which had a more detailed assessment undertaken). The outcome is shown in the table below.

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Ecosystems	Area (ha)	Percentage of national land area (%)
Bare soil	7,687	0.65
Grassland	39,776	3.37
Tropical Forest - Low	305,509	25.87
Tropical Forest - Medium	254,550	21.55
Tropical Forest - Shrubs	30,886	2.61
Tropical Forest - Thickets	343,886	29.11
Coastal - Seagrass	124,038	10.50
Coastal - Mangroves	1,665	0.14
Coastal - Coral	70,238	5.95
Freshwater - Wetlands	406	0.03
Freshwater - Waterbodies	539	0.05
Unknown	1,961	0.17
Total	**1,259,188**	**100**

Source: Vanuatu Ecosystem and Socio-economic Resilience Analysis and Mapping (ESRAM) (SPREP, 2017)

Moreover, the report provided a valuation (based on existing literature) of ecosystem services per ecosystem type, as shown below.

Service	Coastal - Coral	Coastal - Seagrass	Coastal - Mangroves	Freshwater - Wetlands	Freshwater - Waterbodies	Tropical Forests	Grasslands
Provisioning services							
Food	21,632	14,842	354,716‡	5,644	169,286	2,699	146,256
Water	-	-	5,811†	13,614	333,192	4,539	-
Raw materials	3,946,641	123	109,665‡	3,742	-	5,092	491
Genetic resources	4,054,584	-	-	-	-	-	-
Medicinal resources	-	-	37,021†	12,086	-	47	123
Ornamental resources	96,320	-	-	13,991	-	-	-
Regulating services							
Air quality regulation	-	-	-	-	-	-	-
Climate regulation	213,626	-	825,388‡	2,515	-	40,605	10,551
Disturbance moderation	185,860	-	250,109†	372903	-	3,435	-
Regulation of water flows	-	-	-	147,322	-	83,675	-
Waste treatment	10,439	-	127,207†	9,815	43,431	736	-
Erosion prevention	8,825	-	206,415‡	1,718	-	1,595	-
Nutrient cycling	-	-	5,489†	2,454	-	-	-
Pollination	-	-	-	-	-	6,502	-
Biological control	-	-	-	-	-	-	-

Service	Coastal - Coral	Coastal - Seagrass	Coastal - Mangroves	Freshwater - Wetlands	Freshwater - Waterbodies	Tropical Forests	Grasslands
Habitat							
Nursery service	14	11,408	274,969†	314,896	-	-	-
Genetic service	5,058	22,062	134,095†	6,502	-	859	-
Cultural services							
Aesthetic information	-	-	-	-	-	-	-
Recreation	178,434	32,264	204,463‡	1,104	215,025	10,367	1,104
Inspiration	-	-	-	-	-	-	-
Spiritual experience	-	-	-	-	-	-	-
Cognitive development	9,676	-	-	-	-	-	-
TOTAL (Vatu)	**8,731,117**	**80,698**	**2,535,527**	**908,315**	**760,934**	**160,151**	**158,524**
TOTAL (USD)	**81,129**	**750**	**23,560**	**8,440**	**7,071**	**1,488**	**1,473**

Source: Vanuatu Ecosystem and Socio-economic Resilience Analysis and Mapping (ESRAM) (SPREP, 2017)

The ESRAM also provided an update on the condition of Vanuatu's ecosystems (intact, modified, transformed, naturally bare or removed).

Reference list:

- Mackey, B., Ware, D., Nalau, J., Sahin, O. Fleming, C.M., Smart, J., Connolly, R., Hallgren, W. and A. Buckwell, 2017, *Vanuatu Ecosystem and Socio-economic Resilience Analysis and Mapping (ESRAM)*, Secretariat of the Pacific Regional Environment Programme (SPREP), Apia, Samoa.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to

support 100% of local communities’ livelihoods and 'kastom' importance are conserved through effective community and government management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been made in the following ways:

- Consolidation of data and a comprehensive literature review of existing data to inform the assessment.
- Completion of an Vanuatu-wide analysis of ecosystem type, condition and value.

Progress is yet to be made in the following ways:

- Collection of updated primary data to better inform such assessments.

The tools and methodology used the assessment included:

- Stakeholder input from the SPREP PEBACC Manager for Vanuatu.
- Analysis of the Vanuatu ESRAM.
- Observation of Port Vila ESRAM workshops.

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Relevant websites, links, and files

Report - Griffith University and SPREP - Vanuatu Ecosystem and Socio-economic Resilience Analysis and Mapping

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure taken include:

- **Data:** There is a clear paucity of studies valuing ecosystem services in the context of the Pacific Islands and Vanuatu in particular, and scope for further research in this area based on primary data. As such, some parts of the methodology are lacking robustness and are based on data which is not local, but has been contextualised for purpose. This can have impacts on the accuracy and validity of these types of

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national studies.

- **Prioritisation of ecosystem service valuations:** A growing focus on economic valuations of ecosystem services could potentially be dangerous in a country like Vanuatu, which relies heavily on its traditional economy and intangible reciprocity network. The formal economy does not operate in Vanuatu in the same way as in the Global North, and as such, the national government needs to be careful and wise in its use of data and outcomes of ecosystem service valuations.

2.1 - Forest and Inland Waters: Update to national botany and forest biodiversity baseline information

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action FIW1.1 and FIW1.2 in Vanuatu's NBSAP. The following actions have been undertaken in Vanuatu in recent years to improve the baseline information available about Vanuatu's forests, botanical species and inland water systems.

Update to Vanuatu's national forest inventory:

Vanuatu’s most recent national forest inventory was carried out in 1993, financed by the Australian International Development Assistance Bureau (AIDAB) who contracted the Queensland Forest Service (QFS) and the CSIRO, Division of Tropical Crops and Pastures to undertake the Vanuatu Forest Resource Survey Project (DoF, 2013). This national forest inventory was incorporated into the Vanuatu Resource Information System (VANRIS), which has been used to guide commercial forest resource exploitation and as the basis for forest management since. However, given the changes in national forest cover since the early 1990s, the information contained within the inventory and VANRIS is now out of date. Vanuatu therefore was in need of a revised and updated national forest inventory to allow for monitoring for REDD+ (DoF, 2013). Moreover, under the National Forest Policy, the national forest inventory should be updated every 10 years (DoF, 2013). Due to financial constraints this was not completed to schedule.

As such, a national system for the measuring, reporting and verification of changes in forest carbon stock is currently being developed by the Department of Forests (DoF), with external financial and technical support, under the UNFCCC. As part of this system, through the REDD+ program, the national forest inventory is currently being updated, concentrating on the islands of Vanua Lava, Gaua, Santo, Malekula, Ambrym, Pentecost, Maewo, Epi,

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Efate, Erromango, Tanna and Aneityum. Throughout the six months inventory, forestry officers will be visiting over 1,000 geographical areas where they will assess and collect information on the status and trends of forest; measure tree growth and size and identify species.

The update will include a full botanical assessment and will assess the capacity of the forest as a renewable resource. It will use representative botanical samples from which extrapolation of forest make-up will occur. Cultural site assessment will also be part of this study, as will the mapping of waterways and the identification of wetlands and their status. This study has commenced and will be completed by 2020.

New York Botanical Gardens studies in Tafea Province, Vanuatu:

Plants, Fungal and Linguistic Diversity of Tafea Province

Vanuatu's plants and fungi remain poorly documented, leaving a significant gap in knowledge of regional biodiversity compared with neighboring island countries, all of which have active or completed flora surveys (Balick and Plunkett, n.d. a). The few existing plant surveys in Vanuatu have focused primarily on the northern end of the archipelago. In the southern part of the country, little reliable botanical data exist, and there is great potential for new scientific discoveries. This project of the New York Botanical Gardens, focussed on Tafea Province, the five southernmost islands of Vanuatu. To support local environmental education efforts, the project combined the expertise of the team's linguists and botanists to work with indigenous speakers of eight Tafean languages to document names of plants and fungi, providing a tangible linkage between biodiversity, traditional culture, and conservation. Project linguists produced printed and digital dictionaries of indigenous plant and fungal names and used web-based videography and 'story maps', which spatially link names and traditional uses of organisms onto the landscape, helping viewers visualize the connections between biodiversity, knowledge, and place, providing a complement to the botanical databases. This information was given back to the indigenous communities in the areas surveyed, to support the continuation of traditional environmental knowledge.

Plants and People of Vanuatu

The New York Botanical Gardens have also commenced a conservation project in Tafea province entitled People and Plants of Vanuatu (Balik and Plunkett, n.d. b). The aim of this project is to help stem biocultural losses and environmental degradation. A diverse team of plant scientists, ethnobotanists, mycologists, cultural specialists, and

linguists, are working together to study and preserve plants, fungi, ethnobotanical and ethnomedical knowledge, cultural practices, and plant-related language information. As part of this, they are working closely with local communities towards the establishment of three CCAs in watershed forests, which not only conserve biodiversity, but also provide urgently-needed clean drinking water for nearly 1000 villagers.

The project team is preparing publications on plant diversity, distribution, utilization, and conservation for Vanuatu. The project has pursued these objectives through collaborative goal-setting and work with regional stakeholders and program partners, in order to build local capacity and empower local people themselves to conserve and use their biological and cultural heritage to improve their quality of life in a sustainable way.

The project will culminate in the production of an “Annotated Checklist of the Flora” to record and document the plant diversity of the three islands of Tanna, Erromango, and Aneityum, and the preparation of a “Primary Health Care Manual” to improve health care in areas where dispensaries often lack modern pharmaceuticals. The work is expected to be undertaken over a timeframe of seven to twelve years, indicating the long-term commitment by NYBG to Vanuatu.

Department of Forestry baseline database development: The status of biodiversity in forest and inland waters in Vanuatu is not currently tracked by the Department of Forestry. Department of Forestry currently keeps one physical database, being the national herbarium - a botanical database of all species found in Vanuatu - which is updated based on botanical assessments that take place across the country on a project basis (rather than guided by a national plan to track the status of forests and inland waters). There is no database at present for legal or illegal logging activities taking place, though planning has commenced for a database prototype to be developed. As stated by the Department, the monitoring of logging activities is low in the field, so whilst official regulation protocols include the issuing of licences for mobile sawmills, and the sale of timbers at the docks, high levels of illegal sales and illegal logging are taking place. There is also no effective enforcement of the Code of Logging Practices, which should be used mainly during selective logging. However, at present it is thought that the trend of logging is not increasing nor decreasing, due to the fact that stands of loggable timber are not easily found in Vanuatu, and most logging takes place selectively.

Update to Efate land classification mapping:

In 2017, a grant from the Secretariat of the Pacific Regional Envrionment Programme (SPREP) allowed the Efate Land Management Area (ELMA) office to update the land classification map for Efate, and produce a new Land Cover Assessment for the island and offshore islands. The ELMA Office is a part of the Shefa Provincial Government, in collaboration with the Efate Vaturisu Council of Chiefs (customary chief governance body for Efate and the northern offshore islands). The ELMA is a proposed legally protected terrestrial conservation area in central Efate, involving over 30 villages and more customary landowners, for the purposes of protecting the island's interior forests and watersheds.

To assist decision-making for the project, it was decided that the VANRIS map for Efate, last updated in 2011, required updating. As such, a spatial analysis specialist was engaged to conduct a comprehensive remote sensing analysis exercise to produce a land cover map, a change in land cover map and a map of potential coverage area of the invasive species *Merremia peltata* over Efate.

This Land Cover Assessment was carried out using satellite images and remote sensing analysis techniques. A comparison of satellite images from 2000 and 2017 was conducted to locate areas that have undergone change since the last vegetation and landcover map was produced in 2011 (Schweter 2011). Multi-spectral, high resolution satellite images from 2016 were used to map current vegetation/land cover across Efate. Ground-truthing was used to inform the analyses and Google Earth was used to improve the results of the classified image. In the areas where change was detected, the 2011 Vegetation/Land Cover map and the current Vegetation/Land Cover Map were used to assess the nature of the changes.

The updated map can now be used to inform forest and conservation-related planning, relying on much more accurate and detailed data than has been available on the land cover types of Efate in the past. The main land cover map is shown below.

Reference list:

- Balick, M. and G. Plunkett, n.d.a, *Plant, Fungal and Linguistic Diversity of Tafea Province, Vanuatu*, New York Botanical Garden, New York, available at <https://www.nybg.org/science-project/plant-fungal-linguistic-diversity-tafea-province-vanuatu/>
- Balick, M. and G. Plunkett, n.d.b, *People and Plants of Vanuatu*, New York Botanical Garden, New York, available at <https://www.nybg.org/science-project/plants-and-people-of-vanuatu/>
- Department of Forestry, 2013, *National Forest Policy 2013-2023*, Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity, Government of Vanuatu.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 7: By 2030, 30% of Vanuatu's natural forest (Forestry) is being actively managed and protected.
National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
National Target 11: Emphasis will be placed on maintaining current status of native species, improving border control, developing inter-island biosecurity programmes, IAS eradication and control.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been effective.

Progress has been achieved in the following ways:

- The update to the National Forest Inventory is long overdue and will provide vital information for future decision-making about forest conservation.
- Detailed work by New York Botanical Gardens in Tafea Province will contribute in a major way to the completion of a Vanua Flora in the future.
- The work towards a prototype for a Department of Forestry database is extremely useful for the categorisation and recording of botanical data and forestry activities.

The tools and methodology used for the assessment of effectiveness included:

- Expert opinion from Vanuatu REDD+ National Coordinator.
- Questionnaire interview with (former) Department of Forestry Director.
- Stakeholder input from Department of Forestry GEF4 Coordinator.
- Community consultation session with Nusumetu CCA committee member and custom landowner in Tanna.
- Consultation sessions on outer islands with Department of Forestry Sanma Province Forestry Officers,

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Torba Province Forestry Officer, Malampa Province Forestry Officer, Tafea Forestry Officer.

- Stakeholder input from (former) ELMA Project Coordinator.
- Review of New York Botanical Gardens website.
- Review of Department of Forestry website.
- Review of local media publications regarding REDD+.
- Literature review of National Forest Policy and related project documents.
- Author opinion.

Other relevant information

Case study: Bioblitz rapid biodiversity assessment in the forest of north-west Efate - baseline forest assessment data

A lack of baseline data for conservation areas makes future monitoring of the areas difficult, and contributes to a lack of understanding about the local environment and the species or ecosystems which are important to protect. In Vanuatu, there are not many opportunities for scientific study of the natural environment. Whilst the Department of Environmental Protection and Conservation, the Department of Forestry and the Vanuatu Fisheries Department have capable scientists, biologists and ecologists within their workforces, these individuals' skills are often stretched thinly across the vast need for technical biodiversity survey and knowledge.

The Efate Land Management Area (ELMA) project, has existed as a proposed conservation area for many years, without any scientific survey being undertaken, to establish baseline data of species present in the area and the status of the forest on Efate, Vanuatu's most populous island. As such, the need was identified for an ecological pilot study to be undertaken, to be used not only as a scientific exercise, but a capacity building exercise for members from the surrounding communities.

The survey was led by the Efate Land Management Office and was undertaken in November 2017. The ELMA Office at Shefa Provincial Government, was awarded a small grant to undertake the study, by the RESCCUE project managed by the Pacific Community (SPC). The study area was a sample of the conservation area, located in the north-west of Efate, in the indigenous forest.

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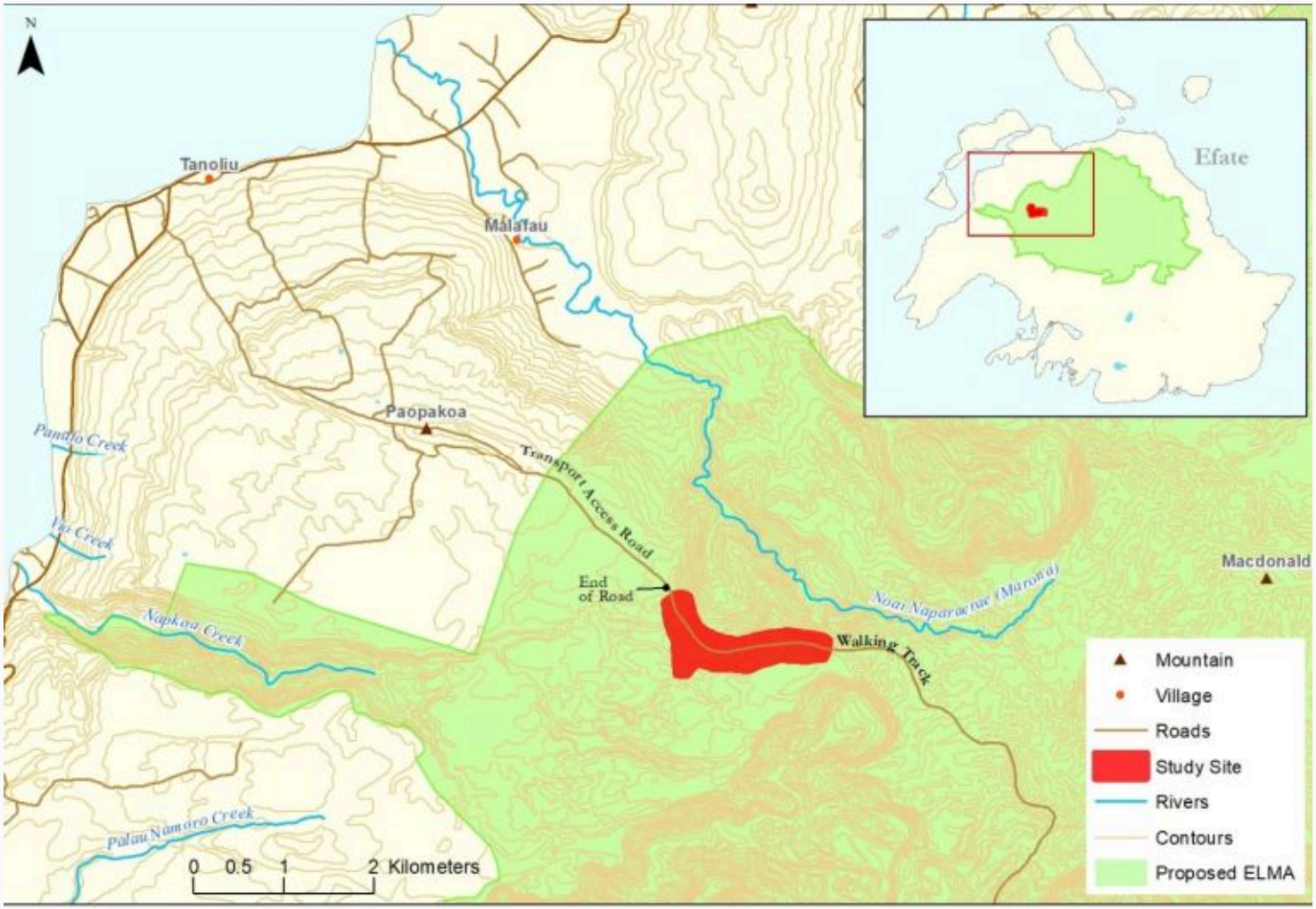

ELMA Bioblitz Survey Area

Source: ELMA Bioblitz Summary Report - ELMA Office supplied information

The survey involved the collection of data on the study site's botany, lizards, bats, birds and insects. The team involved over 20 people, including:

- Scientific specialists from Ecology New Zealand and WSP Opus (RESCCUE Project Manager), who led the bat, lizard and invasive species studies.
- Scientific specialists from Vanuatu government departments including Department of Forestry (leading the botany team and insect team).
- Scientific specialists from Birdlife International (leading the bird study methodology).
- Scientists from local organisation Vanuatu Environmental Science Society (VESS).
- Project coordination team from Shefa Provincial Government and WSP Opus.
- Community members from 8 surrounding communities who were part of both the North Efate Tasivanua Environment Network (NETEN) and the Efate Land Management Area (ELMA) Network.

The study was undertaken over 5 days across a pilot site area in the indigenous forest in the uplands of north-west Efate and was deemed a very successful venture. Highlights included:

- The observation and recording of 420 species, with many identified down to species level.
- The recording of three species – Megapode and two microbat species – which have not been recorded or acknowledged as being present on Efate ever, or for some time.
- The development of a baseline which indicates scientifically the diversity of indigenous flora and fauna on Efate.
- The understanding being reached on the healthy status of the forest, particularly the lack of invasive species in the deeper forest, and the opportunity to assess the forest post-Cyclone Pam (see image below), which was a Category 5+ cyclone which devastated Vanuatu in 2015.
- A solid pilot foundation for future expansion of a full conversation area biodiversity assessment.
- Active community participation and strong feedback of skills and knowledge learnt through participants shadowing scientists in each team.
- The strong melding of traditional knowledge from the community members, as well as their keen powers of observation and listening, in collaboration with scientific knowledge.
- The development of a North Efate Forest Identification Booklet – distributed to communities surrounding the ELMA, and identifying information about localised species in their area.

Botany team (Department of Forestry and environmental network community members) undertaking the botanical survey

Source: ELMA Bioblitz Summary Report - Department of Forestry provided information

Bat trap being set up in survey area; Little Bentwing Bat - microbat species captured in the survey area during the Bioblitz

Source: ELMA Bioblitz Summary Report - Ecology New Zealand provided information

A video summarising the Bioblitz activity is provided below, as well as the Bioblitz summary report and the species identification booklet.

Other relevant website address or attached documents

Project Overview - Plants and People of Vanuatu - New York Botanical Gardens
Project overview - Plant, Fungal and Linguistic Diversity in Tafea Province, Vanuatu
Efate Land Cover Assessment - 2018.pdf
Report - North-west Efate ELMA Bioblitz Summary Report
Video - Efate Land Management Area (ELMA) Bioblitz
Booklet - North Efate Forest Identification Booklet

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Funding:** Reliance on donor-funded projects to complete necessary national baseline studies results in a lack of available and reliable data in Vanuatu with which to make natural resource management decisions.
- **Data:** Department of Forestry keeps very little recorded data regarding their activities (with the exception of the national herbarium), meaning the creation of a database is a difficult technical task that requires mapping all departmental activities and processes, leading to the delay of the delivery of the database.
- **Coverage:** The National Forest Inventory will not be covering all islands of Vanuatu, just those related to the REDD+ program.

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2.2 - Forest and Inland Waters: Identify root causes of major threats to forest and inland water ecosystems

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action FIW1.3 in Vanuatu's NBSAP.

The REDD+ Program in Vanuatu commissioned the completion of a set of analytical studies for Vanuatu, which were completed in July 2017. The report entitled 'Analytical Studies for Reducing Emissions from Deforestation and Forest Degradation (REDD+) in Vanuatu' (Carodenuto et. al, 2017), includes a comprehensive assessment of the drivers of deforestation and degradation.

The summary of the main drivers of deforestation and degradation and their underlying causes, is shown below (Carodenuto et. al, 2017). The drivers are based on the main islands on which REDD+ is based in Vanuatu, being Efate, Malekula, Santo, Erromango, Tanna, for which detailed island-based assessments were also completed. It is considered however, that the drivers of change are similar across Vanuatu, so much knowledge can be gained from this report that would apply to other islands - cultural context, geography and other factors depending. This is the first national-level assessment of the root causes of major threats to forest and inland water ecosystems in Vanuatu.

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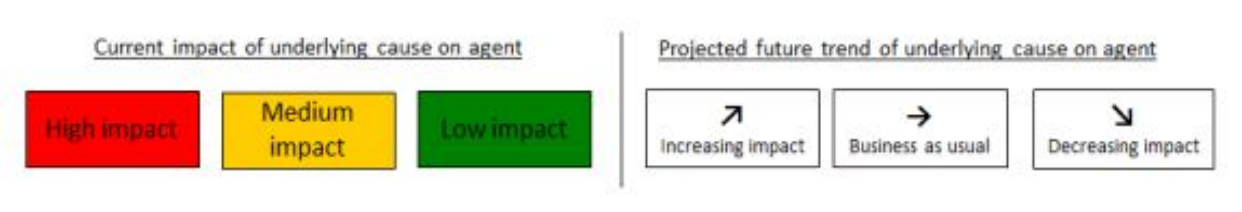
Legend:



National-level summary of drivers of deforestation in Vanuatu:

Underlying cause → / Driver/ Agent	Demographic	Economic	Technological	Policy & Institutional	Social / Cultural	Environmental	Governance
Subsistence farmers	↗	→	→	→	→	↗	→
Semi-commercial farmers	↗	→	↗	→	→	↗	→
Commercial farmers (livestock, coconut)	→	→	→	↗	→	↗	→
Small-scale loggers	↗	→	↗	→	→	→	→
Commercial loggers	→	→	→	→	→	→	→

Source: Analytical Studies for Reducing Emissions from Deforestation and Forest Degradation (REDD+) in Vanuatu (Carodenuto et. al, 2017)

Reference list:

- Carodenuto, S., Schwartz, B., Andre, G., Kampai, J., Nelson, A., McDonnell, S. and S. Weaver, 2017, *Analytical Studies for Reducing Emissions from Deforestation and Forest Degradation (REDD+) in Vanuatu - Final Report*, UNIQUE Forestry and Land Use.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 7: By 2030, 30% of Vanuatu's natural forest (Forestry) is being actively managed and protected.
National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- This study is the first rigorous national-level assessment related to not only the major threats to forest and inland water ecosystems, but the driving causes behind environmental changes.
- The study has assessed the situation on the major islands of Vanuatu that are experiencing, or are more likely to experience deforestation or degradation.
- The study has effectively

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Progress is left to complete in the following areas:

- Study of the remaining islands in Vanuatu utilising the same methodology to form a complete national set of data.

The tools and methodology used for the assessment of effectiveness included:

- Stakeholder input from (former) Director of Department of Forestry.
- Expert opinion and questionnaire via interview with from the Vanuatu REDD+ National Coordinator.
- Consultation sessions on outer islands with Department of Forestry Sanma Province Forestry Officers, Torba Province Forestry Officer, Malampa Province Forestry Officer, Tafea Forestry Officer.
- Analysis of REDD+report: *Analytical Studies for Reducing Emissions from Deforestation and Forest Degradation (REDD+) in Vanuatu*.

Other relevant information

Obstacles, scientific and technical needs related to the measure include:

- **Data coverage:** Like many studies in Vanuatu, the REDD+ analytical studies do not cover every island of the nation, for numerous reasons (scope of study, budget, geography, accessibility). The focus of this study being on the major forested islands in Vanuatu makes sense in the context of the REDD+ project, and many trends which are seen on these islands would be similar for other smaller islands.

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Other relevant website address or attached documents

Vanuatu REDD+ - Analytical Studies - Final Report

2.3 - Forest and Inland Waters: Registration of Vanuatu's first Wetland of International Importance (Ramsar site)

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action FIW2.3 and SM1.11 in Vanuatu's NBSAP.

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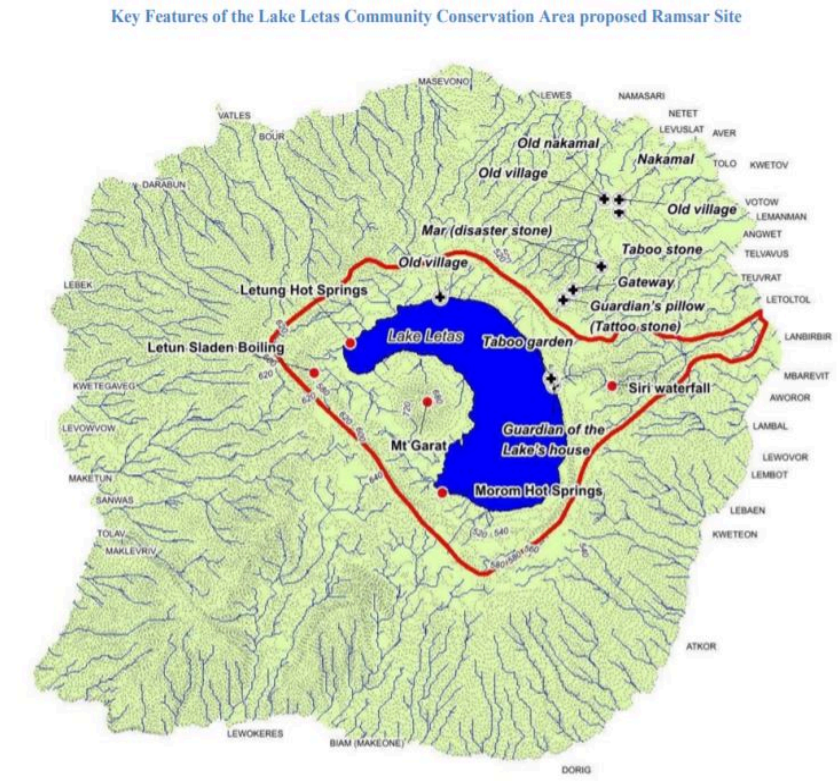
Vanuatu has been pursuing the listing of its first Wetland of International Importance (WII) under the Ramsar Convention, being the Lake Letas Community Conservation Area - a volcanic crater-lake in the centre of the island of Gaua, in the Banks islands in the northern-most Torba Province of Vanuatu (Ramsar Convention Secretariat, 2017). Lake Letas is a 1,971 ha freshwater lake at the tip of a 40 km wide and 3km high stratovolcano. The Lake occupies the caldera of an active volcano and is the largest lake in the Pacific Islands region outside of Papua New Guinea.

The work towards this listing commenced in 2010, when a number of potential wetland sites were discussed at a national meeting. Due to the existing amount of information on Lake Letas, along with its proposed listing for registration as a CCA under the EPC Act, which came about as part of the LCIP project (prior to GEF5), it was endorsed at the meeting that Lake Letas would be the first candidate Ramsar site for Vanuatu. As such, it will be listed as Vanuatu's candidate site when Vanuatu joins the Ramsar Convention.

This decision was then endorsed during a LCIP Island Council of Chiefs meetings in 2008. It was discussed again in 2013 at a Vatsur Council of Chiefs (Gaua island's chiefly council) meeting, during their proposed establishment of the tabu on Lake Letas. This initative was the result of the Vatsur Council of Chiefs (Gaua island chiefly council) cooperating to implement a customary 'tabu' (prohibition the use of natural resources in a particular spatial area) on Lake Letas and its entire catchment area. Since 2013, this tabu has been in place and has not been reopened. The tabu conserves plant and animal species, geological sites, customary sacred areas and the cultural values of the tribes in the area.

In 2015, through the GEF4 FPAM project, the local communities set up a Community Conservation Area (CCA) with a total area of 8,523 ha that comprises the entire catchment of the lake, as well as of its outflow, Solomul River (another name is Lusal River), where it meets the sea (see map below).



Source: Promoting wise use of Lake Letas Community Conservation Area, a proposed Ramsar Site on Gaua Island, Vanuatu, through community-based ecotourism development (Baereleo, 2017)

The CCA is awaiting listing by the Department of Environmental Protection and Conservation. The CCA management committee now comprises seven members who broadly represent the landowners and other stakeholders of the CCA; it has authority to monitor and enforce adherence to community-endorsed conservation and resource use rules of the CCA.

The local communities, with the DEPC, are taking the conservation of Lake Letas to the next level in the designation of the wetland as a Ramsar Site. This will likely assist ecotourism at the lake to benefit the

livelihoods of customary land owners, as well to promote research activities to better understand the ecology of the lake and associated ecosystems. A local NGO, Eco-lifelihood Development Association, accessed funds from CEPF to work with the government to prepare Vanuatu for accession to the Ramsar Convention (Baereleo, 2017). The organisation also worked with the CCA Management Committee to endorse Lake Letas registration and its status as a candidate site for Ramsar. Vanuatu has now submitted all required documentation to accede the Convention, and are awaiting the Ramsar Secretariat on the submission.

Lake Letas meets the following Ramsar criteria for the reasons justified below:

- Criterion 1: The site is a good representative example of two wetland types found in the Vanuatu Freshwater Ecoregion: permanent freshwater lake (Type O); and permanent river (type M). It is the largest lake in Vanuatu, and the largest freshwater lake in the entire island Pacific outside of New Guinea.
- Criterion 3: The site is important for maintaining the biological diversity of the Vanuatu Freshwater Ecoregion because the outflow river system supports at least two of the freshwater fishes (*Schismatogobius vanuatuensis* and *Stiphodon astilbos*), that are endemic to Vanuatu.
- Criterion 4: The lake is a major refuge for eels (at least 3 species) in the Vanuatu Freshwater Ecoregion, and the outflow river forms a vital part of their migration route between breeding and non-breeding areas.
- Criterion 8: The site (lake and river) is important for supporting stocks of migratory eel, other fishes and freshwater prawns, which are harvested by local human communities.

As part of the work on the CCA and Ramsar listing, a local NGO Eco-lifelihood Development Association has been undertaking consultations and education sessions in eco-tourism package development. The Department of Environmental Protection and Conservation have also been heavily involved in the development of the CCA and increasing conservation awareness on the island. Education sessions have been undertaken with regard to invasive species, particularly tilapia, in all schools in the north-east of the island, with the resulting decision being that Gaua is not open for any further tilapia projects run by the Department of Fisheries - a decision made by the Gaua community. Consultations were also undertaken with all communities and chiefs with regard to the drafting of the Lake Letas Management

Strategy, which formalises their traditional knowledge and the customary practices of the tribes of Gaua in sustainable resource management.

Reference list:

- Baereleo, R., 2017, 'Promoting wise use of Lake Letas Community Conservation Area, a proposed Ramsar Site on Gaua Island, Vanuatu, through community-based ecotourism development', *Project Summary and Endorsement Form*, Nagao Wetland Fund, Eco-lifelihood Development Association.
- Ramsar Convention Secretariat, 2017, 'Vanuatu makes progress towards joining the Ramsar Convention', Ramsar Convention, Switzerland, available at <https://www.ramsar.org/news/vanuatu-makes-progress-towards-joining-the-ramsar-convention>.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Chiefly and community ownership is strong for the original tabu area, and the subsequent process for

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registration of the CCA under the Environmental Protection and Conservation Act.

- Development of ecotourism products have been successful and funding has been won to assist in their further improvement.
- The reputation and awareness of the conservation area has been growing.
- Extensive community consultation has resulted in sound and serious attention to environmental management by communities on Gaua (anecdotal evidence from Secretary of Lake Letas CCA Committee).

Progress is left to complete in the following areas:

- Overcoming obstacles (described below) to complete registration of the CCA.
- The Vanuatu Council of Ministers to progress the accession of Vanuatu to the Ramsar Convention to complete the listing of the CCA as a WII.

The tools and methodology used for the assessment of effectiveness included:

- Consultation session with and expert opinion from Secretary of Lake Letas Community Conservation Committee in Gaua.
- Visit to conservation site and interaction with tourism operators.
- Advice from the DEPC Director.
- Stakeholder input from the DEPC Senior Conservation Officer.
- Site visit.

Other relevant website address or attached documents

Article - Ramsar Convention - Vanuatu makes progress towards joining the Ramsar Convention

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Data access:** Due to the lack of protocols and systems to manage important biodiversity data, the registration process for the Lake Letas Conservation Area is now at a standstill, much to the confusion and disappointment of the Conservation Management Committee and chiefs of Gaua. At the national level, poor management decisions and political issues has led to the keeping of vital project information by one

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staff member, and a lack of sharing of information and transparency of decision-making. The power of a single individual holding data leads to an imbalance of power within and between departments, and is an issue and culture that is seeking to be rectified by the development of information management systems across many national government departments at present in Vanuatu

- **Location:** Accessing the island of Gaua requires two flights from Port Vila. To access the conservation area (particularly Lake Letas and the volcano) requires hiking to the interior of the island. The remoteness of the location of the conservation area results in any field visits by DEPC requiring large budgets and enough time to access the island (flights are not daily).

2.4 - Forest and Inland Waters: Update to the national Directory of Wetlands 2014

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CA1.7 and FIW1.1 (specifically the allocated activities of these measures) as described in Vanuatu's NBSAP.

In order to effectively conserve and manage wetlands, an important first step is to document and understand their distribution and status of wetlands by conducting detailed baseline wetland inventories. Across the Pacific region, The Directory of Wetlands in Oceania which was produced in 1993, documented available information on the distribution, status and values of wetlands in Pacific Island Countries and Territories. However, much of this existing information was targeted for updating in 2014, by the Department of Environmental Protection and Conservation, in order to produce a nationally-relevant and updated data set.

The aim of the update to the Vanuatu Directory of Wetlands was to update wetland inventories for Vanuatu as a means of strengthening the baseline state of knowledge of wetlands (Kalfatak and Jaensch, 2014). Such baseline information would be valuable for informing conservation decisions, raising awareness of the importance of wetlands, influencing public perception of wetlands, creating ongoing monitoring, revealing trends over time, identifying priority sites for conservation management (e.g. for designating Ramsar Sites or other types of Protected Areas) and as a tool for planning and implementing effective conservation interventions for wetlands, especially in light of the impacts of climate change. The project activities also built national capacity to conduct

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future wetland inventory updates, as well as to be able to use information collated in the inventory process in national decision making.

The Wetland Directory contains an update on all existing and known/listed wetland sites, as well as describing proposed candidate sites. The accounting of existing wetland sites was very thorough. In addition, this work will assist in assist the establishment and use of wetland sites for tourism and economic benefits (e.g. Blue Holes in Santo and Lake Letas on Gaua are some of the country's most attractive destinations for tourists and the protection of these sites is vital to ensure tourism potential remains intact for these sites).

Reference list:

- Kalfatak, D. and R. Jaensch, 2014, *Directory of Wetlands of Vanuatu – 2014*, Report to the Secretariat of the Pacific Regional Environment Programme, Department of Environmental Protection and Conservation, Government of Vanuatu.

This summary is also based on an in-person interview undertaken in preparation for this Sixth National Report. For interview reference please refer to methodology section below.

National Target(s)

National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- The Directory of Wetlands has been updated to use as an important baseline inventory.
- New wetland site candidates have been proposed as part of the update.

Progress is left to complete in the following areas:

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- The Directory states that it is not based on a systematic investigation for all potential wetlands in the country, and if this were to occur, such a study would surely raise additional potential sites.
- The Directory states that it requires some field verification.

The tools and methodology used for the assessment of effectiveness included:

- Stakeholder input from DEPC Senior Conservation Officer.
- Expert opinion and review from DEPC Director and Directory author.
- Review of Vanuatu Directory of Wetlands.
- GIS review of national environmental map collection.
- Author opinion.

Relevant websites, links, and files

Report - DEPC - Directory of Wetlands of Vanuatu

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Funding:** Lack of available funding to conduct a systematic investigation of wetlands that is adequately ground-truthed, in order to develop a comprehensive wetlands inventory.
- **Accessibility:** Some wetlands in Vanuatu, such as rivers, exist in inaccessible and isolated locations across many islands in Vanuatu, making fieldwork challenging and expensive. Thus coverage of all potential wetland sites has not been achieved by this study, as a comprehensive project would need to be separately established to undertake a systematic and thorough wetland inventory of Vanuatu.

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3.1 - Coastal and Marine Ecosystems: Progress towards Vanuatu's first Marine Spatial Plan

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Actions CME3.4 and CME3.7 in Vanuatu's NBSAP.

With the assistance of the MACBIO project, Vanuatu is working towards the completion of its first Marine Spatial Plan by the end of 2020 (MACBIO, 2018). Marine Spatial Planning for Vanuatu will mean the implementation of an integrated planning process that seeks to achieve ecological, economic, and social objectives by distributing human activities in the sea. It will also mean the contextualisation and review of some existing aspects of marine spatial planning (for example, marine protected areas – MPAs), which have, at times, been declared opportunistically without an overarching and integrated planning process.

The project will expand the national protected area systems that are ecologically representative of existing marine and coastal ecosystems and habitat types. The project aims to mainstream and extend re-designed MPA networks using seascape-level planning and will demonstrate effective approaches to site management, including payment for ecosystem services. When declared in isolation, marine protected areas may not secure the ecosystem services people rely on in the medium- and long-term. Marine Spatial Planning for Vanuatu will be extremely useful for national spatial planning and decision-making about the ocean and its resources and ecosystem services.

As part of the MACBIO project, many studies have been undertaken as foundational inputs to the upcoming MSP. They include:

- Creation of an Oceans Policy (refer to implementation action 3.3).
- Development of marine zone typologies that are Vanuatu-specific.
- Biophysical description of Vanuatu's marine environment in its entirety, including the identification of Biophysical Special Unique Marine Areas and definition of Vanuatu's marine bioregions.
- National Marine Ecosystem Service Valuation (refer to implementation action 3.5)
- Ocean Zone Placement Guidelines.
- Marine Atlas for Vanuatu’s marine environment which compiles over one hundred data sets to provide a consolidated and accessible data set.

Reference list:

- Ceccarelli DM, Molisa V, Wendt H, Davey K, Kaitu’u J, and L. Fernandes, 2018, *Biophysically special, unique marine areas of Vanuatu*, MACBIO (GIZ, IUCN, SPREP), Suva, Fiji.

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- MACBIO, 2018, 'Integrated Ocean Planning in Vanuatu', Marine Spatial Planning Brief, MACBIO (SPREP, IUCN, GIZ).
- MACBIO, 2018, *Marine Atlas of Vanuatu*, MACBIO (GIZ, IUCN, SPREP), available at <http://macbio-pacific.info/Interactive-Atlas/Vanuatu/Vanuatu.html>
- Ocean Sub Committee, 2016, *Vanuatu's National Ocean Policy*, National Committee for Maritime Boundary Delimitation, Government of Vanuatu and MACBIO.
- Pascal N, Leport G, Molisa V, Wendt H, Brander L, Fernandes L, Salcone J, Seidl A, 2015, *National marine ecosystem service valuation: Vanuatu*, MACBIO (GIZ/IUCN/SPREP): Suva, Fiji.

This summary is also based on an in-person interview undertaken in preparation for this Sixth National Report. For interview reference please refer to methodology section below.

National Target(s)

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been effective.

Progress has been achieved in the following ways:

- The studies undertaken as part of the MACBIO project will be integral to future planning of Vanuatu's marine environment.
- The studies completed are the first of their kind which draw from such a large data set.

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- The spatial tools that will be produced will enable Vanuatu to manage its natural capital in a strategic way, informed by valid and complete information.
- The studies undertaken so far will assist Vanuatu in providing vital baseline information for the achievement of its national targets related to expansion of marine protected areas.

The tools and methodology used for the assessment of effectiveness included:

- Expert advice from and interview with DEPC/IUCN Project Liaison Officer.
- Interview with DEPC Director.
- Interactive review and use of the MACBIO Marine Atlas.
- Literature review of the MACBIO Biophysical Special and Unique Marine Areas report.
- GIS analysis of MACBIO SUMA maps and project workspace.
- Literature review of the MACBIO National Marine Ecosystem Service Valuation.
- Literature review of the MACBIO Marine Bioregions of Vanuatu report.
- GIS analysis of MACBIO Marine Bioregions maps.
- Review of the MACBIO Review of Legislation, Policies and Plans Relating to the Use and Management of Vanuatu's Oceans report.
- Analysis of Vanuatu's National Ocean Policy.
- Review of Vanuatu's National Oceans Policy community consultation materials and outcomes.

Other relevant website address or attached documents

Reports - MACBIO - Vanuatu tools and reports

3.2 - Coastal and Marine Ecosystems: Improvement in marine baseline inventory

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CME1.1, CME3.5 and CME3.6 in Vanuatu's NBSAP. As identified in Vanuatu's NBSAP (DEPC, 2018), the lack of baseline data in Vanuatu causes issues when attempting to assess the status of ecosystems and to plan associated measures to improve the

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environment. Recently, two projects have assisted in improving Vanuatu's marine baseline.

Marine bioregion mapping:

For marine areas, the MACBIO project has guided the completion of marine bioregion mapping, which presented “for the first time, marine bioregions across the Southwest Pacific in general, and Vanuatu in particular, at a scale that can be used nationally, as a basis for the systematic identification of an ecologically representative system of marine protected areas” (MACBIO, 2018, p. vii), with two main datasets developed – one for deepwater environments, and one for reef-associated environments. As a result of the marine bioregion mapping, nine deepwater and seven reef-associated marine bioregions were finalised for use in national planning in Vanuatu. By including adequate Marine Protected Areas (MPAs) within each bioregion, Vanuatu will now be able to “implement an ecologically representative network of MPAs which will help ensure achievement of their social, economic, cultural and environmental objectives as well as their national and international commitments” (MACBIO, 2018, p. vii).

Improvement in catch data:

The Tails project, implemented by the Pacific Community (SPC), has been present in Vanuatu since 2016. The project is centred around the distribution of a mobile or tablet application designed for use by small-scale fishers to collect “catch” information, recording the quantity of fish they catch and the different species. This new application allows fisheries officers to collect data when they are out in-the-field, even without internet access. Once fishermen connect again to the internet, data is then automatically synced, uploading catch information to national datasets through integration with the ‘Tufman 2’ data management system, also developed by SPC.

As summarised by the Lakatoro Fish Market Manager on the island of Malekula, the collection of data, though happening slowly, is starting to assist local areas to understand which species are being overharvested, and to implement local bans on particular sizes and species catch. Changes, though happening slowly, are beginning to be evidenced on the ground.

Reference list:

- Wendt, H., Berger, M., Sullivan, J., LeGrand, J., Davey, K., Yakub, N., Kirmani, S.N., Grice, H., Mason, C., Raubani, J., Lewis, A., Jupiter, S., Hughes, A., Molisa, V., Ceccarelli, D. and L. Fernandes, 2018, *Marine Bioregions of Vanuatu*, MACBIO (IUCN, SPREP, GIZ).

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For

interview references please refer to methodology section below.

National Target(s)

National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.
National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Both project have enabled the progression of baseline data collection for the marine environment, which is already contribution to beneficial conservation decision-making.
- National mapping of bioregions is the first type of national overview of Vanuatu's marine environment, which will assist in Marine Spatial Planning in the future.
- The Tails project has reached local level participants in the fishing industry in Vanuatu, extending its reach beyond national level policy, to grassroots livelihood activities.

Progress is left to complete in the following areas:

- Spread of marine baseline data collection across Vanuatu (through extension of Tails project or similar data collection processes).
- Beneficial information from marine bioregion mapping to be utilised in national decision-making.
- Systematic and comprehensive national marine baseline inventory to be conducted.

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The tools and methodology used for the assessment of effectiveness included:

- Stakeholder input from DEPC/IUCN Project Liaison Officer.
- Expert opinion from VFD Senior Marine Biologist.
- Interview with SPC Melanesia Regional Director.
- Questionnaire via interview with Vanautu Fisheries Department Lakatoro Fish Market Manager and review of data sample collected.
- Literature review of the MACBIO Marine Bioregions of Vanuatu report.

Relevant websites, links, and files

Report - MACBIO - Marine Bioregions of Vanuatu

Other relevant information

Obstacles, scientific and technical needs related to the measure include:

- **Data comprehension:** It was highlighted through interviews with regard to the Tails project, that data collected on the ground is not being used to its full capacity, and being kept in a disorganised fashion. Due to a lack of training related to data analysis processes, the data is reportedly not being used by Vanuatu Fisheries Department. It appears to be more useful at the local level, where local Fishermen's Associations could look at their own data and change practices based on trends.

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3.3 - Coastal and Marine Ecosystems: Development of the Pacific's first National Ocean Policy

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CME1.2, CME1.5, CME1.6 and CME3.9 in Vanuatu's NBSAP. Moreover, the measure supports the full Focus Area: Coastal and Marine Ecosystems.

Vanuatu is the first country in the Pacific region to have an integrated, holistic Oceans Policy. This national

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Oceans Policy is Vanuatu's policy statement for the management of its sovereign water and marine ecosystems through to 2030. The policy was developed by the ocean Sub-Committee of the National committee for Maritime Boundary Delimitation who led extensive discussions and consultations with marine stakeholders nationally and with other related initiatives regionally and globally on the Ocean Policy.

It is acknowledged that this Oceans Policy contributes to Vanuatu's efforts effort to implement Sustainable Development Goal 14 – "Conserve and sustainably use the oceans, seas and marine resources" – and will also be a key building block to guiding Vanuatu's marine planning to achieve its national biodiversity and sustainable fisheries targets under the CBD.

This National Oceans Policy sets out the new policy direction for modern marine management which includes traditional marine resources management knowledge and system. The policy includes ecosystem-based ocean management and planning, and it describes the implementation arrangements and guiding principles for better resource use.

The overarching structure for management of our ocean is framed around the nakamal (the nakamal is central to traditional custom governance systems being the meeting place of decision-makers), and draws heavily on connections to traditional environmental knowledge and management. The Oceans Policy is organised as follows:

- The foundation is an ecosystem-based approach to management as envisaged and implemented by our forefathers using traditional marine resources management systems.
- Upon the foundation are three pillars: the multi-dimensional value of our ocean ; the integration across boundaries, across sectors, across governance structure and, thirdly, our resilient and intrinsic ocean culture.
- The supporting beam across the nakamal is the overarching institutional arrangements.
- The thatched roof is emblematic of the sectoral and cross-sectoral policy actions that will protect the nakamal.

The development of the Oceans Policy encompassed other activities which met actions required under the NBSAP such as identification of threats to coastal and marine ecosystems in Vanuatu. Management of these threats was discussed in detail in preparation of the Vanuatu Oceans Policy. This information was drawn from a range of stakeholders including direct reports by marine resource users. Threats identified

included climate change, overfishing and destructive fishing, ocean and land-based pollution (including waste from ships), deep sea mining, ship wrecks, submerged munitions, habitat destruction, release of ballast water and crown-of-thorns starfish. These threats have been identified in the Ocean Policy, and the way in which to address them will be the basis of future action plans.

Moreover, the preparation phases of the policy were an effective awareness-raising method regarding issues relating to marine and coastal ecosystems. Consultations included visits by government staff to 33 community centres in 20 islands and all the Provinces of the country. Over 1,000 people were consulted directly and, through them, their villages and families.

Reference list:

- Ocean Sub Committee, 2016, *Vanuatu's National Ocean Policy*, National Committee for Maritime Boundary Delimitation, Government of Vanuatu and MACBIO.

This summary is also based on an in-person interview undertaken in preparation for this Sixth National Report. For interview reference please refer to methodology section below.

National Target(s)

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.
National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been effective.

Progress has been achieved in the following ways:

- The process undertaken to prepare the Oceans Policy was comprehensive and included extensive community and government consultation. It has been heavily informed by marine resource users.
- It is considered to be an effective national guidance document and allows for cross-sectoral coordination and collaboration to maintain and enhance the cultural, social and economic values.
- It will be an effective example for other countries in the Pacific region to follow, in a region where ocean area far surpasses land area within national boundaries.

The tools and methodology used for the assessment of effectiveness included:

- Expert advice from DEPC/IUCN Project Liaison Officer.
- Literature review of Vanuatu's National Ocean Policy.
- Interview with SPREP Vanuatu Country Manager.
- Analysis of Report on Vanuatu's Draft National Oceans Policy Consultations.
- Review of Vanuatu Oceans Policy Summary of Community Recommendations (set of 31 posters outlining recommendations by community).
- Review of Department of Environmental Protection and Conservation website.
- Author opinion.

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Other relevant website address or attached documents

Policy - Vanuatu's National Oceans Policy
Report - Vanuatu's Draft National Oceans Policy Consultations
Posters - Summary of Community Recommendations

3.4 - Coastal and Marine Ecosystems: Valuation of marine ecosystems services

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Vanuatu’s NBSAP commits to conducting valuations of coastal and marine ecosystem services (primarily offshore), to ensure they are properly accounted for in decision-making, included in the national accounts and business operations (DEPC, 2018) (CME3.3). In 2015, a study was undertaken as part of the MACBIO project entitled the 'Vanuatu Marine Ecosystem Service Valuation' (Pascal et, al, 2015). This study aimed to determine the economic value of seven marine and coastal ecosystem services in Vanuatu. Coastal and marine resources provide Ni-Vanuatu businesses, households, and government many real and measurable benefits. The exclusive economic zone of Vanuatu, nearly 700,000 square kilometres of ocean, is more than 50 times larger than the country’s land area. The valuation report, describes, quantifies and, where sufficient data is available, estimates the economic value of many of Vanuatu’s marine and coastal ecosystem services, in an effort to inform sustainable and equitable management decisions and support national marine spatial planning. The study used a literature review, expert opinion and results from existing surveys to estimate an economic value for each of the seven ecosystem services before aggregating the values at the national scale. Seven key marine ecosystem services were evaluated in detail: subsistence and commercial fishing, tourism, coastal protection, carbon sequestration, minerals and mining, and marine research and management. Other services were also explored, including cultural and traditional values associated with the sea, potential future industries and other human benefits that have not yet been developed or analysed. A summary of the valuation of ecosystem services in US$ is provided in the table below.	EN

Annual economic value of marine and coastal ecosystem services in Vanuatu (2013) (US$)

Ecosystem service	Annual value-added (US$ million)	Minimum (US$ million)	Maximum (US$ million)
Subsistence fishery	**6.49**	**5.84**	**7.14**
Commercial fisheries (total)	**7.01**	**5.80**	**8.22**
Reef fish, deep slope fish, crabs and lobster	3.3	2.97	3.64
Trochus and similar	0.1	0.085	0.115
Bêche-de-mer	0.05	0.03	0.07
Aquarium trading	0.15	0.09	0.21
Offshore fishing	1.8	1.26	2.34
Game fishing	1.6	1.36	1.84
Minerals and aggregates	**0.17***	**0.17**	**0.17**
Tourism and recreation	**9.59**	**6.89**	**12.31**
Coastal protection	**18.37**	**13.78**	**22.96**
Carbon sequestration	**1.41**	**0.02**	**8.55**
Research, management and education	**4.9**	**4.9**	**4.9**
Total	**47.94**	**37.4**	**64.25**

*Gross value — costs could not be estimated.

Source: National marine ecosystem service valuation (Pascal et. al, 2015)

Reference list:

- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy

and Disaster Management, Government of Vanuatu.

- Pascal N, Leport G, Molisa V, Wendt H, Brander L, Fernandes L, Salcone J, and A. Seidl, 2015, *National marine ecosystem service valuation: Vanuatu,* MACBIO (GIZ/IUCN/SPREP): Suva, Fiji.

This summary is also based on an in-person interview undertaken in preparation for this Sixth National Report. For interview reference please refer to methodology section below.

National Target(s)

National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- This valuation study provides the first national-level assessment of the economic contribution of biodiversity and ecosystem services to the well-being of Pacific Islanders – a value which is understated particularly in Vanuatu's decision making and approach to planning.
- The national scale of the study will provide the largest and broadest potential relevance to policy and decision-makers. The study has used the best possible method and funding considering the resources and funding available.
- Requirements to conduct valuations specific to each policy or initiative related to the marine environment were not, and are not likely to be available in Vanuatu for some time.

Progress is left to complete in the following areas:

- Communicating the key messages of this study to those who can utilise the findings such as

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national and sub-national planners, DEPC and local chiefs and communities.
- Adapting the messages from this study to different sectors in relevant ways.

The tools and methodology used for the assessment of effectiveness included:
- Expert advice from DEPC/IUCN Project Liaison Officer.
- Literature review of MACBIO National Marine Ecosystem Service Valuation.
- Stakeholder input from C2O Director.

Relevant websites, links, and files

Report - MACBIO - National Marine Ecosystem Service Valuation

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Scarcity of data:** A lack of data about many of the marine ecosystem services studied prevents calculation of the total economic value. The report states that the values should therefore be regarded as minimum estimates.
- **Customary context:** One of the main challenges in valuing marine and coastal ecosystem services in Vanuatu is the customary community context that renders inapplicable standard economic assumptions used in a valuation of ecosystem services. The value that local communities attribute to money, and its function in life, differs widely from common economic assumptions. Many natural resources in the Pacific Island territories are communally owned (without formally defined or recorded boundaries), which affects how those resources are used and managed. Another feature of the Vanuatu context is customary obligations to kin and reciprocity of exchange in material possessions or cash, whereby the measure of a person is not by how much they own, but by how much they give (Bensa and Freyss 1994 in Pascal et. al, 2015). There is therefore a large gap between the Western-style viewpoints of how to apply valuations of ecosystem services, which are encouraged through international-level discourse and standards, and the practical application of this to daily life at the community level in Vanuatu. Moreover, serious consideration must be given to the potential impacts that

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encouraging economic valuations of ecosystems may have on customary traditions relating to environmental management, and ensure that sensitive application of this theory and assessment does not negatively impact the cultural core of Vanuatu.

3.5 - Coastal and Marine Ecosystems: Community outreach and education on conservation and sustainable use of coastal and marine ecosystems

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CME1.5, CME1.6 and CME2.1 in Vanuatu's NBSAP, as well as the broader objectives of the NBSAP to engage with and build the capacity of communities involved in conservation.

Due to the difficulties in getting DEPC staff into the field, non-government organisations operating at the community level in the environmental space are vital to developing conservation initiatives in Vanuatu. Awareness raising and education at local levels on the importance of conservation and sustainable use of coastal and marine ecosystems, has been carried out by a number of environmental organisation during the period 2014-2018. These organisations and their work are described below.

OceansWatch: Community education throughout Vanuatu on marine management

OceansWatch is a non-government organisation which undertakes community-level education about the protection of the marine environment around Vanuatu. They are often invited by communities to advise on the selection and set up of new marine protected areas. The organisation operates primarily from a yacht, meaning they expand the reach of conservation messaging to villages that are not easily accessible to government or other organisations.

Island Reach: Community-based conservation and training across Vanuatu

Island Reach reaches remote communities and areas to build conservation capacity and facilitate peer-to-peer networking focusing on the thematic areas of climate change adaptation, conservation of biocultural diversity

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through food security and supporting the rise of youth and women leaders in community actions. Island Reach collaborates with communities to support indigenous stewardship that integrates traditional ecological knowledge with scientific knowledge. In past years Island Reach has:

- Set up and developed a partnership with the Vanua'tai Resource Monitors Network, to bolster their work in communities across the country, particularly in more inaccessible locations, such as the Banks and Torres islands.
- Catalysing women's leadership in marine conservation and natural resource management. They have particularly focussed on gender equity in their work, and have assisted in the launching of the first women-run marine conservation area on the island of Mota Lava.
- Developed the Community Coral Conservation Resource, a toolkit and learning aid for communities, deployed among turtle monitors in Mota Lava, SE and SW Malekula, Torba, Nguna, Pele and NE Efate.
- Partnership and capacity building of the Nguna Pele Marine and Land Protected Area Network.
- Peer-to-peer exchanges and trainings including coral reef replanting.
- Production of IEC materials on marine and coastal ecosystems including videos and toolkits.

Vanua'tai Resource Monitor Network: Turtle monitoring and conservation throughout Vanuatu

The Vanua'tai Resource Monitors Network is an organisation of turtle monitors who are community-based volunteers situated across the country, who monitor and advocate for the conservation of turtles. The network was formed in 1995, and has since continued to survey and collect data on turtles throughout the country. Over the past four years, the Vanua'tai have worked on projects to control crown of thorn starfish, relocate ‘at risk’ turtle nests, conduct general turtle population monitoring as well as monitoring of the reef and marine resources in partnership with Vanua'tai subnetworks.

Currently there are 435 male monitors and 35 female monitors which is a total of 470 active monitors across Vanuatu. Although the number of registered monitors Vanua'tai has across Vanuatu is higher than this (around 500 in total), due to budget and staffing constraints, the required follow up training and workshop sessions to keep monitors active have not been able to be run in some of the more remote areas of Vanuatu. A New Zealand volunteer in 2017-18 also assisted extensively with training monitors in Malekula and Epi to properly use a GPS to mark nesting sites locations, drafting of a strategic plan for turtle conservation for Vanua'tai, and the introduction of live data feeds (monitors call or text in their nesting data) which is then plotted on nesting maps.

Vanuatu Environmental Science Society: Awareness materials, sessions and public exhibitions

Vanuatu Environmental Science Society (VESS) was established in September 2014 as a local conservation NGO. The organisation promotes the development of and use of environmental science in Vanuatu, and believes in the dissemination of scientific information in easy-to-use ways, as widely as possible so the entire community can make informed choices which allows them to live harmoniously with their environment.

The organisation has created education materials and tools for the conservation of seagrass beds and dugong in Vanuatu, including the creation of 3 posters - one on seagrasses, one on dugongs and one on some of Vanuatu's threatened species. A book has also been produced on dugongs and seagrasses and their conservation. All these materials are available to download in both English and Bislama. VESS has also produced materials on marine debris and plastic pollution, threatened species factsheets and posters of Vanuatu's key biodiversity areas.

The organisation has been very community-facing since its inception, with regular activities with schools and youth including competitions, exhibitions and awareness sessions. In any fieldwork they complete, they undertake extensive community consultation.

VESS also runs a regular series of public talks which cover environmental projects and topics of relevant to Vanuatu.

C2O and the RESCCUE project: Community Marine Champions program and environmental education

The RESCCUE project, based in North Efate and the offshore islands from 2014 – 2018, developed a Marine Monitoring and Management Toolkit (refer to Implementation Action 1.2) to empower communities to make conservation-related management decisions based on local relevant information and to involve them in the data collection process. The program was very successful in raising awareness of sustainable resource use, and management techniques in the villages of North Efate.

Further on-the-ground work on the toolkit is now being undertaken by the scientists who authored the toolkit, from the company C2O. They are working with 10 marine champions and their villages. The pilot program has allowed the group to understand best practices in this context and how to improve the program going forward.

C2O has also been undertaking general environmental awareness through village movie nights in North Efate, which they have found to be an engaging method to involve the broader community and people of all ages.

Pathways project: Wan Smolbag play 'Twist mo Spin'

Two consecutive projects funded by the Australian Centre for International Agricultural Research (ACIAR) have been working with communities across Vanuatu to develop community-based fisheries management (CBFM). The projects are entitled 'Improving community-based fisheries management in Pacific island countries' (PACFISH) and 'Strengthening and scaling community-based approaches to Pacific coastal fisheries management in support of the New Song' (Pathways). More information on these projects is provided in action 3.6.

As part of its community-based awareness program, the Pathways project has developed a partnership with Wan Smolbag Theatre (national theatre and youth centre based in Port Vila) to create a theatre piece on the topic of community-based fisheries management. The play is called Twist mo Spin (Twist and Spin) and commencing in 2018, it toured Tafea Province in the south of the country with over 1300 people watching the play. It will tour the northern provinces early in 2020. The tour will include local schools. The projects have found that theatre is a successful and engaging way of communicating important biodiversity messages to communities in a way which empowers ni-Vanuatu ownership of issues.

The project has also developed a series of comic books on important indigenous marine species in Vanuatu - the sea cucumber, parrot fish and coconut crab. The project has also produced several videos on the effectiveness of the application of theatre in development and natural resource management.

Reference list:

- Johnson, J.E., Welch, D.J., Hooper, E., Moore, B., Edney, G., Waterhouse, J., 2018, *Community Marine Monitoring Toolkit: Vanuatu*, Prepared under the Restoration of Ecosystem Services and Adaptation to Climate Change (RESCCUE) Vanuatu project for the Pacific Community (SPC), Noumea, New Caledonia.
- Oceans Watch, 2019, Oceans Watch Website, available at <https://oceanswatch.org/>
- Steele J. and B. McCutchen, 2015, Annual Report 2015, Island Reach, available at <https://www.islandreach.org/2015-annual-report.html>
- Steele J. and B. McCutchen, 2016, Annual Report 2016, Island Reach, available at <https://www.islandreach.org/2016-annual-report.html>
- Steele J. and B. McCutchen, 2017, Annual Report 2017, Island Reach, available at

<https://www.islandreach.org/2017-annual-report.html>

- Steele J. and B. McCutchen, 2018, Annual Report 2018, Island Reach, available at <https://www.islandreach.org/2018-annual-report.html>
- Vanuatau Environmental Science Society, 2016, Awareness and educational materials, available at <https://www.vanuatuconservation.org/publications/>

This summary is also based on in-person interviews undertaken in preparation for this Sith National Report. For interview references please refer to the methodology section below.

National Target(s)

National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been effective.

Progress has been achieved in the following ways:

- Coverage of communities outside of the main centres has been achieved through the broad variety of travelling community-based organisations and programs operating in Vanuatu.
- Educational materials of high quality and specific to local contexts have been produced and disseminated as widely as possible based on project scopes.
- Diversity of engagement materials and methods has been high including toolkits, hands-on workshops, theatre, comic books, posters, interactive activity booklets, community-based champion programs and public talks.
- Support has been given through these activities and organisations to DEPC to achieve awareness targets within the NBSAP.

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The tools and methodology used for the assessment of effectiveness included:

- Expert input from DEPC IUCN Project Liaison Officer.
- Community consultation and questionnaire with Mota Lava Turtle Monitor of the Vanua'tai Resource Monitor Network.
- Community consultation with Vuslengleng Turtle Monitor and Chairperson of the Vanua Lava Environment Network.
- Interview with Vanuatu Environmental Science Society CEO.
- Expert opinion from C2O Principal Scientist.
- Online questionnaire and interview with Australian National Centre for Ocean Resources and Security (ANCORS) at the University of Wollongong, Pathways Project Manager.
- Community consultation sessions with the following community conservation areas (registered and non-registered):
    - Amal Crab Bay - Malekula
    - Jinarong - Uripiv
    - Jinong Marine Park - Uripiv
    - Losenwai - Malekula
    - Navov - Uripiv
    - Uri Narong Marine Park - Uri
    - Vatthe - Saama, Matantas - Santo
    - Wairua - Santo
    - Loru - Santo
    - Imaio - Tanna
    - Nusumetu - Tanna
    - Port Resolution - Tanna
    - Rockwater - Tanna
    - Waisisi - Tanna
    - Lake Letas - Gaua
    - Nerenigman - Mota Lava
    - Var - Mota Lava

    - Rah - Rah
    - Totolang - Mota Lava
    - Vuslengleng - Vanua Lava

- Review of Oceans Watch website.
- Literature of Annual Reports from Island Reach.
- Review of Vanua'tai website and data monitoring page.
- Review of Vanuatu Environmental Science Society educational materials.
- Analysis of C2O Marine Monitoring and Management Toolkit.
- Review of SPC News.
- Review of Twist mo Spin media.

Other relevant website address or attached documents

Website - Oceans Watch
Report - Island Reach - Annual Report 2018
Website - Wan Smolbag - Vanua'tai Resource Monitors Network
IEC - Vanuatu Environmental Science Society - Dugong and Seagrass Educational Materials
Video - SPC RESCCUE - Marine Champions Program
Journal article - SPC News - Community Marine Monitoring Toolkit: A locally-developed toolkit to inform community-based management of marine resources in Vanuatu
Twist mo Spin.jpg (Poster - Pathways Project - 'Twist mo Spin' promotional poster)

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Coordination:** Whilst the activities undertaken have been extremely effective and far-reaching, there is no national coordinated guidance given to the network of environmental organisations and projects, in its entirety. Duplication (as well as major gaps) have been encountered in this way, leading to ‘engagement fatigue’ in communities.

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- **Monitoring:** Community awareness materials and sessions are plentiful across the country, however organisations are not often monitoring the effectiveness of their engagement methods.
- **Data sharing:** It would be of assistance for responsibility to be allocated to organisations to upload their awareness materials and program information to the Vanuatu Environmental Data Portal, maintained by SPREP, to ensure that duplications are minimised and sharing of resources is maximised.

3.6 - Coastal and Marine Ecosystems: Coral reef restoration activities

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CME2.5 in Vanuatu's NBSAP.

The non-governmental organisation Island Reach, has been instrumental during the latter-half of the reporting period, in educating and training communities and conservation area management committees in coral reef restoration.

Island Reach travel by yacht to remote communities around Vanuatu, to deliver training workshops and materials for coral reef gardening and restoration. The communities where coral gardens have been established and developed during the reporting period have included:

- Nguna island- Pango, Efate
- Worasiviu, Pele
- Southwest Bay, Malekula
- Lalnetak and other villages, Vanu Lava
- Mota Lava island
- Torres Islands

In 2017, Island Reach brought a coral gardening expert, Dr. Austin Bowden-Kerby to Vanuatu for a series of

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community-based workshops and a public presentation in Port Vila.

In 2018, Island Reach developed the Community Coral Conservation Resource toolkit (CCCR), a learning aid for all members of a community who may not have access to a computer or projector and/or who had shown interest in a more hands-on, participatory activity. Informed by field experience, associational learning, and game theory, the CCCR is composed of 24 laminated cards: some with key take-away points, developed with community assistance, written in Bislama, and some with photos. The CCCR's interplay between local custom practice and science is designed to have numerous adaptive uses; it can be used as a sorting game, workshop aid, or to assist with management plans. Visual learning and discussion dominate as users adapt the cards to their local circumstances and concerns. After initial trialing with communities in Vanua Lava and Mota Lava, modifications were made at the suggestion of communities and 11 CCCR kits have been developed and are deployed among monitors in Mota Lava, SE and SW Malekula, Torba, Nguna,Pele, and NE Efate exploring efficacy and for further refinement (Island Reach, 2018).

National Target(s)

National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been effective.

Progress has been achieved in the following ways:

- Setting up of several community coral gardens.
- Accessing remote parts of Vanuatu that are often not visited by government departments, to support and strengthen their community conservation efforts.

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- Education and awareness sessions with community members to build capacity in coral gardening and monitoring.
- Development of a short documentary for knowledge sharing.

The tools and methodology used for the assessment of effectiveness included:

- Stakeholder input from IUCN Liaison Officer.
- Community consultation with coral reef restoration workshop participants.
- Community consultation and questionnaire with Mota Lava Turtle Monitor of the Vanua'tai Resource Monitor Network.
- Community consultation with Vuslengleng Turtle Monitor and Chairperson of the Vanua Lava Environment Network.
- Literature review of Island Reach's Annual Reports.
- Review of related media material.
- Author opinion.

Other relevant information

Obstacles, scientific and technical needs related to the measure include:

- **Sustainability of actions:** There is difficulty in ensuring sustainable activities that will continue to benefit the communities which Island Reach visits each year. As they are a small family-run NGO, it could be likely in the future that the organisation chooses not to continue its work in Vanuatu. As such, it is important that the organisation promotes capacity-building and discusses with DEPC how it can best pass on its knowledge to the communities it is aiming to assist.

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Other relevant website address or attached documents

Reports - Island Reach - Annual Reports 2017 and 2018
Article - Island Reach - How to Grow a Coral Garden
Video - Island Reach - Coral Planting, Southwest Bay, Malekula

3.7 - Coastal and Marine Ecosystems: Implementation of community-based fisheries and inshore fisheries management projects

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Actions CME1.5, CME2.2, CME2.3, and CME2.4 in Vanuatu's NBSAP.

Since 2014, the Vanuatu Fisheries Department, and Department of Environmental Protection and Conservation, supported through project collaborations with partner organisations, has moved more heavily toward a context-specific community-based fisheries management (CBFM) approach which has been tailored to Vanuatu and the issues that the country faces in marine resource management. The main projects which have been instrumental in carrying out these objective are explained below.

ACIAR: PACFISH project - Improving community-based fisheries management in Pacific island countries

The PACFISH project was undertaken in Vanuatu between 2014 to 2017. PACFISH is funded by ACIAR and supported and implemented by the partner organisations WorldFish, Vanuatu Fisheries Department, University of Wollongong (Australian National Centre for Ocean Resources and Security), James Cook University and The Pacific Community (SPC). The project operated at eight project sites being Peskarus, Pellongk and Lutes in the Maskelyne islands, Port Olry, Lolathe and Hog Harbour in Santo, Naone in Maewo and on the island of Aniwa (in all three Aniwa communities of Ikaukau, Imatu and Isavai). The main objectives are outlined below.

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Participatory community diagnosis

A series of community meetings and workshops were held in each community between 2014 to 2016, through a participatory learning and action approach. Data collected included resource trends, local challenges and objectives for establishing management of fisheries. A community diagnosis was the result, which focussed on four pillars: resource and environment, economy and production, institution and governance and socio-culture.

Stakeholder meetings

Vanuatu Fisheries Department also undertook a series of stakeholder consultations, as implementing partner to the project. The consultations, which were carried out in 2013-2014, were opportunities for VFD to inform the public about services available to communities, and for stakeholders to share their views and contribute to influencing VFD’s model of engagement. Consultations included key stakeholders, such as community leaders, area secretaries, Councillors, the provincial government and government extension officers.

Stakeholder meetings also included a CBFM workshop in 2016, which sought to develop a model that can further guide the implementation of CBFM across Vanuatu. Lessons learned workshops were also held in each project area in 2017, to gain feedback from the communities involved in the project.

CBFM implementation in communities

Institutional strengthening in communities

As part of the national governing organisational structure, coastal fishing communities were assisted in establishing their fisher associations. This body most commonly fulfills a dual function; to enhance decision-making around fisheries management (e.g. management of tabu areas and FADs), and to enhance marketability and benefit distribution of income from fish. In parallel to each fisher association, an authorised officer was appointed. The role of the authorised officer is to provide objective control on processes, approve decision-making and moderate potential conflict resolution.

Community fisheries management plans

Community management plans were developed and completed for all six of the communities across the northern focal areas. In mid-2017, all final management plans were presented to communities for final sign-off, and by the end of 2017, all communities had printed copies of their community management plans on site. Community management plans are valid for three years, after which they will be revised depending on the current issues facing the plans.

The plans generally include:

- Results of participatory diagnosis of coastal resources and pressures.
- Implementation plan.
- Management rules and associated fines.
- Institutional structures of importance.
- Tabu area fees for activities and process for reporting tabu area violations.
- National fisheries regulations.
- Clarification of community mandate to enforce.

Two examples of the management plans are shown below.

CBFM at national and subnational level

As part of this project, partnerships were developed to add further capacity to VFD's central responsibility, and to expand its network of agencies and NGOs active in the field of CBFM. In addition, the project allowed for the upskilling in research capacity and CBFM technical knowledge through the recruitment of two ni-Vanuatu project officers at the start of the project.

Collaborative publications

The research component of the project enabled the publication of important Vanuatu-specific articles relating to CBFM best practice. Some of these articles were collaborations between local project officers and the international project scientists. In 2016 a collaborative study focussed on developing a 'lessons learned' review to assess and refine the form and potential of CBFM in Vanuatu. The results were summarised in a journal article in SPC's Traditional Marine Resource Management and Knowledge Information Bulletin in November 2016, which is provided below.

ACIAR: Pathways project – Strengthening and scaling community-based approaches to Pacific coastal fisheries management in support of the New Song

The Pathways project commenced in Vanuatu in 2017 and will run until 2021. It is the second phase of the PACFISH project. The focus of the Pathways project is on scaling CBFM mechanisms which were set up under the PACFISH project. The project seeks to find ways and modalities to undertake CBFM over a more extensive area, and to create a more enabling environment in Vanuatu to allow this to occur. Pathways has extended to a total of 18 villages throughout Vanuatu, building on the initial 8 which were part of PACFISH.

The five main objectives are:

- Strengthening institutions that enable CBFM - working at the community level to promote strong and organised community institutions, and also at the national level, strengthening policies, reviewing regulations and plans.
- Scaling CBFM - researching different ways and pathways through which you can spread CBFM to communities, and collaborating with VFD staff to build their research capacity by producing research findings and papers.
- Improving livelihoods – investigating feasible and applicable ways to improve people's well-being and income derived from fish, by understanding real needs and threats to livelihoods and options that are adequately and accurately addressing these needs.
- Fish based nutrition - addressing the need for food security and safety taking into account the major role that fish has to play in healthy dietary needs.
- Gender-sensitive and inclusive approaches – identifying and understanding the roles and involvement of men, women and children in fisheries, and finding ways to ensure there is an equitable distribution of benefits from fisheries, which involves empowering women to take on more of a role in fisheries.

The CBFM approach being employed by the Pathways project is a grassroots and participatory-based approach. At every stage of the project (scoping, diagnosis of issues, planning and management), the community is involved in the process. In this way, communities are supported in their own goals, and further identified interests are pursued with the assistance of the project team.

For this reason, whilst Pathways does seek to empower communities to sustainably manage their fish resources, the solutions that are implemented are not necessarily always protected areas or 'tabu' areas. In some instances, the allocation of tabu areas has been an outcome of the community decision-making, and in these cases the Pathways project is collaborating with DEPC on the establishment of some MPAs (north-east Santo and Port Orly).

Moreover, the project is collaborating with Vanuatu Fisheries Department in the facilitation of a National Roadmap for Coastal Fisheries in Vanuatu.

As a community-focussed project, the production and dissemination awareness materials is paramount. The project has so far developed the following resources:

- Posters on seagrass and mangrove management (developed in collaboration with SPC).Livelihood diagnosis toolkit – this resource guides communities to identify what livelihoods are important to them and what is feasible changes could be developed.
- Fish-handling worksheet – series of guiding sheets that help fishermen on the topics of fish storage, food safety and preparing fish.
- Nutrition work – video on fish-based nutrition to improve diets, especially those of women and children. This has been distributed through Vanuatu Fisheries Department.
- Twist mo Spin (refer to resources below for further information) – theatre piece developed in partnership with Wan Smolbag. It has so far been toured around Tafea Province and will tour northern provinces. Several videos on the application of theatre in development and natural resource management have also been produced.
- Comic books (sea cucumber, parrot fish book, coconut crab) – species-specific comic books being developed and will be distributed by mid-2020.

Reference list:

- Andrew, N., Albert, J., Amos, M., Aram, K., Tavue Baereleo, R., Bertram, I., Blanc, M., Boso, D., Blythe, J., Campbell, B., Chapman, L., Cohen, P., Delisle, A., Eriksson, H., Hanich, Q., Donato Hunt, C., Mills, D.,

Namakin, B., Neihapi, P., Raubani, J., Romeo, A., Schwarz, A., Sharp, M., Siota, F., Song, A., Sukulu, M, Steenbergen, D., van der Ploeg, J. and L. Wraith, 2018, *Final report - Improving community-based fisheries management in Pacific island countries*, Australian Centre for International Agricultural Research, Australian Government, Canberra, Australia.

- Baereleo Tavue, R., Neihapi, P., Cohen, P. J., Raubani, J. and I. Bertram, 2016, 'What influences the form that community-based fisheries management takes in Vanuatu?', *SPC Traditional Marine Resource Management and Knowledge Information Bulletin #37*, November 2016.

National Target(s)

National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Development of Vanuatu-specific CBFM model. Extensive involvement and consultation with eight communities across Vanuatu to develop capacity and awareness of CBFM.
- Community-led development of CBFM plans at a community level.
- Significant capacity and network-building of VFD through project partnerships.
- Research publications on multiple topic areas related to direct field experience through this project in Vanuatu, thus extending the valid literature in best practice CBFM.

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Progress is left to complete in the following areas:

- Scaling up and out of CBFM across Vanuatu.
- Completion of Pathways project – closure date in 2021.

The tools and methodology used for the assessment of effectiveness included:

- Expert opinion from Pathways Vanuatu Project Lead.
- Expert advice from Pathways Project Officer (former).
- Island-based consultation, questionnaire via interview with Vanuatu Fisheries Department Tafea Extension Officer.
- Visit to project sites.
- Community consultation sessions with project participants at Waisisi and Sunae community for JICA Grace of the Sea project.
- Literature review of Final Report – Improving community-based fisheries management in Pacific Island countries.
- Literature review of article 'What influences the form that community-based fisheries management takes in Vanuatu?'.

Other relevant website address or attached documents

Article_Form of CBFM_Baereleo et al..pdf

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Geography:** The coastal villages of Vanuatu are widely distributed across even its outermost islands. With increased remoteness, population density and village size become small, while the investment to establish CBFM becomes higher.
- **Resourcing:** A critical obstacle to the scaling up and out of CBFM will be the balance of the distribution of support and resources over new sites (where CBFM is yet to be established) and existing sites (where transitions to increased independence in planning, management and monitoring responsibilities will be
vital but where support is still imperative).
- **Concurrent bilateral projects:** Alignment of activities across different bilateral initiatives (e.g. those undertaken though the Vanuatu Coastal Adaptation Project (VCAP), JICA etc.) will be crucial towards inclusion of coastal communities in a national CBFM network, which does not overlap and create dualities between programs for communities.

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3.8 - Coastal and Marine Ecosystems: Regulation of Vanuatu's fisheries

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action CME3.1 and CME3.2 in Vanuatu's NBSAP, which focus on improving the control over Vanuatu's offshore fisheries.

Vanuatu’s fisheries sector is comprised of the following:

1. **Coastal fishing** – undertaken as small-scale commercial fisheries which supply the immediate domestic market or subsistence fisheries which support rural economics and are important to rural residents’ nutrition and food security.
2. **Offshore fishing** – undertaken mainly by large, industrial-scale fishing vessels, consisting of foreign-based offshore fishing vessels.

Activities related to coastal fishing are described in Implementation Action 3.7. This Implementation Action refers mainly to offshore fishing but does touch on coastal fisheries below.

The main species caught in the offshore fishery in Vanuatu waters are tuna species. The total catch in million tonnes from Vanuatu waters during the reporting period are provided in the table below (2018 data not available at time of reporting).

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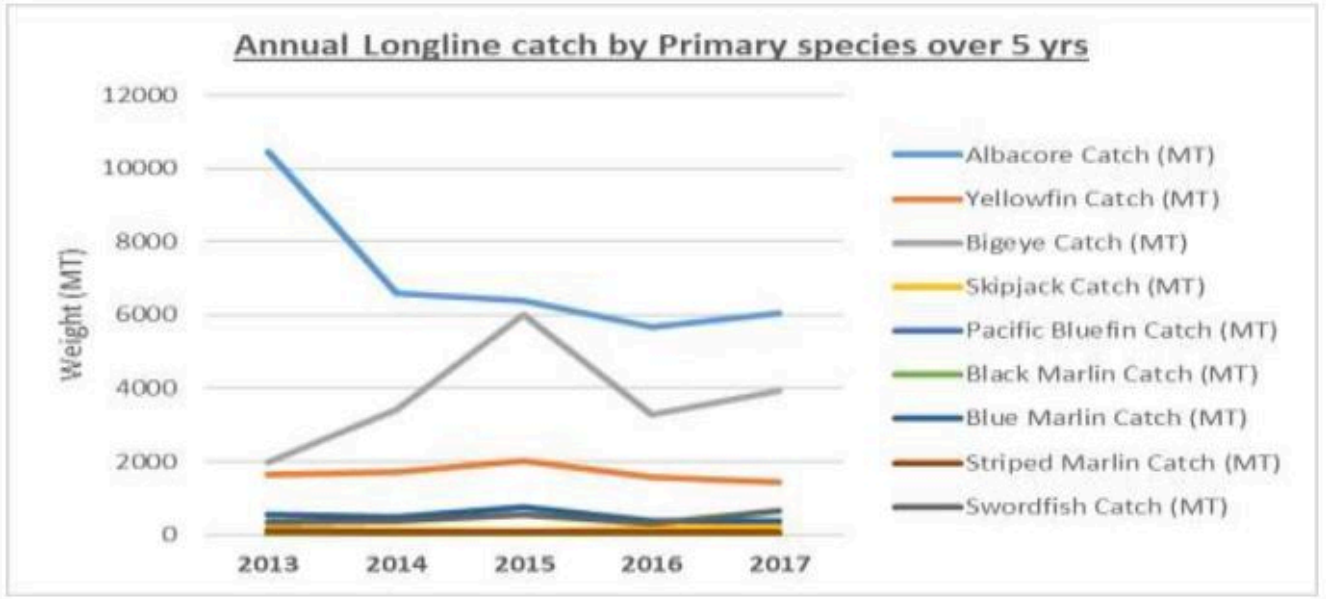
Year	Albacore Catch (MT)	Yellowfin Catch (MT)	Bigeye Catch (MT)	Skipjack Catch (MT)	Pacific Bluefin Catch (MT)	Black Marlin Catch (MT)	Blue Marlin Catch (MT)	Striped Marlin Catch (MT)	Swordfish Catch (MT)	Total
2013	10446	1626	1989	166	0	19	545	105	345	15,241
2014	6581	1695	3419	134	0	27	493	77	368	12,794
2015	6,400	2,006	6,018	112	0.175	35.1	758.5	78.5	555.3	15,963
2016	5,663	1,580	3,292	172	21.4	27.7	373	53	309	11,491
2017 – Retained	6,031	1,436	3,938	237	2.3	5.013	366	86	666	12,767

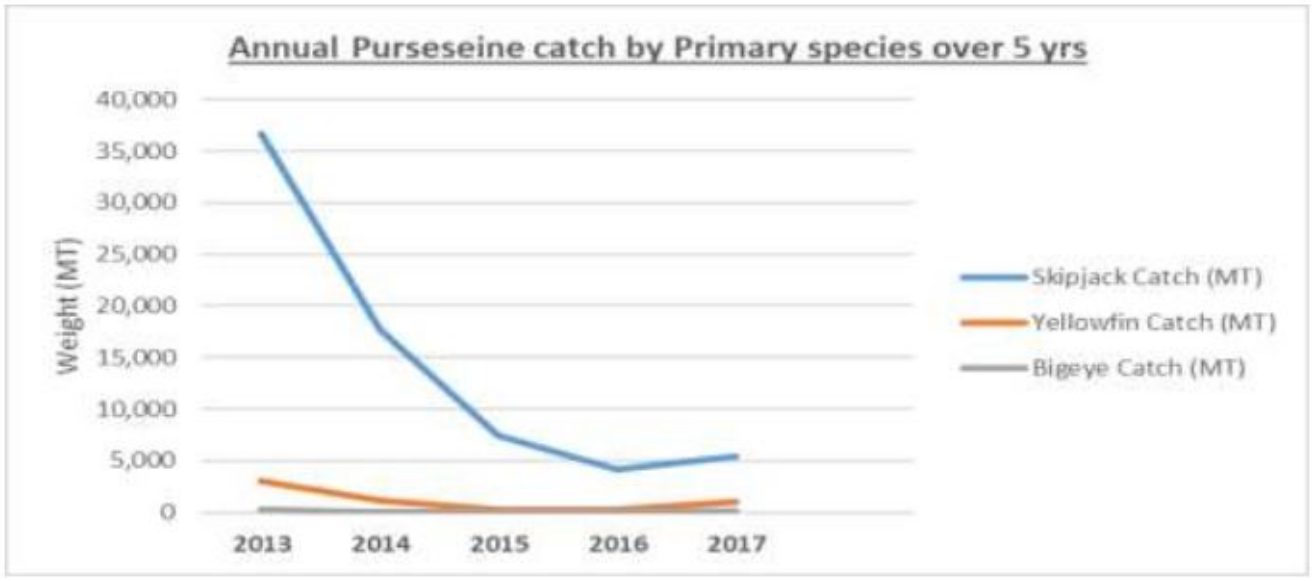
Source: Annual Report to the Commission – Part 1: Information on Fisheries, Research and Statistics (Vanuatu Fisheries Department, 2018)

Since 2014 however, there have not been any locally based vessels in operations.

During the period 2013-2017, the longline fleet recorded its highest total annual catch estimate as 15,963 MT in 2015, after which the total annual catches dropped. This trend can also be seen in the figures below for longline and purse seine captures during the period 2013 – 2017. It can be seen that catches are slowly increasing again. In addition, although local catches may have dropped in Vanuatu waters, tuna catch in the broader WCPFC area is increasing annually (Gillet and Ikatonga Tauati, 2018). Vanuatu's reporting has contributed to the WSPFC species stocktakes for the exploited offshore resources (Bigeye, Yellowfin, Skipjack and South Pacific Albacore).



Source: Annual Report to the Commission – Part 1: Information on Fisheries, Research and Statistics (Vanuatu Fisheries Department, 2018)



Source: Annual Report to the Commission – Part 1: Information on Fisheries, Research and Statistics (Vanuatu Fisheries Department, 2018)

Over the past four years, Vanuatu has continued to monitor its offshore fisheries through the Vanuatu National Observer Programme (VNOP), which was established in 2008. The program now has 35 regional certified Pacific Islands Regional Fisheries Observer (PIRFO) observers who observe on purse seniers, long liners and fish carriers that are operating in the Western and Central Pacific Fisheries Commission area. However Vanuatu does still face a challenge to reach 5% coverage of the area as required, and Vanuatu is continuing to develop stricter measures to achieve this coverage. In 2017, the VNOP put into place its first Emergency Action Plan, and Standard Operating Procedures, to improve the program's safety and efficiency. Moreover observers are now being insured, which assist the program to run in a more professional manner and provides an enabling environment in which to collect accurate national fisheries data (Vanuatu Fisheries Department, 2018).

Moreover, a revised Tuna Fishery Management Plan was developed in 2014 by Vanuatu Fisheries Department in collaboration with the Pacific Islands Forum Fisheries Agency (FFA). The key features of this plan are restrictions on the total number of licences, closed areas to fishing and a total allowable catch for each of the four major species of tuna.

With regard to coastal fisheries their status and statistics related to fishing volumes are largely guesswork. However, “there is a general perception that the important coastal resources are increasingly overexploited close to urban areas” (Gillet and Ikatonga Tauati, 2018, p.364). There was also anecdotal evidence given during the interviews conducted for this Sixth National Report by communities around Vanuatu, that overexploitation in rural areas is also an issue for those populations with people observing declines in particular overharvested species.

Reference list:

- Gillet, R. and M. Ikatonga Tauati, ‘Fisheries of the Pacific Islands: Regional and national information’, *FAO Fisheries and Aquaculture Technical Paper*, Food and Agricultural Organisation of the United Nations, Suva, Fiji.
- Vanuatu Fisheries Department, 2018, ‘Annual Report to the Commission – Part 1: Information on Fisheries, Research and Statistics’, *Scientific Committee Fourteenth Regular Session*, Western and Central Pacific Fisheries Commission, Busan, Korea.

National Target(s)

National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities’ livelihoods and 'kastom' importance are conserved through effective community and government management measures.
National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.
National Target 9: By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

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- Operation of the National Observer Programme in tracking offshore fishing vessels.
- Recording of offshore catches during the reporting period and reportback to regional organisations for the control of fishing in the Pacific.
- Development of species-specific fishing management policies.

Progress is left to complete in the following areas:

- Improvement in observer coverage of offshore fishing catches and vessels.
- Improvement in the monitoring of coastal fishing catches and practices.

The tools and methodology used for the assessment of effectiveness included:

- Interview with Vanuatu Fisheries Department Senior Marine Biologist.
- Workshop with Vanuatu Fisheries Department Research Division Manager.
- Interview with Vanuatu Fisheries Department Northern Provincial Manager.
- Analysis of catch data in report 'Annual Report to the Commission – Part 1: Information on Fisheries, Research and Statistics'.
- Literature review of report F'isheries of the Pacific Islands: Regional and national information'.

4.1 - Species Management: Conservation of forest in the area of Homo Bay and Ranwas in South Pentecost (high species diversity and vulnerable)

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes specifically to the implementation of Action SM1.1 in Vanuatu's NBSAP.

The GEF4 project entitled 'Forestry and Protected Area Management in Vanuatu', implemented by FAO and managed through the Department of Forestry focussed on undertaking foundational work for the establishment of a Community Conservation Area in Homo Bay and Ranwas in South Pentecost (FAO, 2017). These activities included undertaking baseline assessments of the flora and fauna in the proposed terrestrial protected area, development and adoption of a CCA Management Plan by

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all stakeholders, as well as related awareness-raising and education, especially targeting community leaders and schools. The establishment of the conservation area officially occurred in 2015, and was successful in implementing these project activities, though the conservation area of 4,277 hectares has not yet been formally registered under the national environmental legislation (FPAM, 2014).

The current GEF5 project, entitled 'Integrated Sustainable Land and Coastal Management', is being coordinated through DEPC and commenced in 2018 (FAO, 2015). The GEF5 project intends to add onto the successes of the GEF4 project, with the communities in this area keen to develop their conservation knowledge further. The project will also assist in the protection of the Nusumetu CCA on Tanna island, which contains *Carpoxylon macrospermum*, an endangered Vanuatu palm species. Other project activities include capacity development for protected area management, investment in physical infrastructure and equipment and development of alternative income-generating activities, with a particular focus on sustainable tourism.

Reference list:

- Food and Agriculture Organisation of the United Nations (FAO), 2015, 'GEF5 Integrated Sustainable Land and Coastal Management Project', *Project Identification Form*, FAO/GEF.
- Food and Agriculture Organisation of the United Nations (FAO), 2017, 'Final Evaluation of the project “Forestry and Protected Area Management in Fiji, Samoa, Vanuatu and Niue (GEFPAS-FPAM)”, FAO Office of Evaluation, Rome, Italy.
- Forestry and Protected Area Management (FPAM), 2014, *Establishment of Bay Homo Protected Area, South Pentecost, Vanuatu; Strategy for the Development of Eco-cultural Tourism in South Pentecost*, Suva, Fiji.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 7: By 2030, 30% of Vanuatu’s natural forest (Forestry) is being actively managed and protected.
National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to

support 100% of local communities’ livelihoods and 'kastom' importance are conserved through effective community and government management measures.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Bay Homo Community Conservation Area established.Conservation area boundary set.
- Community awareness increased.
- Socio-economic analysis and Strategy for the Development of Eco-cultural Tourism in South Pentecost prepared.

Progress is left to complete in the following areas:

- Registration of the site under the EPC Act.
- Monitoring of the conservation area to adequately evaluate the effectiveness of conservation activities.

The tools and methodology used for the assessment of effectiveness included:

- Stakeholder input from GEF5 National Coordinator.
- Stakeholder input from GEF4 National Coordinator (former).
- Literature review of GEF5 Project Identification Form.
- Literature review of Project Terminal Evaluation of GEF4 FPAM project.
- Literature review of FPAM Eco-tourism Strategy documentation for Bay Homo, Pentecost.

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Other relevant website address or attached documents

Video - UN FAO - Conserving and Managing our Forests: Bay Homo Community Conservation Area, South Pentecost, Vanuatu

4.2 - Species Management: Scientific study and community awareness-raising of indigenous flying fox species

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

Vanuatu's NBSAP contains the following action: 'Flying Foxes on Mota – raise awareness of the Mota community that it is the only island supporting four species of flying foxes. Encourage chief, community leaders and landholders to manage the flying foxes and the habitat by implementing conservation site/s and delivering information and education' (SM1.7).

In April 2018, the Vanuatu conservation NGO Vanuatu Environmental Science Society (VESS) conducted a field expedition to Mota island in the Banks group in Torba Province, as well as to some of the Solomon Islands' southern-most islands (Fox, 2018). The purpose of this trip was to complete an ecological assessment and awareness sessions on flying foxes in this part of the country.

During the assessment, scientists from VESS, in collaboration with an external ecologist, found the most rare of the flying fox species to be found on Mota - the Banks Flying Fox (*Pteropus fundatus*), which has only been capture on Mota once before, on a scientific expedition to the island in 1990. The more common Pacific Flying Fox and Fiji Blossom Bat were also captured during the most recent assessment. Community awareness sessions were also undertaken, and communication/education materials were left with the communities (which had been developed by VESS specific to Vanuatu flying foxes), to educate local communities on the ecology and ecosystem services of bats. Feedback from the community indicated their keen interest to learn about their local species. Community members also participated in data gathering processes through a species questionnaire aimed at community members.

From the investigations of VESS, it appears that the range of the Banks Flying Fox could either be smaller, with the bats now restricted to only Mota, a very small island, or much larger than previously thought, and found on five islands in the region (based on information given by Vanua'tai monitors - a nationwide network of voluntary turtle monitors scattered across Vanuatu). Having a clearer idea of where *P.fundatus* can be found would make assessments of the conservation status of this species more accurate. It is also essential to know where the bats are living to be able to put in place conservation actions to help them survive into the future and to identify which communities are in a position to protect these flying foxes.

Very little is known about the ecology of these species. Identifying their roosting places, if they move in a season,

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what they eat and when they breed are all essential to develop effective conservation plans. Some information was gathered in Mota, during the April 2018 project but further study (for which VESS has just applied for funding) will be useful to establish whether the same is true of *P.fundatus* on other islands. Following further information, a conservation program will be developed and implemented in collaboration with local communities to assist in protecting the species.

Reference list:

- Fox, L., 2018, 'Environmental scientists search South Pacific islands for five rare bat species', *ABC News - Pacific Beat*, available at <https://www.abc.net.au/news/2018-05-22/the-quest-to-find-5-rare-bats-in-5-weeks-in-pacific/9783380>

This summary is also based on an in-person interview undertaken in preparation for this Sixth National Report. For interview reference please refer to methodology section below.

National Target(s)

National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.
National Target 9: By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- The first scientific expedition to collect data on the flying fox species of Vanuatu in almost 30 years has been completed.
- Important scientific data was collected and knowledge gaps identified.
- Scientific information has been shared with DEPC for future planning.

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Progress is left to complete in the following areas:

- Further study by VESS of all bat species in Vanuatu and establish their distribution.
- Research into Fijian Mastiff Bat, to understand if the species has a breeding colony in Vanuatu.
- Investigate baseline and distribution map for all bats in Vanuatu, particularly for endemic and regionally-endemic species.
- Further awareness and consultation regarding flying fox species and habitat with communities.
- Development of species management plans in consultation with communities.
- Development of protected areas for species conservation if required.

The tools and methodology used for the assessment of effectiveness included:

- Interview and questionnaire with Vanuatu Environmental Science Society CEO.
- Review of related media article.

Other relevant website address or attached documents

Media article on flying fox expedition

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Cost:** Field research is expensive resulting in limited field data being available in Vanuatu on flying fox distribution.
- **Geography:** Remote locations are more difficult to access, often requiring boat transportation and travel time.
- **Data:** Existing data on specific species is based on one or few expeditions, and thus requires verification. As encountered during the April 2018 expedition, scientific assumptions based on past surveys was contradicted by local knowledge of bat distributions, and new findings. A lack of distribution data also does not allow for narrowing of the study scope.
- **Customary context:** Field teams experience difficulty in being able to complete surveys if issues such as land disputes occur, or permission is denied for them to conduct studies on the customary land of communities where flying foxes can be found.

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4.3 - Species Management: Sustainable management of indigenous megapode populations on Tongoa and Ambrym

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes specifically to the implementation of Action SM1.12 in Vanuatu's NBSAP. Birdlife International and Vanuatu Environmental Advocacy Network (VEAN) have been working for many years on the collection and analysis of scientific data about, and protection of, the namalau (megapode or 'incubator bird' - *Megapodius layardi*), which is an endangered species in Vanuatu. Vanuatu Environmental Science Society (VESS) have been assisting in data analysis and questionnaire development for the project. The Birdlife International and VEAN team have been working on Tongoa in the Kurumambe community. The project has successfully set up a protected area on a 150m cliff just outside of Kurumambe, which is prime nesting habitat for a namalau population, with approximately 300 active burrows in the hillside (VEAN and Birdlife International, 2018). This location is the only known colony location for namalau on Tongoa. Community awareness and data collection (primarily through camera trapping) assisted greatly in the development of a Kurumambe Conservation Management Plan. The primary rule that was established in the plan and through community negotiations was that hunting at the site will be forbidden and no *M.layardi* eggs are to be removed, with the exception of 2 weeks every 4 months when the hunting ban will be lifted (O'Brien, 2019). This is to support local livelihoods which rely on the harvesting of the namalau eggs for income. Based on incubation periods, this should allow at least half of the namalau eggs that are lain to be hatched successfully. The project successfully used findings from both a traditional environmental knowledge questionnaire and discussions in community, and scientific knowledge derived from the trail cameras, to determine an effective resource management plan that should ensure that the namalau population will *at least* maintain its current levels (O'Brien, 2019). The specific management measures will also provide a small but viable harvest of eggs both for immediate consumption and for sale in the market. The project has also set up an alternative livelihood source through the funding of local rangers who will monitor the conservation area. The project has also assisted in building cooperation between Chiefs, customary landowners and the community. Continued discussions and data collection regarding egg harvesting will be the basis for future work in this area by the same group of scientists and local conservationists. This has led the community to the development of a conservation management plan (in draft form) (Community of Kurumambe, 2018). The team is also assisting the conservation committee in commencing discussions with the relevant agencies to	EN

develop ecotourism planning for the conservation area to showcase how the communities live and work in harmony with their environment is the ultimate aim of the ecotourism market.

An informative presentation on the monitoring program at Kurumambe is provided below (VEAN and Birdlife International, 2018).

A similar project led has also been recently established on the west of the island of Ambrym. The project is called the West Ambrym Mehle Conservation Area and is led by the West Ambrym Mehle Conservation and Development Committee, with the support of VEAN and Birdlife International. Efate and Epi (also signalled in NBSAP for implementation of similar activities) have not yet been targeted for namalau conservation measures. Recent workshops at Ambrym have included the presence of Roy Harry, chair of the Kurumambe Conservation Committee, which reportedly, was particularly helpful, as a sharing experience between the two organisation. This cross-pollination approach will be developed whenever possible in future projects. The two organisations will now maintain a dialogue and take opportunities to jointly discuss next steps.

VEAN has also been liaising with communities on the west coast of Santo (in or adjacent to the Santo Mountarin Range Priority KBA) and developing links and contacts with people there who have shown an interest in developing conservation plans for the namalau.

Reference list:

- O'Brien, M., 2019, 'Preparing and Implementing a Management Plan for Megapodes on Tongoa, Vanuatu', *Critical Ecosystem Partnership Fund (CEPF) Final Project Completion Report,* Birdlife International, Suva, Fiji, available at <https://www.cepf.net/sites/default/files/final-report-65966.pdf>
- Community of Kurumambe, 2018, *Draft Kurumambe Community Conservation Plan,* not published.
- Vanuatu Environmental Advocacy Network (VEAN) and Birdlife International, 2018, *Monitoring of Vanuatu Scrubfowl burrows at Kurumambe, Tongoa, Vanuatu,* powerpoint presentation, Port Vila, Vanuatu.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved

through community and government effective management measures.
National Target 9: By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been effective.

Progress has been achieved in the following ways:

- Strong community ownership of the project has been fostered with the support of VEAN and Birdlife International.
- Successful co-development of conservation management measures that are both environmentally and socially sustainable.
- Collection and analysis of scientific data which has been used to develop resource management measures.
- Ongoing relationship developed between the community and supporting organisations.
- Successful model to transfer to other significant megapode populations and their communities.

Progress is left to complete in the following areas:

- Development of a sustainability plan for the management plan, livelihood options and ranger program for Kurumambe community
- Further development of ecotourism potential of the site and fostering of dialogue between the community and island-based tourism committee
- Completion of data collection and analysis, community consultation and development of a management plan at Mehle, Ambrym

The tools and methodology used for the assessment of effectiveness included:

- Interview and questionnaire with Vanuatu Environmental Advocacy Network (VEAN) CEO.
- Expert advice from Birdlife International Ornithologist.

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- Literature review of CEPF final report by Birldife International 'Preparing and Implementing a Management Plan for Megapodes on Tongoa, Vanuatu'.
- Literature review of draft Kurumamabe Conservation Area Management Plan.
- Review of illustrated powerpoint 'Monitoring of Vanuatu Scrubfowl burrows at Kurumambe, Tongoa, Vanuatu'.

Other relevant website address or attached documents

Final report - Preparing and Implementing a Management Plan for Megapodes on Tongoa, Vanuatu
Presentation - Monitoring of Vanuatu Scubfowl burrows at Kurumambe, Tongoa, Vanuatu.pdf

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Scientific process:** The presence of cameras at the burrows, for the purposes of data collection, were both a serious deterrent to would-be invaders of the site, and a serious reason for protecting the site and ensuring that there were no intruders. By removing the cameras at the end of the project we removed the main deterrent. Returning the cameras solely to deter intruders may need to be discussed as a management approach. The cameras also led to no visits to the burrows, and the burrows then becoming overgrown and not suitable for use by the namalau - driving the species away from those particular burrows that were previously high-use.
- **Awareness/education:** The Kurumambe community is worried about invasions of the burrows from other villages (rather than internal disrespect for the local tabu).
- **Benefit-sharing:** Landowners of the cliffs at Kurumambe asserting claims over benefits arising from the colony is a difficult area to negotiate.
- **Sustainability:** There are concerns about the longer term ability to police the tabu and maintain suitable control over access to the cliff face.
- **Invasive species:** One issue to address is the presence of cats in the area. Cats are known to be significant predators of scrubfowl chicks (based on research in Australia) and were the most commonly recorded predator on the camera traps.
- **Consultation process:** Implementation of the project in Kurumambe emphasised the need to maintain a continuous dialogue with the local community undertaking the conservation actions. It was found that

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new issues and questions were raised, and potential solutions proposed, at each consultation session. Being invested for the long-term assists these issues to be sorted out collaboratively at a suitable pace for the community involved.

- **Government involvement:** This imitative has been proactively carried out by a local environmental NGO, however the government has not been involved or included in the consultation and collaboration process. As such there could be future disconnect between national and local policy and activities in this area. Moreover for national reporting, a lack of cohesive awareness of all activities at the subnational level poses an issue for the national government.

4.4 - Species Management: Conservation activities towards protection of the Collared Petrel

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Vanuatu's NBSAP contains measures related to the conservation of the Collared Petrel on Tanna and Vanua Lava, and of the Vanuatu petrel on Vanua Lava (DEPC, 2018) (Action SM1.13). The Collared Petrel is listed as vulnerable on the IUCN Red List. Thus far, no work on the Collared or Vanuatu petrel species has been undertaken on Vanua Lava.

On Tanna, awareness and conservation activities related to the Collared Petrel (*Pterodroma brevipes*) have commenced. The Collared Petrel is known in the local indigenous language as 'tekrkak', and a population is known to nest in the vicinity of Mt. Tukusmera in the south-west of the island of Tanna (one of only 4 islands in the Pacific on which the bird is found), near the village of Imaio (VEAN, O'Brien and Britton, 2016).

Traditional knowledge of the species indicates that the bird nests at Mt. Melen and in the surrounding mountains in June/July (Birdlife International, 2016). It has been observed locally that the population of tekrkak is decreasing due to heavy poaching of the chicks during the nesting season. A short documentary commissioned by VEAN, on the traditional environmental knowledge of local hunters regarding the tekrkak, is provided below. The communities in the area have also composed a song about the tekrkak which is sung by local string bands (traditional Vanuatu musical ensemble consisting of guitar, ukulele and box bass).

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Conservation-related activities commenced formally on Tanna. In 2015 and again in 2016, VEAN, in collaboration with local environmental organisations Taule Taule and Tarepman, conducted community awareness sessions, and collected anecdotal evidence and traditional environmental knowledge regarding the species. During these visits the village people learned about the endemism of the Collared Petrel, and their potential extinction due to uncontrolled harvesting and other human activities in the area such as clearing the forest for gardening and logging for construction needs.

Since then, Birdlife International and Vanuatu Environemtal Advocacy Network (VEAN) have continued work towards the development of solid management activities, supporting the establishment of the Tekrkak Conservation Area Committee in 2018, which is comprised of representatives of the five customary tribes in the area. There is currently a customary prohibition on the hunting of the tekrkak, which is enforced verbally by the members of the conservation committee and the chiefs. However, the community wishes to make a management plan for the species, and will be assisted in this venture by Birdlife International and VEAN. Monitoring of the species via camera traps is also being considered, to better understand the local distribution and population of the birds.

The communities and newly-formed conservation committee is now looking to set up a species management plan for the Collared Petrel.

Reference list:

- Birdlife International, 2016, *Collared Petrel near extinction*, YouTube video, available at <https://www.youtube.com/watch?v=Gim-5z16MTI&feature=youtu.be>
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.
- Vanuatu Environmental Advocacy Network (VEAN), O'Brien, M. and M. Britton, 2016, 'Learning from the Experts – talking to traditional harvesters of Collared Petrels in Tanna, Vanuatu', *Birdlife International - Pacific,* website, available at <https://www.birdlife.org/pacific/news/learning-experts-%E2%80%93-talking-traditional-harvesters-collared-petrels-tanna-vanuatu>

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.
National Target 9: By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Community momentum has grown for the development of protection measures for the species.
- Conservation committee has been established with strong support from all relevant chiefs and communities in the area.
- VEAN has been an effective local NGO in coordinating with Tanna-based community organisations, to empower the communities to commence establishing governance structures for conservation, and producing awareness materials relating to conservation.

Progress is left to complete in the following areas:

- Birdlife International collaboration is to follow with international scientific expertise being able to assist the development of a sustainable resource management plan.

The tools and methodology used for the assessment of effectiveness included:

- Community consultation session including questionnaire with Tekrak Conservation Committee Imaio (Chief and committee representatives).
- Expert input from Vanuatu Environmental Advocacy Network CEO.
- Review of article by Birdlife International and VEAN ‘Learning from the Experts – talking to traditional harvesters of Collared Petrels in Tanna, Vanuatu’.
- Video review of 'Collared Petrel near extinction'.

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Other relevant website address or attached documents

Video - Traditional environmental knowledge on the tekrak population on Tanna
Article - Birdlife International - Learning from the Experts – talking to traditional harvesters of Collared Petrels in Tanna, Vanuatu

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Awareness and education:** As reported by the Imaio village chief, children are not being educated in environmental protection, with many ignoring local hunting prohibitions. A need was identified for the local school curriculum to include information about the tekrkak.
- **Environmental officer:** The Imaio chief requested a local conservation officer and more regular government visits to assist in raising awareness regarding why and assisting in the enforcement of conservation rules.
- **Enforcement power:** The community would like for the chief to be given power for strong enforcement of hunting bans through a management plan.

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4.5 - Species Management: Conservation activities towards the protection of the Coconut Crab

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Vanuatu's NBSAP contains a measure to conserve coconut crab habitat on Hui, Tegua, Loh, Toga Linua and Metoma in the Torres Islands group, and in turn, the species in its entirety (Action SM1.9).

The coconut crab (*Birgus latro*) is the largest land crab and an important food source in Vanuatu. Since 2014, the crab has been listed as an endangered species in Vanuatu, due to overharvesting.

At present, coconut crab habitat is protected in theory through localised 'tabu' areas on some upland parts of the islands of Loh, Linua, Toga and Metoma in the Torres Islands group, and some islands of the Banks Islands group further south, in which areas the collection of crabs is prohibited (Torres Area Administrator anecdotal evidence,

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2019).

There is a very healthy crab population on Metoma Island, due to a single family residing on this island, and a strong enforcement of the tabu by the head of the family. However, it has been noted that with the exception of Metoma island, local tabus on areas or harvesting are not enough to effectively protect the species. The remaining islands in the Torres group reported that population of crabs, and their habitat range is steadily decreasing (Jacob et. al, 2016) with remaining populations moving further towards the interior of the islands and crabs becoming more “difficult to find” (Torres Area Administrator anecdotal evidence, 2019). Villagers on Toga Island report that coconut crabs are now extremely difficult to find on the island. Tegua Island is one of the last islands reporting a large stock of crabs on the island. Villagers from Loh and Hiu islands regularly travel to Tegua to harvest coconut crabs to sale.

The hunting and sale of coconut crabs remains one of the most important livelihood options for the people in the Torres Islands, with crabs able to generally sell for US$2.00 per kilogram, with an average-sized crab usually fetching approximately US$15-20 each. In Port Vila, crabs can fetch around US$50 per crab, which encourages people to export to Port Vila via whichever means available, whether in line with, or skirting legal regulations. Coconut crab is exported by cargo ship when available and bi-weekly flights from Air Vanuatu, as well as consumed locally year-round (Jacob et. al, 2016).The sale of coastal resources is moderately regulated and depends on the availability of weekly flights to facilitate the transport of lobster and coconut crabs. Coconut crabs are also sent to market via cargo ship approximately once a month while in season.

The Vanuatu Fisheries Department is the leading authority on the monitoring and enforcement of laws relating to coconut crab harvesting, although enforcement of regulations is challenging on the Torres. Restriction of crab sales during the breeding season is largely focused on the “commercial” sale at markets or to restaurants and hotels - while the consumption and collection of crab reportedly continues locally within the Torres Islands during the restricted season. A quota to limit the number of crabs allowed for export or consumption on the Torres each year is regularly surpassed according to the Torres Area Administrator. Crabs sent via freight to agents on Air Vanuatu flights are counted by the voluntary resource monitor on Loh Island who has received training from Fisheries (Jacob et. al, 2016).

However, individuals traveling by plane or ship are able to export crabs that are not always counted as part of the quota, and many sales take place and are transported on a regular basis outside of the official data record which is reported to Vanuatu Fisheries Department. Locals regularly harvest more crab than can be allocated onto the Air Vanuatu flights due to weight restrictions for freight on the small aircraft.

Moreover, crabs can only be sold through a licenced vendor, of which there is only one in the Torres group. As a result, local community members have been finding alternative ways to send crabs to Port Vila due to the imbalance of power and reported issues relating to this. In addition, quota numbers are allocated by VFD per island. However, when quotas on a particular island are not filled, the quota balance is shifted to the permissible number of harvested crabs on another island, leading to a more rapid decline of the species on selected islands where the quota number has been shifted (Torres Area Administrator anecdotal evidence, 2019).

While there are protected areas in the upland and coastal areas where coconut crab harvest is forbidden on Hiu, Tegua and Loh islands - locals report that many people violate these restrictions and secretly harvest from these areas due to the financial incentive of collecting crabs. There are also closed hunting seasons in some locations, though the appeal of poaching for financial reasons often sees these types of tabu rules ignored. Further restrictions on the harvest of coconut crab or resource management plans will not be viewed as sustainable by locals if a comparable and alternative source for income generation is not provided. Due to higher populations of villagers vying for the same depleting resources, it is generally accepted that coconut crab cannot continue to serve as a primary income source for future generations and that support to strengthen and enforce an improved management plan for coconut crabs is needed to preserve this valuable resource for future harvest.

Reference list:

- Jacob, N., Tabi B., Lolvin, D., Bani, M., and M. Hardwick, 2016, *Torres Islands Area Council, Torba Province - Vulnerability and Needs Assessment Results - VCAP Site*, Adaptation to Climate Change in the Coastal Zone of Vanuatu (VCAP) Project, United Nations Development Programme.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.
National Target 9: By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been ineffective

tools or methodology used for the assessment of effectiveness above

The measure taken has been ineffective.

The management of the measure has been ineffective in the following ways:

- The locally protected areas are ignored in favour of crab harvesting, due to the reliance on this resource as a primary source of income for the small islands in the Torres Islands. Local penalties for harvesting crabs are either not enforced, or not strong enough to stem the hunting of the species.
- Recording of export data is corrupted, and many crab sales are made and crabs transported to Port Vila on a regular basis, which are outside the official record. This poorly managed activity has been occurring for many years, with no effective monitoring of the impact on the species with the exception of local anecdotal reports.
- Non-compliance penalties are not enforced by officers from the Vanuatu Fisheries Department

The tools and methodology used for the assessment of effectiveness included:

- Consultation session and interview with the Torba Provincial Government Torres and Ureparapara Area Administrator and Torba Provincial Government staff.
- Stakeholder input from the Vanuatu Fisheries Department Acting Director, Northern Division and Vanuatu Fisheries Department Torba Extension Officer.
- Verification literature review of UNDP Adaptation to Climate Change in the Coastal Zone of Vanuatu (VCAP) – Torres Area Council Vulnerability and Needs Assessment Results report.

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Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Livelihood options:** Further restrictions on the harvest of coconut crab or resource management plans will not be viewed as sustainable by locals if a comparable and alternative source for income generation is not provided. Due to higher populations or villagers vying for the same depleting resources, it is generally accepted that coconut crab cannot continue to serve as a primary income source for future generations, and that support to strengthen and enforce an improved management plan for coconut

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crabs is needed to preserve this valuable resource for future harvest.

- **Monitoring and enforcement:** Current monitoring of the issue by the regulating authority and their relevant provincial extension officers is not sufficient. Monitoring exists only through the recording of sales data, with no cross-checking being undertaken through environmental monitoring of populations on the ground. Records are knowingly inaccurate and no investigations have been conducted as a basis for enforcement of serious non-compliances. Corruption within the licensing, sale and transportation process has led to severe overharvesting of the species, which has led to declines in populations and impacts on the species as a whole.
- **Location:** The Torres Islands are one of the most remote locations in Vanuatu. Flights are expensive, making travel to the islands to conduct regular work, an obstacle. There is only one airport on the island of Loh, which receives flights approximately twice a week. Travel between islands can occur only by boat.
- **Resource demand:** The primary purchaser of coconut crabs in Vanuatu is the hospitality and tourism industry, with restaurants regularly listing coconut crabs on their menus. The Vanuatu tourism brand promotes the eating of coconut cab as an exotic experience, with tourist demand for crab remaining high.

4.6 - Species Management: Conservation activities for the protection of leatherback, green and hawksbill turtles

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action SM1.17 in Vanuatu's NBSAP which is dedicated to the conservation of all of Vanuatu's turtle species.

The Vanua'tai Resource Monitors Network is a nation-wide network of volunteer resource monitors, whose focus rests primarily with the conservation of leatherback, green and hawksbill turtles found in Vanuatu.

Turtle monitors have continued to be actively engaged in the networks activities from 2014-2018. Monitoring activities proceeded generally as planned and Vanua-tai held Annual General Meetings in each of these years, which brings together the majority of turtle monitors from across Vanuatu. From 2014-2017 the Vanua'tai has worked to; control crown of thorn starfish, relocate ‘at risk’ turtle nests, conduct general turtle population monitoring as well as monitoring of the reef and marine resources in partnership with Vanua'tai subnetworks. Currently there are 435

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male monitors and 35 female monitors (active) which is a total of 470 active monitors across Vanuatu.

A key partnership for Vanua'tai is the Island Reach research vessel (refer to Implementation Action 2.3) which assists staff in trainings and transport to important meetings and workshops in different Islands. IR also provided monitors with information on coral gardening techniques and demonstrated to the monitors how to properly plant coral gardens. Island Reach also helped Vanua'tai facilitate a women's AGM and women's monitor workshop in the Banks Islands. Information on Vanua'tai's turtle nesting relocation sites was also shared at the AGM and in relocations sites on Malekula, 60 Green and 30 Hawksbill nests were relocated by monitors at the time of this report (2017/2018 nesting session).

In late 2017 a 'Volunteer Environmental Advisor' was recruited to provide technical assistance and additional training/ management to the network. He assisted the network to better develop their strategic plan and develop ways information on nesting and other scientific data can be fed-back to communities in an effective way. The network was then able to undertake more detailed scientific follow up studies to conclusively report on the effectiveness of the pilot nest relocation program.

National Target(s)

National Target 9: By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Important and nationally-significant baseline data has been collected on turtle species across Vanuatu.
- Important conservation work has been continued over this reporting period in relation to turtles and the marine environment.

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- Continuation of Vanuatu's most important, well-established and far-reaching network of community volunteers and environmental advocates.

Progress is left to complete in the following areas:

- Improvement in the consistency and reliability of data collected.
- Capacity building in management skills and improved organisation management for the VRMN.
- Scientific assessment of turtle tagging and tracking methods to enusre they align with international standards.

The tools and methodology used for the assessment of effectiveness included:

- Interview with Mota Lava Vanua'tai Resource Monitor.
- Interview with Vanua Lava Vuslengleng Vanau'tai Resource Monitor and Vanua Lava Environment Network founder.
- Stakeholder input from Vanua'tai Volunteer Environmental Advisor (2018).
- Review of Wan Smolbag website.

Other relevant information

Case study: Yemen Turtle Conservation Area and the Vanua Lava Environment Network The Yemen Turtle Conservation Area is managed by Alphonse Yemen of the Vuslengleng area of Vanua Lava in the Banks island group in Vanuatu. Alphonse is also the chairperson and founder of the Vanua Lava Environment Network, which is comprised of all customary environmental chiefs from the island of Vanua Lava. In 2013 he instigated a 10 year island-wide ban prohibiting the killing of turtles in the waters around or on Vanua Lava. The 'tabu' in place for Yemen Turtle Conservation Area came into being in 2014, and now includes prohibition of the killing of fish, lobster, crocodiles and any other marine life (plant or animal). The penalty for killing a turtle is 10,000vt and for killing a turtle egg the fine is 15,000vt (approximately USD$150). The success of the conservation area is evident, with the area heavily populated with the hawksbill turtle, and being a main feeding ground for the species. Alphonse noted that he has observed a major increase in the population of turtles since the ban and conservation area came into being.

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Other relevant website address or attached documents

Video - Turtle feeding ground at Yemen Turtle Conservation Area

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Data reliability:** Whilst the Vanua'tai is an incredibly important network in Vanuatu, for both advocacy and information collection purposes, the lack of consistency in the data sets and its ad-hoc nature makes it difficult to rely on a 'national dataset' for turtle species from this organisation, for the purposes of making sound science-based conservation decisions. This is of course related to the difference in levels of monitoring activity between monitors across Vanuatu, and their capacity to collect and understand data. In large, the community monitors set an excellent example for their communities, with many having established conservation areas in their local areas, which they continue to enforce.
- **Data transfer:** Recently, the Vanua'tai set up a facebook page, the primary purpose of which was to provide a realistic platform for monitors to photograph and send in their monitoring sheets. This has improved the receipt of information at the Vanua'tai headquarters in Vila, though the data remains patchy with many monitors not conducting regular monitoring.
- **Funding:** The Vanua'tai faces major challenges with funding and having adequate budget to cover the extent of the network. As such, many members of the network feel disconnected, and it becomes difficult to maintain cohesiveness between members.

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4.7 - Species Management: Conservation activities for the protection of dugongs and seagrass

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action SM1.18 in Vanuatu's NBSAP.

The Vanuatu Environmental Science Society (VESS) has been working on the GEF-funded global Dugong and Seagrass Conservation Project and acts as the implementing partner of this project for Vanuatu activities, in collaboration with DEPC and the VFD. Since 2014, the project has had two phases of funding.

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A major outcome of the project has been the identification of dugong ‘hotspots’ around Vanuatu, in which to focus further conservation efforts related to the protection of dugongs and their habitats. Baseline data collection occurred through a national survey, using a questionnaire developed by VESS, produced in line with CMS (Convention on the Conservation of Migratory Species of Wild Animals) standards. Through this survey data was collected on dugong bycatch, fishing practices, dugong and turtle sightings, seagrass spread and perceptions of changes in species populations. This information was then transformed into maps, which was then overlaid with mapping of areas that are suffering from pressure due to Gillnet fishing. Of this overlay, 20 dugong hotspots were identified. A prioritisation workshop was then conducted with in-country expert stakeholders to identify six priority dugong hotspots around Vanuatu which include:

- South Efate
- North Efate
- Maskelynes and south-east Malekula
- South and south-east Santo
- Emae
- Epi

In five of these hotspot areas, workshops have been conducted in the field, to increase awareness of the importance of the areas to the local communities and to being discussions regarding conservation measures specific to dugong in these locations. All workshops are conducted through the networks of Vanuatu Fisheries Department and the Vanua’tai Resource Monitors Network with whom they work closely.

This nationally-significant data has also been used to inform the development of the MACBIO Biophysical Special and Unique Marine Areas (SUMAs). Steps following will include the encouragement and guidance of the development of conservation measures for those communities around dugong hotspot areas.

In addition to the survey-based data, a trial survey has also been conducted using aerial drones, in collaboration with Murdoch University's marine megafauna research. As part of this work, local scientists from VESS were trained in dugong identification and survey techniques using aerial drone methods. This method will be extremely useful for validation of community survey data in the future.

VESS has also been leading work to assist in strengthening policy relating to dugongs and seagrass. Legal instruments which protect dugongs in Vanuatu include the Fisheries Act and the Fisheries Regulation Order, which

prohibits the taking, killing, consuming, possessing, exporting, selling or purchasing of the full or part of any marine mammal. To support the existing legislation, VESS has authored and published the documents 'Guidelines for Interacting with Dugongs' and 'Code of Conduct for Tourism Operators Interacting with Dugongs', which will be used by the Department of Tourism as part of their eco-tourism accreditation program for tourism operators (VESS, 2018a and VESS, 2018b). In addition, VESS is developing recommendations for inclusion in a new National Action Plan for Dugongs and Seagrass – an official national government policy document that will be hosted by the Vanuatu Fisheries Department.

With regard to seagrass specifically, VESS scientists have been trained in seagrass identification, and have subsequently conducted surveys of seagrass, taking specimens for keeping in Vanuatu's national herbarium. So far, seagrass surveys have been conducted in Erakor and Paunangisu on Efate twice, in Lamap on Malkula three times and in the Banks islands twice by Vanua'tai monitors.

Dugong, seagrass and flying fox information has also been published on the Global Biodiversity Information Facility, with whom VESS are collaborating to provide more updated biodiversity information for Vanuatu.

In addition to these measures, VESS have created awareness materials to support community awareness about the project and the species, including the Dugong and Seagrass Conservation Community Awareness Toolkit and the Dugong and Seagrass Facts Posters. The toolkit is an introductory tool for communities to increase awareness relating to facts about the species, outcomes of the national dugong survey and policies around dugongs.

Reference list:

- Vanuatu Environmental Science Society (VESS), 2018, *Guidelines for Interacting with Dugongs*, Dugong and Seagrass Conservation Project, available at <https://www.vanuatuconservation.org/guidelines-for-interacting-with-dugongs/>
- Vanuatu Environmental Science Society (VESS), 2018, *Code of Conudct for Tourism Operators Interacting With Dugongs*, Dugong and Seagrass Conservation Project, available at <https://www.vanuatuconservation.org/guidelines-for-interacting-with-dugongs/>

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.
National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.
National Target 9: By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Important and nationally-significant baseline data has been collected on dugongs and seagrass across Vanuatu.
- Prioritisation of dugong hotspots has occurred based on scientific data and expert opinion, as well as spatial information on high-risk threats.Guideline documents have been developed for cross-sectoral use for the protection of dugongs.
- Policy development is in progress for a national-level plan of action relating to dugongs and seagrass.
- Scientific survey work is progressing and upskilling of local ecologists will continue, creating a local base of knowledge in-country.
- Awareness documents have been developed and used in communities to increase awareness of dugongs and risks to the species.

Progress is left to complete in the following areas:

- Completion of the National Plan of Action on Dugongs and Seagrass.
- Further awareness and community outreach in priority hotspots relating to the development of protected areas and/or management plans for the species and other resources.

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- Development of proposals for future dugong and seagrass conservation projects in Vanuatu.

The tools and methodology used for the assessment of effectiveness included:

- Stakeholder input from Vanuatu Environmental Science Society CEO
- Review of VESS website
- Review of Guidelines for Interacting with Dugongs
- Review of Code of Conduct for Tourism Operators Interacting with Dugongs

Other relevant website address or attached documents

Guidelines - Dugong and Seagrass Project - Vanuatu Environmental Science Society
Booklet - Dugong and Seagrass Project - Dugongs and their Seagrass Habitat
Poster - Dugong and Seagrass Project - Dugong Facts Poster

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Funding:** Grant-based funding is being used for the implementation of these dugong and seagrass conservation activities. The scope of the project is constrained by available funding and activities are likely to decrease on completion of the project timeline. Sustainable financing to continue dugong and seagrass conservation measures will be required.
- **Resourcing:** VESS, whilst greatly assisting DEPC in accepting the role of becoming national implementing partner for this project, is a small organisation with limited staff. Moreover, VESS is a capacity-building organisation, which focuses on upskilling local environmental scientists. As such, management of the organisation is stretched in providing oversight, capacity building and project management duties.

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5.1 - Management of Invasive and Alien Species: Awareness and education materials and sessions

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Vanuatu’s NBSAP and national targets focus heavily on actions targeting invasive species, which are the biggest threat to biodiversity in Vanuatu (DEPC, 2018) (Action MIAS1.1, MIAS1.2 and MIAS1.4). One key measure to achieve is to increase awareness of the threat of invasive species across the country, in communities, schools and in government.

The main work on invasive species awareness and education has been carried out by the Department of Environmental Protection and Conservation (DEPC), Live and Learn Vanuatu and Department of Biosecurity, with some work on crown of thorns starfish undertaken by Department of Fisheries.

Department of Environmental Protection and Conservation: Opportunistic awareness sessions

Work targeting invasive species awareness specifically was temporarily on hold at DEPC due to the vacancy of the Biosafety and Invasive Species Officer between 2014 to end 2017, at which point a new officer was employed.

Awareness and outreach regarding invasive species is often undertaken on an opportunistic basis, with the Biosafety and Invasive Species Officer conducting community or school education sessions in addition to other project or donor activities occurring in the field. Awareness sessions conducted in the last 12 months include a high school presentation related to the Indian Mynah bird, followed by an eradication program at the same school. The Biosafety and Invasive Species Officer is also commencing planning for new educational materials at present. A national awareness schedule/program is yet to be developed, and will likely continue to occur on a project-by-project basis due to funding constraints.

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Live and Learn Vanuatu: Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)

Between 2011 to 2016, Live and Learn Vanuatu undertook a large program regarding invasive species, which included the development of many awareness materials and running of many education sessions related to their field activities. The majority of the communications-based work occurred in the final year of the project (Live and Learn, 2016).

The awareness materials produced for the project are outlined in the table below.

Material produced	Audience and purpose	Total printed
Invasive Species Media Guide	Journalists, reporters, photographers, environmental writers and other people working within, or having an interest in, media and communication roles in Vanuatu. Also very useful for students.	1,000 English 400 French
Invasive Species Community Flipchart	To support community groups working to address the issue of invasive species in Vanuatu. These groups can include farmers, NGOs and other agencies. Government ministries, high schools, universities and colleges may also find the chart useful.	400 English 100 French
Invasive Species Pocket Guide	Farmers, agriculture extension officers, environmental professionals, students, community groups, NGOs and other land managers in Vanuatu.	1,850 English 1,040 Bislama
Invasive Species in Vanuatu DVD	Farmers, agriculture extension officers, environmental professionals, students, community groups, NGOs and other land managers in Vanuatu.	500 copies Bislama with English subtitles
Priority Species Posters	To raise awareness among students, teachers, communities and general public.	1,000 Bislama 210 English
Invasive Species Teachers Guide	Primary and secondary school teachers (subject: agriculture, forestry, environment, climate change), National Curriculum Unit	160 English 100 French
Merremia Peltata Community Handbook	Farmers, agriculture extension officers, environmental professionals, students, community groups, NGOs and other land managers in Vanuatu.	200 English 300 Bislama
Merremia Peltata Community Management DVD	Farmers, agriculture extension officers, environmental professionals, students, community groups, NGOs and other land managers in Vanuatu/other countries.	500 copies Bislama with English subtitles
Database sticker	Teachers, students, biosecurity and agriculture officers, anyone that would benefit from information on the National Invasive Database	2,000 Bislama

Source: Interpreted from Final Narrative Report - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS) (Live and Learn Vanuatu, 2016)

The links to the materials is given below. Resources were developed with considerable input from all target audiences and relevant government departments.

The educational materials were distributed to 105 primary schools and 25 secondary schools (130 schools total) in Efate, Santo and Tanna in November 2016. Distribution also occurred though relevant government departments (Agriculture, Forestry, Biosecurity, Environment), to ensure information was passed onto trained experts who could then pass knowledge onto the community during their field visits. Materials were also shared with local farmers, participants of invasive species workshops, regional workshops, invasive species stalls at Forestry Week, university and public libraries, collected by NGOs, delivered to students at Vanuatu Agricultural Collect and to the Vanuatu Farmers Association.

Live and Learn also produced:

- 8 articles in the Daily Post (local newspaper)
- 9 posters in English and Bislama on individual invasive species which were of potential future threat to Vanuatu
- Radio interview with Radio Vanuatu (national broadcaster)
- Social media promotion.

Live and Learn also ran numerous workshops and training regarding invasive species to communities and government stakeholders around the country. Sessions undertaken in the last year of the project included (Live and Learn, 2016):

- Plot management committee training – Tanna – February 2016: 11 participants, farmers and community members involved with the demonstration plot for eradication of M.peltata in Port Resolution, Tanna.
- Santo stakeholders workshop – Luganville – June 2016: 7 participants, government and CSO stakeholders, to distribute and test resources and provide training in village-based ‘Merremia Management Model’.
- Money story and community governance training – Tanna – July 2016: 7 participants, farmers and community members to help farmers improve their finance management related to crops.
- Pacific Invasive Learning Network (PILN) international workshop – Samoa – August 2016: 2 Live and

Learn representatives from Vanuatu and 2 NISTAC members from Vanuatu participated in information and resource- sharing workshop.

- National Invasives Workshop – Port Vila – August 2016: 29 participants from government, civil society and private sector, to bring together all key stakeholders in Vanuatu to further an open dialogue on current projects and future plans in working to minimize the impacts of Invasive Species in Vanuatu.
- Invasive species school curriculum training workshop – Port Vila – August 2016: 15 participants, primary and secondary teachers, Vanuatu Teachers Institute of Education and Vanuatu Curriculum Development Unit. The training facilitated the mapping of existing knowledge and current invasive species teaching in classrooms, and worked with participants to scope gaps, and the potential use of existing resources. Lesson plans were developed for grade 1 through to grade 13. The workshop provided the material to develop the Teachers Guide, a resource aimed specifically for teachers of any year level. This has laid the foundations for ongoing training and education about Invasive Species across Vanuatu targeted at youth by schools in Tafea, Sanma and Shefa who will have access to school sets of invasive species resources and the accompanying teachers guide to assist in using these resources in their classrooms. At present, one subject in the Vanuatu school syllabus on invasive species, entitled 'Quarantine in Vanuatu' which is part of an Agriculture course, compulsory to study between Years 7 to 10.
- Database management workshop – Port Vila – November 2016: 14 participants, members of NISTACC, DEPC and Department of Biosecurity, to hand over national invasive species database to members of relevant government departments and the NISTACC.

Department of Biosecurity: Specific control-related awareness

Vanuatu has nine biocontrol agents which have been intentionally introduced to prevent spread of eight weed species (Day and Bule, 2016). At the time of release of these agents, community consultation sessions were undertaken, and materials were produced (leaflets, pamphlets, posters, and radio and video materials) to educate people about the species and the new control agents, though the physical and electronic copies of these have now been misplaced. These materials have all be lost since the awareness was undertaken. Visits were made to close to all main islands in Vanuatu, including Aneityum, Tanna, Efate, Emae, Epi, Malekula, Pentecost, Santo, Ambae, Vanua Lava, Torres islands and Gaua.

Department of Fisheries: Crown of thorns awareness

The marine invasive alien species of most threat to Vanuatu is the crown of thorns starfish. Awareness

materials have been created in relation to the crown of thorns, published by Vanuatu Department of Fisheries and the Shefa Province Tourism Office, who ran a crown of thorns awareness and eradication program with the assistance of an Australian Volunteer for International Development from 2013 to 2015, mainly in relation to a 2014 outbreak of COTs (Graham, 2015). Since then, no new materials have been created with regard to the COTs. There is also an online reporting tool for Crown of Thorns sightings (VFD, 2014), which is kept by Vanuatu Fisheries Department, though as of 2019 this database is not actively managed.

Reference list:

- Day, M.D and S. Bule, 2016, 'The status of weed biological control in Vanuatu', In: Daehler C.C, van Kleunen M, Pyšek P, Richardson, D.M (Eds), *Proceedings of 13th International EMAPi conference*, Waikoloa, Hawaii, NeoBiota 30: 151–166.
- Department of Environmental Protection and Conservation (DEPC), 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.
- Graham, S., 2015, *Crown of Thorns Factsheet*, Shefa Province Travel, available at <https://shefatravel.weebly.com/uploads/8/6/5/4/86548548/crown_of_thorns_fact-sheet.pdf>
- Live and Learn Vanuatu, 2016, *Final Narrative Report - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)*, Port Vila, Vanuatu.
- Vanuatu Fisheries Department (VFD), 2014, 'Crown of Thorns sightings', Reporting database, Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity, available at <https://fisheries.gov.vu/index.php/crowns-of-thorns/reports-cot>

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 10: By 2030 Vanuatu's invasive alien species and pathways are identified and prioritised, priority

species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
National Target 12: Communities' understanding on invasive alien species is increased.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Live and Learn Vanuatu ran an extensive, very successful and extensive program until 2016, which covered many locations, stakeholders and topic areas within the field of invasive species.
- A variety of high quality materials have been produced and distributed which are well-targeted at their intended audiences, and will be practical tools into the future.
- The work Live and Learn undertook covered an important gap in invasive species awareness in Vanuatu during the period of the project funding.

Progress is left to complete in the following areas:

- Sustainability plan to be developed for invasive species awareness programs to continue across communities in Vanuatu.
- The government departments involved in invasive species control are yet to plan national awareness programs in coordination.
- Funding streams for invasive species awareness are yet to be planned for and confirmed.

The tools and methodology used for the assessment of effectiveness included:

- Interview with DEPC Biosafety and Invasive Species Officer
- Interview with Live and Learn Vanuatu Program Manager.
- Interview and questionnaire with Department of Biosecurity Plant Health Officers.
- Interview and questionnaire with Department of Biosecurity Acting Director Northern Division.
- Expert advice from Department of Fisheries Senior Marine Biologist.

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- Literature review of Live and Learn Final Narrative Report - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS).
- Literature review of Live and Learn invasive species materials package.
- Literature review of article ‘The status of weed biological control in Vanuatu’.
- Literature review of Shefa Provincial Government Crown of Thorns fact sheet.

Other relevant website address or attached documents

IEC - Live and Learn Vanuatu - Media Guide, Pocket Guide, Flipchart
Fact sheet - Shefa Province Tourism - Crown of Thorns Starfish fact sheet

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Funding:** On completion of the Live and Learn project in 2016, funding for invasive species awareness and subsequent activities in this area came to a standstill. No sustained national funding streams for invasive species awareness have been planned or confirmed, despite this being a national biodiversity target for Vanuatu.
- **Geography:** Undertaking awareness sessions across all islands in Vanuatu is logistically difficult due to the cost of travel and the time required to access remote locations.
- **Coordination**: Better coordination is required from the three main departments dealing in this area, to efficiently utilise staff and project resources to spread messages. A national coordinated approach will be required to tackle such a widespread issue.
- **Record-keeping:** Assistance is required to establish a simple record-keeping system for all awareness sessions undertaken on invasive species. At present, no records are kept of which villages have been visited or which stakeholders targeted. As such, no monitoring of the spread of messages and potential future assessment of changes in attitudes and behaviours can occur.

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5.2 - Managing Invasive and Alien Species: Establish national and regional coordinating and advisory bodies to assist in the management of IAS

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This measure contributes to the implementation of Action MIAS1.6 and MIAS1.7 in Vanuatu's NBSAP.

National coordinating body - National Invasive Species Technical Advisory Coordinating Committee

In 2014 Live and Learn Vanuatu, in coordination with DEPC, established the National Invasive Species Technical Advisory Coordinating Committee (NISTACC) which comprises members from the following agencies (Live and Learn Vanuatu, 2016):

- Department of Environmental Protection and Conservation
- Department of Agriculture
- Department of Forestry
- Department of Fisheries
- Customs & Inland Revenue
- Biosecurity Vanuatu
- Live & Learn
- Farmers Support Association
- Shefa Provincial Government.

The NISTACC has the responsibility to draw up plans and strategies to address invasive species problems. Furthermore, the committee should ensure that the project’s activities are implemented in accordance to the funds provided and within the respective time frames. NISTACC’s role is also to provide technical advice to the three projects so that the objectives are achieved.

The European Union-funded project – ‘Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)’ – supported the NISTACC until 2016, through coordinating meetings and providing secretariat support. In 2016 activities increased as LLV engaged with NISTACC members to create the Invasive Species database, attended (with 2 NISTACC members) the Pacific Invasive Species Learning Network Meeting in Samoa, and worked with NISTACC members to design and implement the National Invasive Species Workshop in August 2016.

Since 2016, the committee’s activity has decreased, with meetings occurring as required, but not on a regular basis.

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The NISTACC currently is not pursuing any proposals related to invasive species management support in Vanuatu.

Regional coordinating body - Melanesian Biosecurity and Invasive Species Advisory Committee

A process has been started by DEPC to establish a Melanesia Biosecurity and Invasive Species Advisory Committee (SPREP and GoV, 2016). As of yet, a specialist group has been set up, and it is hoped that the establishment of a full Council will follow in the coming years.

In 2016, SPREP hosted a workshop for biosecurity and invasive species practitioners from around Melanesia, who deliberated on framework that is suited for their circumstances (workshop report below). They agreed to work within the Melanesia Spearhead Group framework. The MBISAC will have representation from all countries under the Melanesian Spearhead Group. It was agreed that the group is a technical one with no political overtures and it will focus on facilitating implementation of biosecurity and invasive species programs at the national and regional levels. At the regional level the focus will be on technical issues and activities, as well as sharing of information on research, expertise and facilities.

An interim coordination committee was then formed to oversee the submission of the proposal to establish the MBISAC to the leaders in the Melanesian Spearhead Group. This group will, when fully established, be the primary way that collaborations between countries in the region occurs. Vanuatu also attends any regional meetings on invasive species.

Reference list:

- Live and Learn Vanuatu, 2016, *Final Narrative Report - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)*, Port Vila, Vanuatu.
- SPREP and Government of Vanuatu, 2016, *Towards establishing a Melanesia Biosecurity & Invasive Species Advisory Committee*, Port Vila, Vanuatu, available at <https://www.sprep.org/attachments/Publications/BEM/melanesia-invasive-species-committee-report.pdf>

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 10: By 2030 Vanuatu’s invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
National Target 11: Emphasis will be placed on maintaining current status of native species, improving border control, developing inter-island biosecurity programmes, IAS eradication and control.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Considerable progress has been achieved through the establishment of the NISTACC within Vanuatu. The formalisation of this committee will assist in providing a national structure for the coordination of activities relating to invasive species.
- Work has been undertaken towards the establishment of the MBISAC at a regional level.

Progress is left to complete in the following areas:

- The NISTACC is no longer active or leading national coordination of work on invasive species management. The committee needs to be reactivated to perform its responsibilities.
- Requests have been made to include civil society and private sector members in the NISTACC.
- Since the 2016 workshop on the formation of the MBISAC, no further work to establish the committee has been undertaken. The process to set up the regional coordinating body needs to be completed.

The tools and methodology used for the assessment of effectiveness included:

- Interview with DEPC Biosafety and Invasive Species Officer.
- Interview with SPREP Vanuatu Country Manager.
- Interview with Live and Learn Vanuatu Program Manager.
- Literature review of Live and Learn Final Narrative Report - Testing and modelling preventative measures

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to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS) - on advice of Live and Learn Program Manager.
- Literature review of report - Towards establishing a Melanesia Biosecurity & Invasive Species Advisory Committee.
- Literature review of National Invasive Species Strategy and Action Plan 2014-2020.

Other relevant website address or attached documents

Live and Learn Vanuatu_Final Narrative Report_Invasive Species.pdf
Report – SPREP - Towards establishing a Melanesia Biosecurity & Invasive Species Advisory Committee

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Resourcing:** DEPC representatives have indicated their willingness to review and revitalise the NISTACC, however there are real constraints in resources available within the Vanuatu Government to drive this group. Learnings from this action indicate that increased resourcing for coordination of actions on invasive species in Vanuatu is critical to sustain progress made to date, especially in supporting collaboration between Government, CSO and private sector stakeholders. This relates to both human resourcing and the availability of sustainable financial resources at the national level.
- **Regional funding coordination:** Constraints relating to sustainable funding sources at a regional level will hold back the development of this organisation until a sustainable funding mechanism is developed and agreed upon through an MoU. Options discussed to address this issue have included increasing the members' contributions (which is not easy), taking advantage of national and regional programs and meetings to hold side-meetings amongst the members, and engaging with the private sector.
- **Regional border security strengthening:** Focus needs to be given to the challenge of strengthening border security between Pacific countries, which is currently not being actioned due to the hiatus of progress towards the establishment of the MBISAC.

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5.3 - Management of Invasive and Alien Species: Collection and storage of national baseline data on invasive and alien species

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

Vanuatu’s NBSAP contains measures to improve knowledge of the spread and impact of invasive species across the country (Actions MIAS1.2, MIAS1.8, MIAS1.10 and MIAS2.2). However, national baseline information on invasive species spread has been gradually increasing in Vanuatu over the past four years. Four main agencies/projects have participated in the collection of baseline information, and improvements in the storage of this information. **Department of Biosecurity** Between 2000 to 2015, Department of Biosecurity staff, as part of a program in collaboration with Biosecurity Queensland, in the Australian Government’s Queensland Department of Agriculture and Fisheries, undertook weed surveys across Vanuatu (Day and Bule, 2015). Over 720 sites were surveyed, covering 30 islands, including all major islands, over 15 years. Information was collected in a database, including the area surveyed, the names of species found, the landowners names, GPS coordinates, a description of the site, and the status of the invasive spread. The Department of Biosecurity is currently using data collected as part of this project to prioritise sites for control programs. New target species are currently having baseline information collected from around the country. Three islands have had surveys undertaken, and the final two islands to be surveyed will be Malekula and Epi. The species included are *Mimosa diplotricha*, African tulip tree, Cats Claw Creeper and Parthenium. **Department of Environmental Protection and Conservation** No structured invasive species data collection program has been developed by DEPC due to funding constraints. For practical and financial reasons, the focus of invasive species surveys is currently contained to Efate (close to the capital of Port Vila), or during field visits to sites as part of other donor-funded projects in which DEPC is involved. The Biosafety and Invasive Species Officer collects and records invasive species survey data. Invasive species data collection was undertaken in Malekule and Efate in 2018. The other mechanism for the collection of baseline data on invasive species, is the registration of a Community Conservation Area. As part of the compulsory ecological survey which must be undertaken prior to registration, invasive species spread in the proposed conservation area are assessed. Management measures for the control of invasives are then discussed with the community and developed as part of the CCA Management Plan, though the	EN

implementation of these measures is not always rigorously assessed.

Opportunistic recording of locations where invasive species are sighted whilst on travel throughout the islands, is undertaken. Anecdotal evidence is also recorded and used, and communities are encouraged to contact DEPC if experiencing a major issue in relation to invasive species. Thus the system is more a response mechanism triggered on a case-by-case basis.

GEF-PAS: Prevention, Control and Management of Invasive Alien Species in the Pacific Islands

The GEF-PAS project, which ran from 2009 to 2016, supported research into little fire ants, the most appropriate control methods for the species and biocontrol options for the African tulip tree in Vanuatu (Thomas, 2017).

This project also developed a high-level desktop survey, identifying known invasive species, pathways, high value sites and other relevant data in Vanuatu.

Live and Learn Vanuatu: Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)

Rapid assessments were carried out by Live and Learn as a basis for the development of their control plots and community-based management measures (Live and Learn, 2016). The project focussed on controlling invasives on specific pilot plots in Santo, Erromango and Tanna. As such, the data collected was specific to the villages in which the project was working on these islands.

Development of the Vanuatu Invasive Species Database (VISD)

The Vanuatu Invasive Species Database (VISD) was designed as a free, user-friendly online searchable source of information about alien and invasive species that negatively impact native biodiversity and natural areas in Vanuatu (DEPC, 2016). The database was developed by Live and Learn Vanuatu as part of the project ‘Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)‘ in 2016, with the assistance of NISTACC members and DEPC.

The VISD aims to increase public awareness about invasive species and to facilitate effective prevention and management activities by sharing specialist’s knowledge and experience with national as well as broader regional and global audience. VISD provides invasive species profiles, management/control methods, species descriptions, impacts, pictures and location. It also provides a list of current 12 priority invasive species in Vanuatu, as identified by National Invasive Species Technical and Advisory Coordinating Committee (NISTACC).

The link to the VISD is provided below.

CB2 project: Environmental Information Management System

The CB2 project, as funded by UNDP, recently assisted the Department of Environmental Protection and Conservation in setting up electronic data collection tools (Kobo Toolbox) for biodiversity data collection, which will include invasive species information. This method of collection will be rolled out within the department over the coming years.

Reference list:

- Day, M.D and S. Bule, 2016, 'The status of weed biological control in Vanuatu', In: Daehler C.C, van Kleunen M, Pyšek P, Richardson, D.M (Eds), *Proceedings of 13th International EMAPi conference*, Waikoloa, Hawaii, NeoBiota 30: 151–166.
- Department of Environmental Protection and Conservation (DEPC), 2015, *Vanuatu Invasive Species Database*, availabe at <http://vaninvasives.gov.vu/Index>
- Live and Learn Vanuatu, 2016, *Final Narrative Report - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)*, Port Vila, Vanuatu.
- Thomas, P., 2017, *Terminal Evaluation of UN Environment Project: "Prevention, control and management of Invasive Alien Species in the Pacific Islands"*, United Nations Environment Programme, Nairobi, Kenya.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 10: By 2030 Vanuatu's invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
National Target 12: Communities' understanding on invasive alien species is increased.
National Target 11: Emphasis will be placed on maintaining current status of native species, improving border control, developing inter-island biosecurity programmes, IAS eradication and control.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Total amount of information collected on invasive species, their impact and spread throughout Vanuatu has increased nationally.Comprehensive weed surveys have been undertaken through collaborations between Biosecurity Queensland and Biosecurity Vanuatu.
- Partial data has been collected through DEPC, Live and Learn and GEF-PAS surveys and desktop reviews on flora and fauna invasive species.
- Development of a publicly-accessible and user-friendly database on invasive species.

Progress is left to complete in the following areas:

- Need for a national technical repository for the storage of technical survey and site data.
- Collaboration between DEPC and Department of Biosecurity on their technical data.Gap analysis of national baseline information required for collection.
- Priority work plans developed from existing baseline information, including financing sources.

The tools and methodology used for the assessment of effectiveness included:

- Interview with DEPC Biosafety and Invasive Species Officer.
- Interview and expert advice from Department of Biosecurity Plant Health Officers.
- Interview with Live and Learn Vanuatu Program Manager.
- Literature review of Live and Learn Final Narrative Report - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS).
- Literature review of GEF-PAS evaluation: ‘Terminal Evaluation of UN Environment Project: “Prevention, control and management of Invasive Alien Species in the Pacific Islands”’.
- Literature review of article ‘The status of weed biological control in Vanuatu’.

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Other relevant website address or attached documents

Database - Vanuatu Invasive Species Database

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Coverage:** Many smaller or more remote islands were not covered by the Department of Biosecurity weed survey program. Data sharing: During the development of the VISD, DEPC and Department of Biosecurity reportedly struggled to efficiently share their data. This is due to data storage issues within each department.
- **Data storage:** National technical data on invasive species, for use by technical government staff in project planning and implementation, is not contained on a central server or in a central repository. Information is kept on personal desktops or laptops. This has recently caused major issues within the Department of Biosecurity, with the recent passing of a key Biosecurity staff member who had been heavily involved in data collection for many years. His knowledge has been lost, and it was found that the database of weed surveys had been kept on his personal laptop for many years. The Department of Biosecurity is now attempting to access the operating system of his laptop which is password-protected.
- **Data quality:** During the development of the VISD, Live and Learn found the quality of government-issued data to be limited and inconsistent. As such, Live and Learn staff successfully requested additional information from the Global Invasive Species Database administrators (IUCN SSC Invasive Species Specialist Group) and through the GEF-PAS project that shared its inventory of Invasive and Alien species in Vanuatu. The information is therefore based on mainly desktop review, and requires ground-truthing.
- **Stakeholder ownership:** Invasive species programs struggle to engage stakeholders in a consistent manner. For example, in the development of the VISD, Live and Learn found that relevant government departments displayed low levels of engagement, with scheduled meetings to discuss database and invasive species data consistently postponed, significantly delaying progress.
- **Cost:** The VISD is currently hosted by a local IT company, at cost to the government. DEPC would like to transition the database to the Government of Vanuatu's Office of the Government Chief Information Officer (OGCIO) however this process is being delayed by this agency due to resourcing issues.
- **Sustainable funding:** Consistent funding for a national strategy for the collection of invasive species baseline data has not been allocated. As such, surveys will continue to be undertaken on an ad-hoc basis.

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5.4 - Management of Invasive and Alien Species: Implementation of management controls or eradication of priority species

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

Vanuatu’s NBSAP contains measures seeking to control Vanuatu’s priority invasive species, both flora and fauna (DEPC, 2018). A range of species-specific actions and programs that have been undertaken or are in progress are outlined below. Specifically, the measures below contribute to Actions MIAS1.1, MIAS3.1, MIAS3.2, MIAS3.7 and MIAS3.9).

Fire ants:

The management of fire ants in Vanuatu is primarily reactive, with eradication measures generally carried out in response to requests or reports in communities around Vanuatu. Department of Biosecurity reports that fire ants have now spread to every province and at least 20 islands have reported the insect including the Torres islands, Banks islands, Santo, Maewo, Pentecost, Ambrym, Efate and Tanna. Fire ants surveys have been undertaken in Tanna, Santo, Efate and the Banks islands on fire ants.

A chemical control program has been established and management in the field is underway in some villages who have reported the issue.

Mynah birds:

A chemical control solution has been introduced to Vanuatu, with DEPC working in coordination with a local pest control company Ezzy Kill, on the import of the chemical due to licensing restrictions, which prohibit the government to import directly at present. An officer from DEPC attended training on the use of this control agent, which was run by South Pacific Regional Environment Program (SPREP) and funded through the GEF4 project. There is funding within the current GEF5 project which will be used for Mynah eradication.

Actions to control of Mynah birds has been undertaken on Malekula, Efate and Santo, in the major urban centres. On Efate, Mynah bird control is being encouraged through a high school program. The Biosafety and Invasive Species Officer has given awareness in local high schools on invasive species, particularly the 'sako' or Mynah bird, and commenced a localised eradication program with these schools.

Weed species:

Biocontrol agents

Biocontrol agents are, according to Department of Biosecurity in Vanuatu, the most effective means of

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managing the spread of invasive plant species in Vanuatu, as they have less environmental impact than chemical controls and are more successful.

As part of the collaboration between the Vanuatu Department of Biosecurity and the Department of Agriculture and Fisheries in Queensland, Vanuatu currently hosts nine biocontrol agents, which have been intentionally introduced to prevent spread of eight weed species (Day and Bule, 2016). All of these weed species are native to tropical America and had been introduced either intentionally as ornamentals or accidentally into Vanuatu through contamination of imported goods. The weed species and their allocated biocontrol agent, with the year of release, are shown below. Only one biocontrol agent was newly introduced in the period 2014-2018. A further six biological control agents (not identified below) have found their way into Vanuatu, either through natural means or introduced unintentionally.

Weed	Biocontrol agent	Year of release	Established?	Impact
Araceae				
Pistia stratiotes L.	Coleoptera: Curculionidae			
	Neohydronomus affinis Hustache	2006	Yes	Variable
Asteraceae				
Mikania micrantha Kunth	Pucciniales: Pucciniaceae			
	Puccinia spegazzinii De Toni	2012	Yes	Still validating
Parthenium hysterophorus L.	Coleoptera: Chrysomelidae			
	Zygogramma bicolorata Pallister	2014	No	None
Fabaceae				
Mimosa diplotricha C. Wright	Hemiptera: Psyllidae			
	Heteropsylla spinulosa Muddiman, Hodkinson & Hollis	1994	Unknown	Unknown
Malvaceae				
Sida acuta Burm. f.	Coleoptera: Chrysomelidae			
	Calligrapha pantherina Stål	2005	Yes	High
Sida rhombifolia L.	Coleoptera: Chrysomelidae			
	Calligrapha pantherina Stål	2005	Yes	High
Pontederiaceae				
Eichhornia crassipes (Mart.) Solms	Coleoptera: Erirhinidae			
	Neochetina bruchi Hustache	2013	Yes	Still validating
	Neochetina eichhorniae Warner	2004	Yes	High
Verbenaceae				
Lantana camara L. sens. lat.	Hemiptera: Tingidae			
	Teleonemia scrupulosa Stål	1935	Yes	Slight
	Coleoptera: Chrysomelidae			
	Uroplata girardi Pic	1983	Yes	Slight

Source: The status of weed biological control in Vanuatu (Day and Bule, 2016)

Seven of these agents have established on their respective hosts while an eighth, *Zygogramma bicolorata*, an agent for *Parthenium hysterophorus* was released prior to 2016, and establishment has been deemed unlikely by

Department of Biosecurity and Queesland Biosecurity (project partners). The fate of a ninth agent, *Heteropsylla spinulosa*, released for the control of *Mimosa diplotricha* is unclear. Six other biological control agents, including *Epiblema strenuana* which was first detected in 2014 on *P. hysterophorus* on Efate have spread into the country unintentionally. Control of the target weeds as a result of the biocontrol introductions range from inadequate to very good. Release sites were later monitored to determine establishment of each agent and other known sites of the weeds were checked to determine if the agents had naturally spread to these sites.

Overall, these agents are controlling some of the most important exotic weeds in Vanuatu, resulting in little or no active control by land managers. The flow-on effects of successful biological control of these species include better access to water, reduced costs of managing weeds and increased production, resulting in increased income and food security.

At the time of release of these agents, community consultation sessions were undertaken, and materials were produced (leaflets, pamphlets, posters, and radio and video materials) to educate people about the species and the new control agents. Visits were made to close to all main islands in Vanuatu regarding the eradication program, including Aneityum, Tanna, Efate, Emae, Epi, Malekula, Pentecost, Santo, Ambae, Vanua Lava, Torres islands and Gaua.

In 2016, Queensland Biosecurity and Vanuatu Department of Biosecurity published a joint journal article on the status of weeds and biocontrol agents in Vanuatu, which is located at the link below.

A current program, commenced in 2018, which is a collaboration between the Department of Biosecurity and Landcare New Zealand, entitled 'Improving Beef Industry through Management and Biological Control of Weeds', funded by Ministry of Foreign Affairs and Trade in New Zealand, will investigate biocontrol agents for three additional priority species - pico/turkey berry (*Solanum torvum*), hibiscus burr (*Urena lobata*) and wild peanut (*Senna tora*). Information relating to this new project is located at the link below.

Biocontrol for African tulip tree is not available in Vanautu but is due to be imported in 2019.

Manual eradication

Manual eradication in Vanuatu is only undertaken for the weed *Merremia peltata*. An official community management model for the manual removal and eradication of *Merremia peltata* was developed by Eco-lifelihood

Development Association and Live and Learn as part of their program ‘Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)’ (Live and Learn Vanuatu, 2016). The method was developed, tested and implemented during the years 2012-2016. Essentially the method involves fencing of plots, removal of the vine, and implementation of agroforestry methods (tree and crop combinations) which have been tested to be most successful at smothering the changes of the vine’s return. The plots then become viable for cropping.

DEPC has facilitated training in this management method in the community of Epau on Efate. Some conservation areas are also successfully implementing this method, commenced through this former program of Live and Learn Vanuatu. The case study below demonstrates a very successful strategy implemented by one community conservation area to deal with the spread of *Merremia peltata* on their land.

The Eco-lifelihood Development Association also worked closely with DEPC in eradication of *Merremia peltata* at Vatthe CCA in the Big Bay area of Santo. Eradication methods included WeedMaster and hand-cutting manual removal methods. The local community of Matantas village were trained by EDA and the Royal Birds and Forest Organisation in New Zealand, to carry out the WeedMaster method. Eradication then encouraged natural regeneration within the forest of the CCA.

Reference list:

- Day, M.D and S. Bule, 2016, ‘The status of weed biological control in Vanuatu’, In: Daehler C.C, van Kleunen M, Pyšek P, Richardson, D.M (Eds), *Proceedings of 13th International EMAPi conference*, Waikoloa, Hawaii, NeoBiota 30: 151–166.
- Live and Learn Vanuatu, 2016, *Final Narrative Report - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)*, Port Vila, Vanuatu.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 12: Communities’ understanding on invasive alien species is increased.
National Target 11: Emphasis will be placed on maintaining current status of native species, improving border control, developing inter-island biosecurity programmes, IAS eradication and control.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- The success of biological control in Vanuatu to date creates a strong platform on which to build and develop future projects.
- Successful eradication of weed species in locations across Vanuatu has been achieved.
- Capacity in weed biological control has increased significantly over the years, as well as the linkages with other organisations which conduct biological control.
- The successful implementation and biological control of several weed species in Vanuatu provides an excellent example and opportunity for other countries in the Pacific that also wish to manage similar weed species.
- Individual communities that participated in the *Merremia peltata* management model trial have reaped the benefits, with profitable gardens taking the place of land that was previously overrun by the invasive vine.

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Progress is left to complete in the following areas:

- Researchers in Vanuatu will continue when possible to monitor for agent establishment and release biological control agents into areas where they are not already present.
- Need to maintain a campaign of public awareness, so that weeds are controlled before populations become too large and are not spread by people.
- Introduction of several more biological control agents and monitoring of these.
- Secure funding to be able to tackle the most important weeds that have not yet been the target of biological control elsewhere.

The tools and methodology used for the assessment of effectiveness included:

- Interview with DEPC Biosafety and Invasvie Species Officer.

- Interview with Department of Biosecurity Plant Health Officers.
- Community consultation session and questionnaire with Chairperson and Land Management Manager of the Loru Community Conservation Area in Santo.
- Literature review of journal article: Day MD, Bule S (2016) 'The status of weed biological control in Vanuatu'. In: Daehler CC, van Kleunen M, Pyšek P, Richardson DM (Eds) Proceedings of 13th International EMAPi conference, Waikoloa, Hawaii. NeoBiota 30:151–166. doi: 10.3897/neobiota.30.7049
- Literature review of Manaaki Whenua/Landcare Research project profile of 'Improving Beef Industrty hrough Management and Biological Control of Weeds'.
- Review of Nakau Program website and Loru Forest Project page.
- Analysis of Loru Forest Project Annual Report 2015-2017.

Other relevant information

Case study: Successful management of Merremia peltata at Loru Community Conservation Area on Santo

The Loru Forest Project and Community Conservation Area protects 293ha of tropical rainforest on eastern Espiritu Santo, Vanuatu. The project is fully community-owned (by a family business called Ser-Thiac) but is supported by Live and Learn Vanuatu and the Nakau Program. The project combines coastal rainforest protection with agroforestry, with a special focus on producing the agricultural commodity Melanesian Chestnut (Canarium indium) for participating community members. The project works with about fifty indigenous ni-Vanuatu landowners of the Serkar Clan, descended from Chief Serkar (1913 - 1997). In order to protect the rainforest, these landowners have given up the rights to land clearance for coconut plantations (Nakau Program, 2019).

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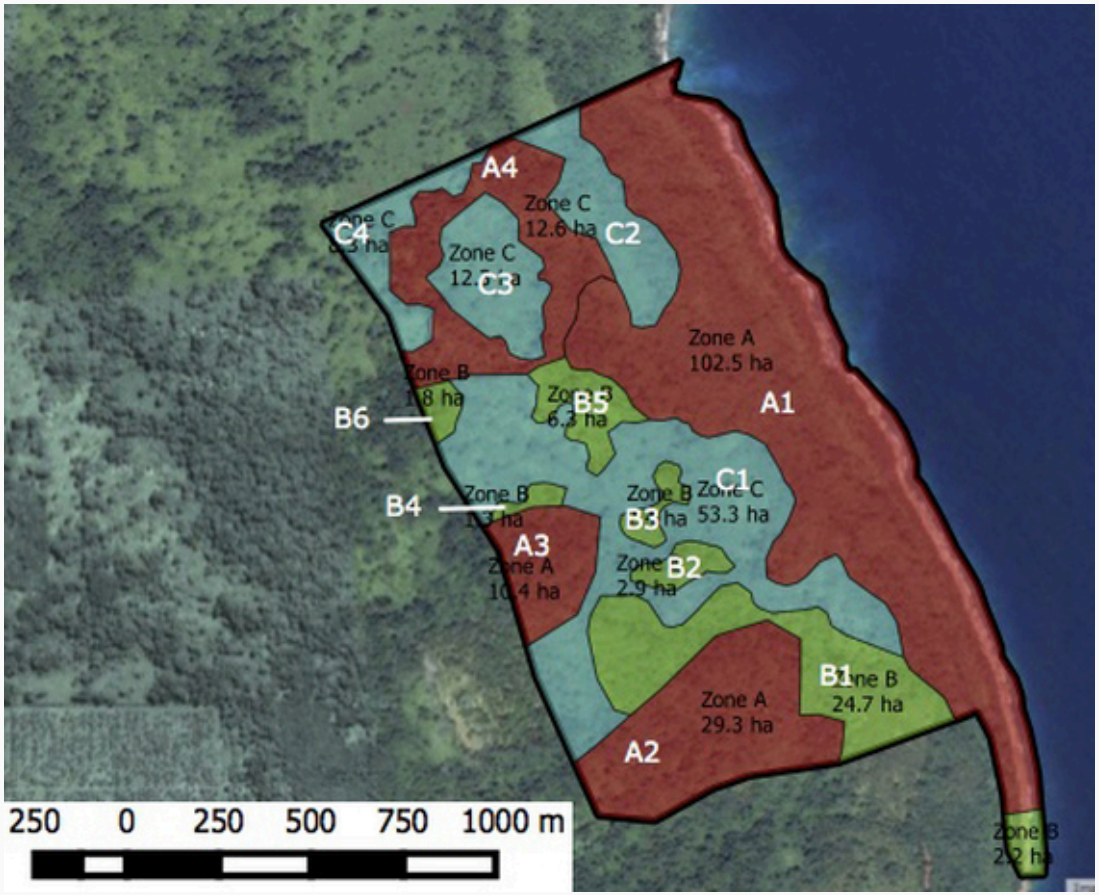
The project site provides habitat for the critically endangered Vanuatu Megapode bird (*Megapodu freycinet layardi*) and the critically endangered Coconut Crab (*Birgus latro*). It is also home to several endemic bird species including the Vanuatu Kingfisher (*Halycon farquhari*), the Vanuatu Flycatcher (*Neolalage banksiana*), the Vanuatu Fruit Dove (*Ptilinopus tannensis*), the Vanuatu White-eye (*Sosterops flavifrons*), the Santo Mountain Starling (*Aplonis santovestris*), the Vanuatu Imperial Pigeon (*Ducula bakeri*), and the Golden Whistler (*Pachycephala pectoralis*)

(Nakau Program, 2019).

The project aims to support its participants by providing governance and management support, as well as transferring skills, knowledge through capacity-building for setting up community enterprises at Loru. This will provide a long-term incentive and sustainability driver for the Loru landowners to manage the rainforest conservation project by developing community businesses based on agroforestry produce.

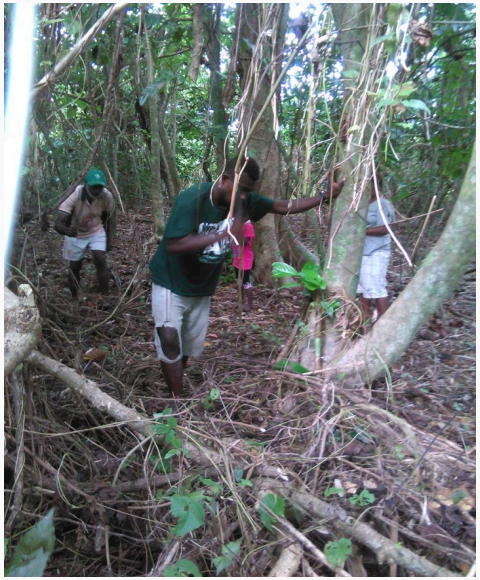
However, the community has had issues with the invasive species Big Lif (*Merremia peltata*), which has overtaken some parts of the CCA where forest has been previously disturbed. As part of the broader management plan for Loru CCA, the community have implemented a management strategy for control of *Merremia peltata*. In the parts of the conservation area, where *M. peltata* has degraded the native bush, the community has initiated a program of fencing the weed-infested area into plots, inside which areas they then undertake a program of manual weed removal. This is usually undertaken by the full community, including the community's children, on regular working bee days. These plots are generally located in Zone B in the conservation area management plan (some land use is permitted in this zone).

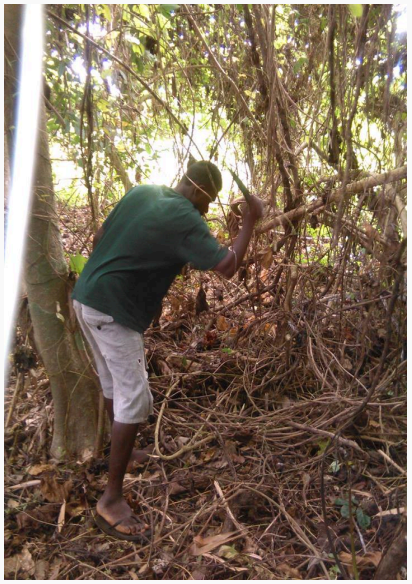
A map of the CCA boundary and zoned areas is provided below. The Loru CCA contains a mixture of tall coastal rainforest (Zone A in the image below), degraded but regenerating native forest (Zone B), and non-forest (Zone C). The landowners are developing Zone C areas for agroforestry and will gradually return many parts of Zone C to forest land use.



Source: Loru Forest Project - Nakau Program, 2014

Photos of one such working bee in 2017 are provided below.





Source: Nakau Program, 2017

After the removal of the weed, the ground is immediately replanted with native species, which are grown in a community nursery area, or vegetables, which are then used as part of the community's livelihood, to sell at the market in the nearest town centre. Simultaneously the community is removing the weed and creating a livelihood opportunity. So far, the community has completed rehabilitation of approximately 2 hectares of land in this way, and increased their income in the conversion of land in this way.

As stated by the Nakau Program: "This critical work is accelerating rainforest regeneration" (Nakau Program, 2017). Moreover, the work has been assisting Ser Thiac and the Serkar Clan to earn revenue for the carbon credits their forest is generating through a Payment for Ecosystem Services and carbon crediting program. The Loru Forest Project's most recent Annual Report for 2015-2017 is provided below with further information on the crediting aspect of the program.

Reference list:

- Nakau Program, 2019, 'Loru Forest Project', project profile page, available at <http://www.planvivo.org/project-network/loru-forest-project/>

- Weaver, S.A, 2017, *Loru Forest Project Annual Report 2015-2017*, The Nakau Program Pty Ltd., available at <http://www.planvivo.org/project-network/loru-forest-project/>
- Community consultation session and questionnaire with Chairperson and Land Management Manager of the Loru Community Conservation Area in Santo.

Other relevant website address or attached documents

Article - Day and Bule, 2016 - 'The status of weed biological control in Vanuatu'
Project profile - Landcare New Zealand - Improving Beef Industry through Management and Biological Control of Weeds
Video - Sustainable Forest Management at Loru Conservation Area
Website - Loru Forest Project - Nakau Program

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Testing limitations:** Many biological control projects in the Pacific are donor-funded and there is a tendency to invest in projects with a high chance of success i.e. utilizing tried and proven agents rather than investing in novel projects where the chance of success is not guaranteed. Consequently, countries may end up targeting weed species, which are not the most important weeds in the country. This is because the most important weeds in a country may not be targets for biological control anywhere else or there are no effective agents and so attract a much higher cost to research due to the additional steps of exploration and host specificity testing of potential agents (Day and Bule, 2016).
- **Gaps in work plans:** No work on *Hyptis brevipes* is currently planned, though this is currently listed as a priority in the NBSAP.
- **Staff and embedded knowledge:** A key senior staff member of Vanuatu Biosecurity who was had historical technical knowledge unfortunately passed away in 2017, and with him much of Vanuatu's knowledge and understanding of invasive species programs. Moreover, important documentation was stored only on his laptop, which is now inaccessible to the department (being password protected). IT staff are currently working on removing the information from

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the laptop if possible. Embedded staff knowledge and human resourcing issues means that knowledge is retained by only a few staff members, creating an unsustainable working environment in the instances of staff turnover or passing away.

- **Project lifespan:** There are limitations to what can be effectively achieved on the ground in biocontrol. This is partly because these projects have a limited life span and secondly, countries such as Vanuatu, Fiji and PNG consist of many islands which may be hard and/or costly to reach. Consequently, it may not be possible to release biological control agents into all areas where the target weeds exist and/or check release sites for establishment in the time frame of a project. Hence, biological control agents still need to be released into many areas, long after projects have been completed.
- **Funding:** Without additional donor funds, the re-distribution or checking biological control agents is severely hampered.

6.1 - Mainstreaming Biodiversity: Progress towards the development of Access and Benefit Sharing legislation, policies and protocols

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

Vanuatu has been progressing its work towards the implementation of the Nagoya Protocol, with a variety of legislative, internal and public-facing advocacy and protocol development work. Capacity-building is also continuing in the field of Access and Benefit Sharing (ABS). This measure contributes to the implementation of Action MB2.1, MB2.2, MB2.3, MB2.4, MB2.5 and MB2.6 in Vanuatu's NBSAP.

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Development of relevant legislation

Bill for the Protection of Traditional Knowledge and Expressions of Culture – Vanuatu Intellectual Property Office

In 2012, SPC assisted the Government of Vanuatu and the Malvatumauri Council of Chiefs (national level chiefly body) to draft a Bill for the Protection of Traditional Knowledge and Expressions of Culture (TK and EoC Act). The

Purpose of this Bill is to protect Vanuatu's traditional knowledge and expressions of culture as an intangible and tangible intellectual property associated with the use of genetic resources.

The enactment of such legislation will ensure the proper monitoring and regulation of Vanuatu's traditional knowledge and expressions of culture, for commercial use and to ensure that the traditional owners have given their prior informed consent for such use and derive benefits from the use. The Bill contains provisions on prior informed consent and user agreements. The user agreements must contain provisions setting out the benefit sharing arrangements for such use which both parties must agree to. There are provisions providing for an identification process for owners of traditional knowledge and expressions of culture as well as an alternative dispute resolution process if there is a dispute between the traditional owners on ownership of the traditional knowledge.

On review of the bill, the State Law Office of Vanuatu requested changes and further consultation. As such, the Act has been reviewed, and a more extensive consultation program was carried out in every provincial centre (plus Erromango) to inform its contents.

The TK and EoC Bill has now been tabled as a priority bill to be passed by the Vanuatu Council of Ministers in 2019. VANIPO and DEPC are currently waiting on this process to be completed.

An overall ABS strategy and action plan for Vanuatu will be prepared this year on approval of the Act.

ABS Regulations and EPC Act alignment – Department of Environmental Protection and Conservation
Work has been completed towards preparing DEPC for the development of Access and Benefit Sharing Regulations, which will be undertaken this year. A legal advisor will be assisting DEPC with the preparation of this documentation.

The regulations will cover:

- Processes to be followed for enacting the TK and EoC Bill in communities and by individuals/customary groups.
- Development of a template for a contract between a party wishing to use traditional knowledge or an expression of culture, and the owning party.
- An access protocol which will be linked to the Clearing House Mechanism.
- Process for the establishment of a Traditional Knowledge Authority and National Biodiversity Advisory Council.

In addition, the Environmental Protection and Conservation Act will be aligned with the ABS Regulation

and TK and EoC Bill, as part of this process. It is noted at this time that the EPC Act and the TK and EoC Bill have significant overlap.

Consultations

National level

The roles and responsibilities with regard to ABS are currently being determined through consultations between VANIPO and external agencies. The key stakeholders that have been determined include:
- Malvatumauri Council of Chiefs
- Vanuatu Intellectual Property Office
- Vanuatu Kaljoral Senta (Vanuatu Culture Centre)
- Department of Environmental Protection and Conservation
- Vanuatu Fisheries Department
- Department of Forestry

An MoU has been set up between VANIPO and the Malvatumauri Council of Chiefs to more clearly define roles and responsibilities relating to ABS processes.
Radio awareness sessions have also been undertaken on major stations, and the ABS Officer from VANIPO has attended all relevant national-level chiefly meetings where the issue has been discussed. Awareness has also been promoted through the Vanuatu Kaljoral Senta fieldworker program, whereby volunteer fieldworkers from around the country have been informed of the new legislation and its implications.

Schools have not yet been approached, but planning and research has commenced to understand how best to integrate the legal concepts contained in the TK and EoC bill into the school syllabus. An opportunity exists for collaboration with the Vanuatu Institute of Technology, which currently runs a program on traditional knowledge.

Community level

Consultations on the TK and EoC Bill were conducted throughout the country with local communities in 2012 as well as in 2016 by the Office of the Registrar of Intellectual Property.

Community-level consultations were undertaken in 2018 and 2019 led by DEPC and VANIPO, as part of the first phase of ABS being practically introduced into Vanuatu. Visits were made to the islands of Malekula, Aneityum

and Tanna (villages of Nusumetu, Whitesands and Port Resolution), and targeted villages which had previously been visited by researchers interested in various elements of cultural property or genetic resources (e.g. medicinal plants). In total, 8 villages were visited and 11 meetings were held.

Awareness sessions at community level have introduced the concept of ABS, contract agreements and other related legal processes to communities (e.g. the need for researchers to hold a permit and the right of the community to enter into a contract with the relevant party). Communities have been responsive to the need for ABS-related contracts, to protect their traditional and customary rights.

National Biodiversity Advisory Council

The National Biodiversity Advisory Council is currently not active (though the Council was active until the expiry date of the members in May 2019), but will be reactivated as per the requirements of the TK and EoC Act. Members of the NBAC are appointed by the Minister responsible for the Environment portfolio, and membership is allocated for a 2-year term. In its first terms, the Council discussed issue relating to their functions, as well as the process of facilitating and approving applications.

Development of Mutually Agreed Terms

The process of drafting a contract template under the terms of the EPC Act, for future use between bioprospectors and community members will be undertaken as a collaborative process between the government authorities and the communities, so that their input and perspectives are incorporated. The contracts and other related protocols will also be developed in accordance with the Nagoya Protocol. This work will be undertaken in 2019, in collaboration with researchers from the University of NSW, Australia who are assisting DEPC in documenting cultural protocols.

Bioprospecting permit

The DEPC Bioprospecting Permit has recently been updated to more fully cover the bioprospecting section of the EPC Act. The permit is required by parties who intend to harvest or exploit:

1. Samples of genetic resources (material of plant, animal, microbial or other origin containing functional units of heredity that is of actual or potential value).
2. Samples of any derivatives of genetic resources.
3. The knowledge, innovations, and customary practices of local communities associated with those genetic resources;

for purposes of research, product development, conservation or industrial or commercial application, and includes investigative research and sampling, but does not include customary uses of genetic resources and derivatives.

The new Bioprospecting Permit form is now in use by DEPC.

Capacity building

Through the ABS Capacity Development Initiative program of GIZ, Vanuatu has been privy to a program of workshops and collaborations between government departments and international specialists in ABS (specifically with University of New South Wales, Australia and the Australian National University).

Key capacity building events have included a 2015 workshop hosted by DEPC and the Vanuatu Cultural Centre, in collaboration with UNSW and ANU, to discuss the national context for implementing the Nagoya Protocol in Vanuatu, and the obligations associated with it. The workshop report is provided below.

In 2017, through the ABS Capacity Development Initiative, SPREP and the International Development Law Organisation (IDLO), DEPC staff attended training in Fiji in 2017 on setting up ABS policy and legislation.

Reference list:

This summary is based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 13: By 2020, government has put in place relevant legislations and policies and Access and BenefitSharing (ABS) protocols to support NBSAP implementation; businesses and production sectors are adopting Vanuatu’s National Sustainable Development Plan; and stakeholders at all levels have taken steps and implemented plans for sustainable production and consumption.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- National legislation has been developed and is close to being enacted on ABS.
- Consultations have been undertaken with national-level and community-level stakeholders.
- Progress has been made toward the development of regulations and protocols for practical implementation of ABS measures.
- Capacity development for national government staff has been undertaken.

Progress is left to complete in the following areas:

- TK and EoC Bill to be passed by Vanuatu Council of Ministers.
- MATs need to be developed in consultation with communities.
- Overlapping legislation needs to be assessed and redrafted to better align.

The tools and methodology used for the assessment of effectiveness including:

- Questionnaire and interview with Vanuatu Intellectual Property Office ABS Officer.
- Expert advice and questionnaire via interview with DEPC Legal Advisor.
- Community consultation session with Port Resolution CCA and Chief.
- Online review of ABS Capacity Building Initiative materials.
- Review of Bill for the Protection of Traditional Knowledge and Expressions of Culture.

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Other relevant website address or attached documents

Report - ABS Capacity Development Initiative - Summary report of Nagoya Protocol Workshop, Port Vila, 2015

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Political pressures:** Inter-departmental pressures has resulted in fast-tracking legislation which could be better aligned with existing national legislation.
- **Complexity:** ABS issues in Vanuatu are relatively unchartered, with in-country experience of the development of legislation, policies and protocols being limited. Customary context and customary

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issues such as governance, land rights, and natural resource rights are layered, complicated and largely undocumented, meaning that the formalisation of ABS legislation in Vanuatu is largely experimental and likely to face numerous challenges in its development, related to the intersection of customary and Western laws and processes. Moreover, the practical implementation of the legislation and protocols will be a process that will take time.

- **Capacity:** Vanuatu relies heavily on external assistance for the development of its ABS national strategy. Due to in-country capacity in the country still being developed, it is unlikely that Vanuatu will be able to execute its obligations with the Nagoya Protocol without heavy assistance from external specialists.

6.2 - Mainstreaming Biodversity: Increase political awareness and will to support environmental good governance and implementation

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

This implementation action has been primarily undertaken by environmental NGOs in Vanuatu, outside the government sector who have worked to raise awareness about environmental issues in the political sphere in Vanuatu. Vanuatu's NBSAP does aim to increase political awareness and the will of politicians to raise the priority of environmental issues in their decision making. As such, this measure contributes to the implementation of Action MB1.4 in Vanuatu's NBSAP. As it primarily involves waste management for the benefit of the marine environment, it also contributes to the full Focus Area Coastal and Marine Ecosystems 1 in Vanuatu's NBSAP.

In 2017 a small alliance of citizens formed, with the goal of launching a campaign against the use of single-use plastics in Vanuatu. In March of 2017 the group started a facebook page and petition under the name 'No Plastik Plis' (No Plastic Please), which received much attention, community support and over 3,000 signatures in 2 months. During this time the group took the campaign to the Prime Minister, the Ministry of Foreign Affairs, Department of Trade and the Lord Mayor of Port Vila, to gain their support. in July of that year, the Prime Minister announced a ban on single-use plastics in Vanuatu.

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This was enacted through the *Waste Management Order No.15 of 201*8. As such, Vanuatu was the first country in the world to ban the use of plastic straws, and one of the first nations to ban single use plastic bags and polystyrene containers. Since then, further government lobbying and research into waste streams in Vanuatu has led to an additional announcement and commitment for a national ban on reusable nylon mesh bag for fruits and vegetables packaging, plastic packaging for fruits and vegetables, disposal single use plastic forks, knives, spoons, plates and cups, polystyrene single use cups, plastic stirrers for drinking tea and coffee. Moreover, it has been proposed that the next phase of the ban will include single-use disposal diapers. Consultations about the inclusion of this item in the banned items list will be undertaken, with a final decision to be made by December 2020.

These measures will have a considerable positive impact on the biodiversity of Vanuatu, particularly the marine environment, with the original intention of the ban to reduce marine litter originating in Vanuatu which was impacting marine ecology, and to set an example for the rest of the world on environmental protection. The original campaign has also had the flow-on impact in the private sector in Vanuatu, with the commencement of a plastic bottle and container recycling program, between the major national water bottler and World Vision commencing, entitled 'Pem Bak Plastik' (Buy Back Plastic). The program enables individuals to return water bottles and receive a small financial payback per bottle for doing so.

Reference list:

This summary is based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

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Progress has been achieved in the following ways:

- Vanuatu's government has been successfully lobbied with groundswell support from the public (particularly Port Vila-based communities), to enact pioneering waste legislation and plastic product bans, some of which are the first such national prohibitions in the world.

The tools and methodology used for the assessment of effectiveness included:

- Interview with Green Wave Vanuatu Convenor / No Plastk Plis Campaign Manager.
- Interview with DEPC Director.
- Stakeholder input from Vanuatu Environmental Science Society CEO.
- Stakeholder input from World Vision Vanuatu 'Waste Not, Want Not' Program Manager.
- Review of waste survey information.
- Observation of plastic ban community education campaign - planning workshop.
- Author opinion.

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Behavioural change:** The biggest challenge with regard to this issue is that of how best to increase awareness of, and education about the perils of plastic waste, poor waste management, and littering. At present, the general public in Vanuatu practices littering and there is a high level of usage of plastic products and packaging. Communications campaigns, including inclusion of these topics in the school curriculum as well as enforcement of laws by DEPC, will be important for enabling this law to result in the impact it aims to achieve.

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6.3 - Mainstreaming Biodiversity: Development of an Environmental Information and Management System

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

Vanuatu is in the process of developing an Environmental Information and Management System (EIMS) and associated capacity building, to improve the management of national environmental data. This measure contributes to the implementation of a variety of actions in Vanuatu's NBSAP which relate to data management, information management and better systems to organise Vanuatu's knowledge, monitoring and evaluation of environmental activities across all departments and workstreams. In 2015, the GEF-funded and UNDP-implemented project 'Mainstreaming Global Environmental Priorities into National Policies and Programmes' (known domestically as 'CB2 –CCCD' or just 'CB2') was approved for implementation as a three-year program to assist Vanuatu to establish a national EIMS. Due to funding delays, the project commenced in-country in 2017 and is due to close in December 2019. The project serves to supports Vanuatu's existing commitments to multilateral environmental agreements, particularly those under the Rio Convention. While Vanuatu has made some progress in implementing the conditions of the conventions to which they are signatory, there is limited integration in the approach for sustainable planning and development as required by these agreements. The intent of the CB2 project is to take an in-depth institutional strengthening approach to developing a national environmental management information system that fully integrates principles and features of resiliency and sustainability. The majority of project outputs have been ostensibly achieved, however there remains clear gaps in the process to achieving the practical application of the database between all stakeholders. Risks remain that the EIMS will not become a mainstream approach for the collection and storage of data, without further attention to the human side of data collection and associated challenges within Vanuatu government departments. Key and usable outputs from the EIMS project thus far are outlined in the table below.	EN

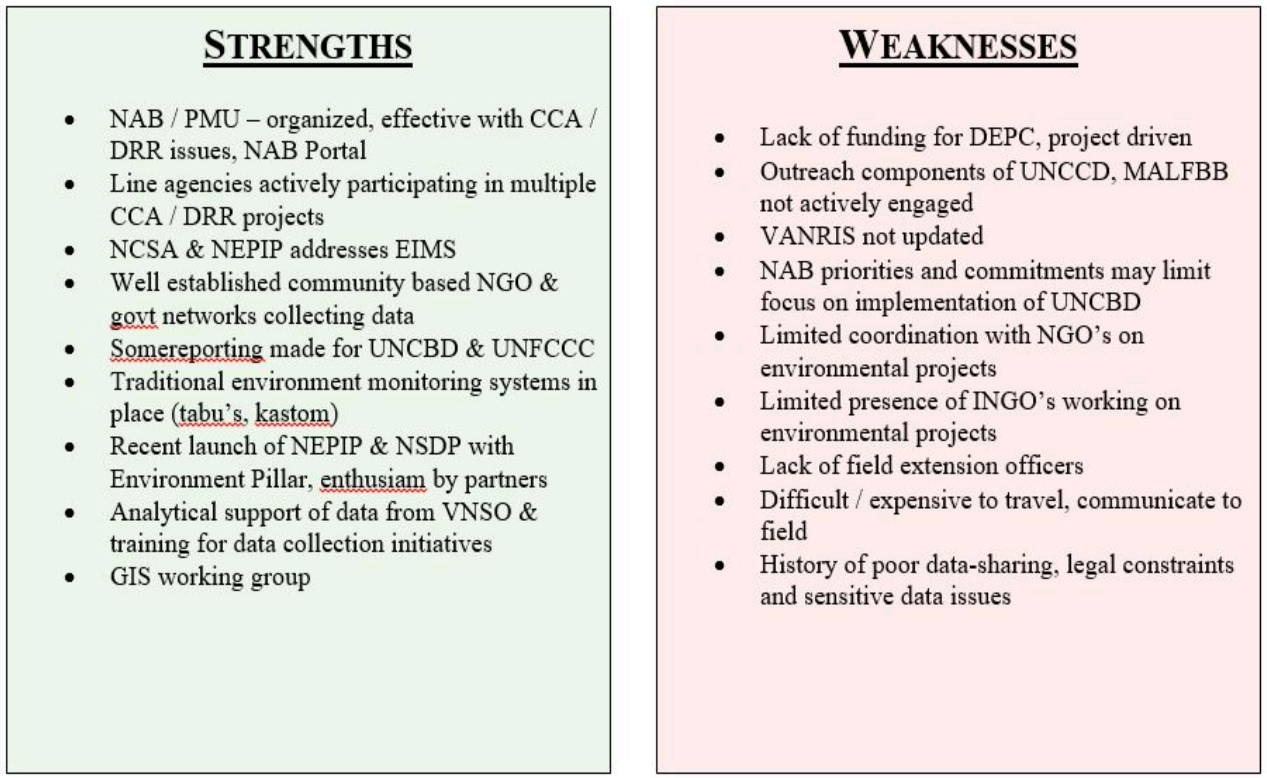
Category	Output	Status
Environmental information inventory	Inventory conducted across all relevant government and non-government stakeholders of existing environmental data collected	Completed
Environmental information gap analysis	Analysis conducted of data collection needs against international convention obligations and Vanuatu's NSDP	Completed
Database data set compilation	Data sets for inclusion in the EIMS have been laid out, indicating required data under the NEPIP and NSDP targets	Completed
Database infrastructure	Development of an EIMS database, housed at DEPC	Completed
Training	Training needs assessment to identify gaps in knowledge and capacity building requirements	Completed
	Training package developed in data processing and database use	Completed
	Training sessions undertaken with relevant stakeholders	In progress but limited in scope
Institutional mandates for data sharing	MoU between DEPC and all relevant government departments and agencies	In progress but potentially not best course of action
Implementation of database	Population of database with existing data	Not started
	Uptake of the use of the database by relevant stakeholders	Not started

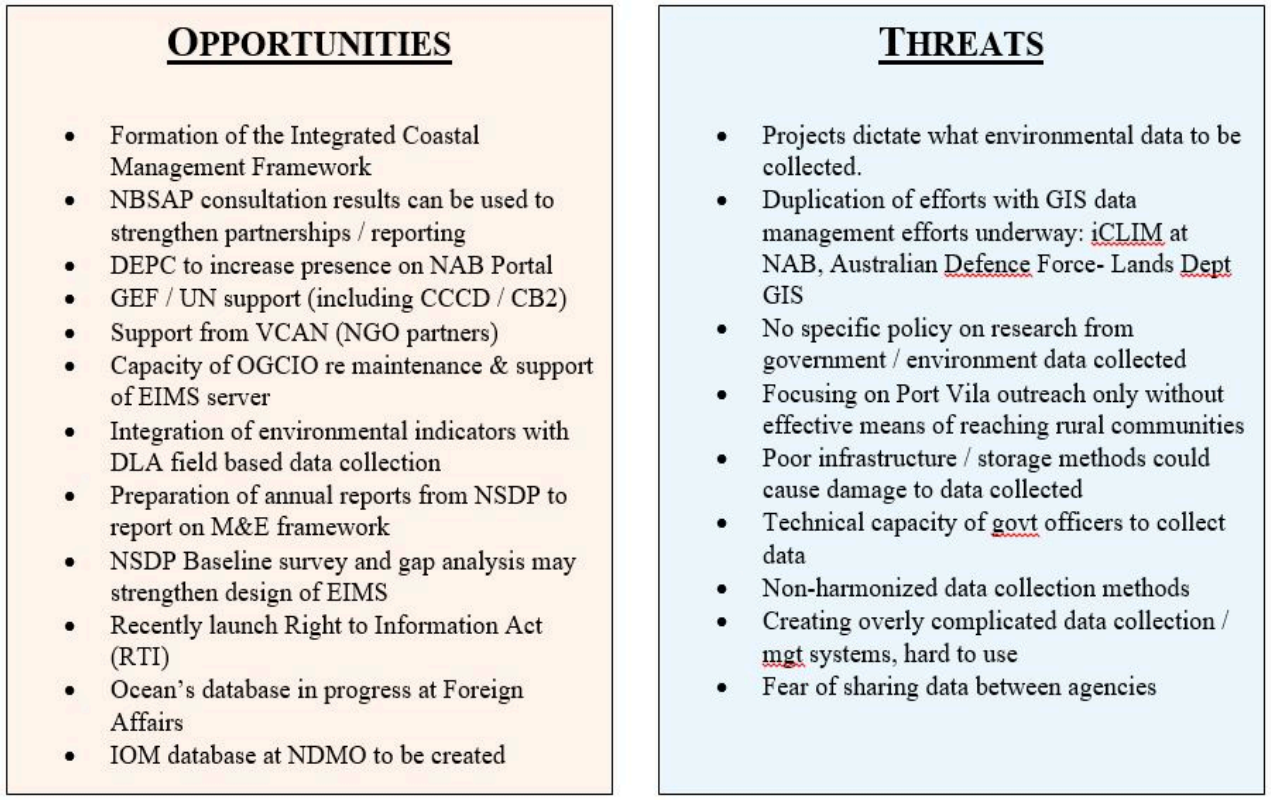
Source: Report author, 2019 (interpretation of review of all project materials - refer below)

Of particular use and importance is the scoping assessment of needs and barriers that prevent the efficient accumulation, storage and management of environmental data in Vanuatu. Recommendations provided in this report have in large part, not been adopted by DEPC as yet.

The Strength-Weaknesses-Opportunities-Threats analysis undertaken relating to Vanuatu's environmental data

needs is shown below.





Source: Environmental Data Generation, Exchange and Dissemination Challenges in Vanuatu (Hardwick, 2015)

Some weaker recommendations produced as part of some project outputs will prove difficult for implementation in the next six months by the local CB2 Project Coordinator. Revisions to the potential structures developed for 'data working groups', and recommendations for the allocation of a process to increase the national budget allocation to the environment are encouraged to be re-analysed to ensure the sustainability of the EIMS beyond the CB2 project.

Due to the significant challenges relating to data collection and management in Vanuatu and the lack

of historical data collection methods in DEPC and other departments, significant attention needs to be given to the capacity building and awareness side of data collection and management, to foster a culture between DEPC and other government stakeholders as to the expectations of data collection for environmental reporting. It is thought that additional funding will be required in the near future to implement the recommendations developed through the planning and analyses of the CB2 project.

While the database is currently functional, as of May 2019, the database had not been populated and it is unsure if this step will be completed prior to project closure.

Reference list:

- Hardwick, M., 2015a, *Environmental Data Generation, Exchange and Dissemination Challenges in Vanuatu,* United Nations Development Programme.
- Hardwick, M., 2015b, *CCCD / CB2 Environmental Information Management Project Strategy for Vanuatu,* United Nations Development Programme.
- Hardwick, M, 2018, *Deliverable Reports for CB2 Project*, United Nations Development Programme.
- Hardwick, M., Sirma, Y. and R. Smithy, 2018, *Training Needs Analysis Results and Capacity Building Support*, United Nations Development Programme.
- Sirma, Y., 2018, *Deliverable Reports for CB2 Project*, United Nations Development Programme.

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For interview references please refer to methodology section below.

National Target(s)

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
National Target 7: By 2030, 30% of Vanuatu's natural forest (Forestry) is being actively managed and protected.
National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.
National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved

through community and government effective management measures.
National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.
National Target 4: Targets for conservation areas set in provincial strategic plans are achieved.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Successful and useful identification and analysis of existing in-country data and data needs.
- Development of a functional EIMS database, housed by DEPC.
- Completion of a training needs assessment.
- Completion of training for some government staff.

Progress is left to complete in the following areas:

- Further detailed collaboration is required with each stakeholder department and organisation who will be using the database to ensure their internal workplans and capacity encompass the collection of environmental data required by DEPC and the NSDP (i.e. address existing content-based data gaps in each government department).
- Recommended adoption of detailed stakeholder-based recommendations included in the document

The tools and methodology used for the assessment of effectiveness included:

- Expert advice from CB2 Local Consultant (2017/18).
- Interview with DEPC CB2 ovesight manager/Senior Conservation Officer/
- Interviews with CB2 Project Coordinator (both former and current).
- Literature review of CB2 project output and deliverables reports.
- Review of GEF/UNDP CB2 Project Document.

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- Review of CB2 Project Preparation Grant phase documents.
- Ineractive review and analysis of EIMS database.

Obstacles and scientific and technical needs related to the measure taken

Obstacles, scientific and technical needs related to the measure include:

- **Staff turnover:** The former CB2 Project Coordinator has recently departed the project, with a new replacement Project Coordinator taking on the role. This has led to some delays of project tasks during the recruitment process and transition period.
- **EIMS practical implementation plan:** The CB2 project outputs have been successful in producing many appropriate recommendations. The missing link is a plan of action for the implementation of these recommendations, and the investment of time in working with individual department to set up the data collection processes required to meet the obligations of national environmental targets.

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7.1 - Resource Mobilisation: Progress toward resource mobilisation in the national Department of Environmental Protection and Conservation for NBSAP implementation

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

Vanuatu's national Department of Environmental Protection and Conservation is part of the Ministry of Climate Change Adaptation, Meteorology & Geo-Hazards, Environment, Energy and Disaster Management. This measure contributes to the foundational steps which will assist Vanuatu to eventually complete a Resource Mobilisation Plan as per Action RM2.5, and Focus Area RM2.

In 2016, the Public Service Commission, Vanuatu's national government oversight agency, approved an updated structure for the national Department of Environmental Protection and Conservation (DEPC, 2019). This new structure recognises the increased roles and responsibilities associated with environmental protection and conservation. The structure arranged DEPC into five divisions, ensuring that the department has room to grow, enables environmental issues to be addressed in the provinces and improves compliance with national legislation.

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The five divisions include:

- Biodiversity and Conservation.
- Environmental Planning and Impact Assessment.
- Provincial Outreach.
- Environmental Protection.
- Finance, Administration and Support Services.

DEPC also hosts staff from a variety of external donor-funded projects.

Since 2016, permanent staff have been recruited into the following positions at DEPC, resulting in the expansion of the department and a more transparent and clarified division of roles:

- EIA Officer.
- Compliance Officer.
- Biosafety and Invasive Species Officer.
- Senior Conservation Officer.
- Senior Officer (Environmental Engineering).
- Pollution Control Officer.

As such the Biodiversity and Conservation division, responsible for guiding the implementation of the NBSAP, now have two full-time members, being the Biosafety and Invasive Species Officer and the Senior Conservation Officer.

Staffing is an important step toward mobilising accessible resources for the implementation of all NBSAP actions. However, financial resource mobilisation plans and strong implementation strategies for the NBSAP and biodiversity actions have not yet been developed by DEPC, nor has the department commenced investigation into how biodiversity and conservation actions will be integrated across departments and sectors. However, restructuring has occurred in 2019 to include more positions, which will be decentralised for more impactful work across the islands, as per the guidelines of Vanuatu's Public Service Commission.

Reference list:

- Department of Environmental Protection and Conservation, 2019, 'Organisational Structure', *DEPC website*, available at <https://environment.gov.vu/index.php/about-us/organisational-structure>

This summary is also based on in-person interviews undertaken in preparation for this Sixth National Report. For

interview references please refer to methodology section below.

National Target(s)

National Target 14: The Ministry of Finance will need to set realistic annual budgetary targets and DEPC to do 3 yearly resource mobilisation plan based on realistic NBSAP Actions & Targets.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure taken has been partially effective.

Progress has been achieved in the following ways:

- Expansion of DEPC's ability to undertake work towards the implementation of the NBSAP, with the employment of full-time permanent staff.
- Organisation of DEPC into five divisions, as approved by national government administration.
- Acknowledgement through these administrative actions of the importance of environmental work in Vanuatu at the national government level.

Progress is yet to be achieved in the following ways:

- Develop a Vanuatu Resource Mobilisation plan to include policy and institutional analysis, expenditure review, strategies, actions and costs, projected future states with investments, opportunities for mobilisation of resources, making a case of for biodiversity investments and consolidate resource mobilisation plan with finance mechanism, actors and timelines.
- Assess the cost of NBSAP strategies and action, identify financial gaps and scale up finance mechanism
- Conduct annual stakeholders’ meeting to discuss budget and report on progress of NBSAP species component implementation. Species conservation implementation to include enforcement roles of the relevant authorities e.g. Biosecurity.
- Integration of NBSAP priorities, and financial flows into other department policies and plans.

The tools and methodology used for the assessment of effectiveness included:

- Expert opinion from DEPC Director.

EN

- Interview with DEPC Provincial Outreach Officer.
- Interview with DEPC Legal Advisor.
- Stakeholder input from DEPC Senior Conservation Officer.
- Review of DEPC website.
- Author opinion.

Other relevant website address or attached documents

Website - Department of Environmental Protection and Conservation

Obstacles and scientific and technical needs related to the measure taken

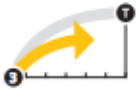
Obstacles, scientific and technical needs related to the measure include:

- **Funding:** A lack of continuity in funding and inability to provide recurrent expenditure (i.e. lease-rental and/or management of protected areas; CITES implementation; threatened species management; invasive species management etc.).
- **Lack of strategic planning/direction:** Donors are inevitably selective in their choice of projects and their priorities may not coincide with those of the Government.
- **Resourcing:** Undue reliance on expatriate technical specialists.
- **Donor funding:** The national government can tend to neglect its funding role in resourcing their departments, due to the availability and reliance on project funding.

EN

Section III. Assessment of progress towards each national target

National Target 1: By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and 'kastom' importance are conserved through effective community and government management measures.



2019 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

07 May 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 1.2, 1.3, 1.4, 1.5, 1.11, 2.2, 3.3, 4.1, 4.7 and 6.5 for information relating to the progress made toward achieving this national target.

Additional information:
Vanuatu’s progress towards the conservation of at least 17% of terrestrial and 10% of coastal marine areas are outlined in the table below.

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Terrestrial/marine	Registered/unregistered	Area covered (km^2)	Total terrestrial/marine area (km^2)	% total terrestrial/marine area
Terrestrial	Registered	118.15	12,575	0.9%
	Unregistered	557.78		4.4%
Totals		**675.93**		**5.4%**
Marine	Registered	4.6	622,073	0.0007%
	Unregistered	5.02		0.0008%
Totals		**9.62**		**0.0015%**

The main piece of evidence for the assessment of this target is information provided by the Biodiversity and Conservation team within the Department of Environmental Protection and Conservation. A registry of conservation areas are kept at DEPC, including the coverage area of registered conservation areas, and some tabu areas (primarily those listed are communities which have indicated an interested in becoming registered or working further with DEPC, rather than a comprehensive listing of all traditional tabu areas in the country).

It should be noted that not all traditional and unregistered tabu areas have had their coverage calculated. Subsequently, the percentage covered by marine conservation areas in particular, could be much higher, based on areas alone. This can be evidenced through the recording of approximately 420 land, forest, water catchment and marine conservation areas across Vanuatu's islands, collected during NBSAP consultations. The attached maps provide approximate location data for these conservation sites. Whilst further assessment is required to verify the voracity of the data, and whether conservation areas are actively being managed, it should be acknowledged that as the first national record of conservation areas based on nation-wide consultations, this list is a sign of progress against this national target.

With regard to whether all areas included in the calculation above are being 'conserved through effective community and government management measures', this is yet to be concluded as at present, there exists no means of assessing conservation area effectiveness, with the exception of registered areas meeting their reporting obligations (discussed further under National Target 3). In addition, reporting obligations alone are not necessarily a rigorous assessment of effectiveness, due to the quality of reporting and reporting requests. Moreover, it is considered that traditional tabu

areas can be equally as effective as registered areas, depending upon the strength of custom governance and the understanding of conservation principles in communities. As such, the percentages described above require further analysis in future based on a methodology and data collection process which is to be setup to define and measure ‘effectiveness’ across both registered and unregistered areas.

The same applies to the definition of conservation areas as ‘representative examples’. Some application of this rule can be applied to marine conservation areas, with the progress made towards the development of a Marine Spatial Plan for Vanuatu. For terrestrial areas, Vanuatu relies on KBAs identified by the 2012 CEPF East Melanesia Hotspot Assessment to some degree, though this does not inform the creation of terrestrial conservation areas in all cases.

Major obstacles to accurate collection of this data are discussed in Section II, but in summary include the following:

- Funding constraints for conservation in Vanuatu, from a national level mean that annual conservation initiatives are limited in scope.
- Resourcing is limited at a national level with only two permanent staff in the Biodiversity and Conservation Division at DEPC.
- Donor funding tending to focus on in-depth development of particular conservation areas, rather than assisting with national strategic planning for conservation
- Geography of Vanuatu being an archipelago of islands spread over 1,300 kilometres, making some parts of the country remote and inaccessible with transportation options expensive and time-consuming.
- Lack of strategic planning capacity in government to adequately develop a national plan, methodologies and indicators to adequately address all aspects of this target.
- Cultural and linguistic diversity of Vanuatu, which is a celebrated part of the nation’s identity and should be fostered and treasured, but which makes nation-wide strategies difficult to implement in practice due to the diversity of customary practices across islands.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu’s NBSAP are the following indicators, which are ascribed to this national target, and National Target 2, 3 and 4:

1. Total area of representative coverage of legally recognised, other effective conserved areas and locally managed areas in terrestrial and marine areas including sites of particular importance for biodiversity.
2. Percentage of terrestrial and marine protected areas that are effectively managed based on agreed national and international protected area conditions and management effectiveness.
3. Measure of ecosystem service values and equity of benefits from CAs.
4. Level of connectivity of CAs and other area based approaches with broader landscapes and seascapes.

Indicators used for the assessment of this target:
For the purposes of this Sixth National Report, Indicator 1 has been used for the evaluation of this national target, with the assumption that all listed conservation areas in the National Registry kept by DEPC are ‘effectively managed’ (i.e. the numbers above show a total, rather than a total of ‘effectively managed’ areas based on other separate criteria for 'effectiveness' which have not yet been developed). No applicable monitoring and data collection method has been developed for indicators 2, 3 and 4 as yet. As such, these indicators have not been used as part of the assessment towards this national target in Vanuatu's 6NR.

The totals above should be seen as Vanuatu’s first step since the publication of its new NBSAP last year (including national indicators) towards the development of complete data sets in order to accurately assess the national indicators in the lead-up to 2030 (reporting period end for the NBSAP).

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Any other tools or means used for assessing progress.

Other tools used for assessing progress included:

- Quantitative data from World Protected Areas database was used to provide the total land and sea

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coverage in Vanuatu.

- Quantitative data available for both registered and non-registered areas from Vanuatu's National Conservation Registry and National Conservation Area Update presentation by Department of Environmental Protection and Conservation's Senior Conservation Officer.
- Quantitative data from NGOs who have recently assisted communities in setting up traditional conservation areas.
- Quantitative data gained from GIS analysis of boundary maps from conservation areas to calculate total areas.
- Interviews and stakeholder consultations with:
    - DEPC Director.
    - DEPC Senior Conservation Officer.
- Community consultation sessions with conservation committee member/s at:
    - Jinarong Conservation Area, Uripiv, Malampa Province
    - Navov Conservation Area, Uripiv, Malampa Province
    - Jinong Marine Park, Uripiv, Malampa Province
    - Amal Craby Ba CCA, Malekula, Malampa Province
    - Losenwai Conservation Area, Malekula, Malampa Province
    - Uri Narong Marine Park, Uri, Malampa Province
    - Vatthe CCA - Saama village + Matantas village committee representatives, Santo, Sanma Province
    - Wairua CCA, Santo, Sanma Province
    - Loru CCA, Santo, Sanma Province
    - Tekrkak Conservation Area - Imaio, Tanna, Tafea Province
    - Nusumetu Conservation Area, Tanna, Tafea Province
    - Port Resolution Marine Protected Area, Tanna, Tafea Province
    - Rockwater Marine Protected Area, Tanna, Tafea Province
    - Waisisi Marine Protected Area, Tanna, Tafea Province
    - Lake Letas Conservation Area, Gaua, Torba Province
    - Nerenigman Conservation Area, Mota Lava, Torba Province
    - Var Conservation Area, Mota Lava, Torba Province

- Rah Conservation Area, Mota Lava, Torba Province
- Totolang Conservation Area, Mota Lava, Torba Province
- Yemen Turtle Conservation Area - Vuslengleng, Vanua Lava, Torba Province

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

As described above and below, the level of confidence for this assessment is based on partial evidence. Whilst some coverage areas for conservation areas have been collected, the data assessment is incomplete. Moreover, the accuracy of areas needs to be verified. Only three of seven registered conservation areas have had official boundary surveys conducted. EN

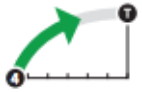
Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

As described above, monitoring of this target is, at present, focussed on registered conservation areas only. A national audit of the coverage and effectiveness of all unregistered conservation areas is required to form the foundation of an ongoing monitoring program, to ensure that the measure of this targets takes into account traditional tabu areas that are managed under customary systems. It is hoped that under the upcoming BIOPAMA II project, DEPC will continue to work towards the collection of better data to track progress against this national target. EN

National Target 2: By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.



2019 - On track to achieve target

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

10 May 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 1.1, 1.2, 1.5, 1.8, 1.10, 2.3, 3.3 and 6.5 for information relating to the progress made toward achieving this national target.

The list of the nine legally registered conservation areas in Vanuatu is as follows:

- Vatthe Community Conservation Area, Santo
- Penouru Community Conservation Area, Santo
- Edenhope Community Conservation Area, Santo
- Amal Crab Bay Community Conservation Area, Malekula
- Loru Community Conservation Area, Santo
- Tabwemasana Community Conservation Area, Santo
- Apuma Lelepa Island Tours Community Conservation Area, Lelepa

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- Wairua Community Conservation Area, Santo
- Malakloplop Community Conservation Area, Gaua.

There are at least three more CCAs progressing towards legal registration, being:

- Kauri Reserve, Erromango
- Lake Letas, Gaua
- Bay Homo, Pentecost
- Lolathe, Santo

Of registered sites, 5 have been registered in the past 4 years, and of the progressing-towards-registration sites, all have been worked on significantly in the period 2014-2018. As such, this target is seen to be progressing on track to achieve the target, considering only the first part of the target's criteria.

No indicators have been formally established which would allow monitoring of whether these conservation areas are 'effectively supported and managed'. At present, support provided by DEPC to registered conservation areas include the following:

- Rapid biodiversity assessments are organised and carried out by DEPC within the proposed boundary of the registration area, prior to the development of a management plan.
- Management plans are developed in collaboration between the community and DEPC, who assist on a technical basis.
- Annual reporting is followed up by DEPC for each registered conservation area, and technical assistance is provided in helping communities to complete these reports.
- Anecdotal, observational and ad-hoc evidence is provided to DEPC as to the activeness of a conservation area, based on interaction with DEPC throughout the year, and requests for assistance.
- External organisations and projects target registered conservation areas to carry out ecological or capacity-building activities. For example, over the past four years, the following external

organisations have worked in the conservation areas identified:

- Loru CCA – Live and Learn and The Nakau Programme
- Tabwemasana – Ecotourism Australia
- Lake Letas - Eco-lifliehoods Development Association

The following proposed areas have had involvement from the organisations listed:

- Lake Letas – Landholders Conservation Initiative Project (GEF3-funded), GEF4 and Eco-lifelihoods Development Association
- Kauri Reserve – GEF4
- Bay Homo – GEF4 and GEF5 (at present)

Based on these provided services, it is considered by the author that effective support is provided by DEPC to communities in the establishment phase of registering conservation. The prioritisation of collecting scientific data, and capacity building and consultation assistance to develop a collaborative management plan are all positive and effective steps towards better conservation in these pockets across Vanuatu. DEPC's scope to assist is more limited once a CCA has been registered, with the exception of prompting and verbal assistance with annual reporting, due to limited funding, time and resources to visit all conservation areas and provide capacity building to the extent required to ensure sustainability of effective management measures. However, recent moves to establish National Ranger Toolkits will potentially alter this and enable DEPC to assist conservation areas more broadly with monitoring of their areas.

In theory, management plans provide a model for effective governance and management of the conservation areas. In practice, the effectiveness of the implementation of these plans needs to be more thoroughly measured to adequately assess progress against this target.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu’s NBSAP are the following indicators, which are ascribed to this national target, and National Target 2, 3 and 4:

1. Total area of representative coverage of legally recognised, other effective conserved areas and locally managed areas in terrestrial and marine areas including sites of particular importance for biodiversity.
2. Percentage of terrestrial and marine protected areas that are effectively managed based on agreed national and international protected area conditions and management effectiveness.
3. Measure of ecosystem service values and equity of benefits from CAs.
4. Level of connectivity of CAs and other area based approaches with broader landscapes and seascapes.

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Indicators used for the assessment of this target:

For the purposes of this Sixth National Report, Indicator 1 has been used for the evaluation of this national target, with the assumption that all listed conservation areas in the National Registry kept by DEPC are ‘effectively managed’ (i.e. the numbers above show a total, rather than a total of ‘effectively managed’ areas based on other separate criteria for 'effectiveness' which have not yet been developed). No applicable monitoring and data collection method has been developed for indicators 2, 3 and 4 as yet. As such, these indicators have not been used as part of the assessment towards this national target in Vanuatu's 6NR.

Any other tools or means used for assessing progress.

Other tools or means for used for assessing progress included:

- Quantitative information from Vanuatu's National Conservation Registry.
- Review of selection of CCA Management Plans.
- Review of CCA Annual Reports - Summary Database (incomplete).

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- Expert opinion from DEPC Senior Conservation Officer.
- Expert opinion from DEPC Director.
- Author-developed methodology (in consultation with DEPC) of unmeasured definitions of 'effective support and management'.

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

The level of confidence for this assessment is 50% based on comprehensive evidence (the list of conservation areas registered under the EPC Act), and 50% based on partial evidence, which is qualitative and anecdotal in nature (measures of what constitutes effective support and management).	EN

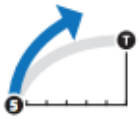
Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Monitoring of the first part of the target is through the National Conservation Area Registry, which is kept by DEPC and tracks the conservation areas registered under the EPC Act. At present, no formal monitoring system is in place to define or manage data collected in relation to effective support received, or effective management carried out, by CCAs.	EN

National Target 3: By 2030, 90% of CCA management committees are complying with their reporting obligations to DEPC (NEPIP, 2016).



2019 - On track to exceed target

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to exceed target

Date the assessment was done

29 May 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 1.1 and 1.2 for information relating to the progress made toward achieving this national target. The 'reporting obligations' for CCA management committees refers to the requirements of only those conservation areas which are registered under the EPC Act. As stated in the 'Information Booklet for the Registration of CCAs', annual reporting is compulsory as a requirement of registration. An Annual Report template is provided by DEPC to registered CCA committees for their completion each year. According to a database kept by the Senior Conservation Officer, 100% of registered conservation areas complied with their reporting obligations from 2014 – 2018. The committees of the conservation areas do require follow-up and assistance with reporting in order to complete their reports. A sample of Annual Reports were reviewed in preparation for this Sixth National Report. The quality of the reporting varies between conservation areas, with some committees	EN

providing more detailed and informative reporting, and some providing limited text which does not fully describe a situational or retrospective analysis of the year's events and outcomes. Technical assistance and prompting regarding the completion of reporting is part of the Senior Conservation Officer's annual work plan, which has ensured the submission of Annual Reports by all conservation area committees.

Progress has been made with regard to advancing reporting quality through the development of some capacity-building initiatives. One is the introduction of annual island-based meetings, facilitated by the Senior Conservation Officer, which bring conservation area managers together, to discuss successes and challenges relating to their conservation areas each year. This assists DEPC to gain further in-person feedback on conservation activities, beyond the written report. The other key initiative is the development of toolkits and training in these toolkits, on management and monitoring methods. These are discussed in Implementation Action 1.2 in Section II of this 6NR.

Major obstacles and challenges related to conservation area reporting are discussed in Section II, but in summary include the following:

- Data storage: At present, records are not kept in an organised fashion at DEPC, with either hard copies in various locations around the office, or soft copies kept on personal hard drives or laptops. It is envisioned that, on the completion and population of the Vanuatu EIMS, the filing system for reports will improve. Moreover, due to the workload on senior DEPC staff, databases are not kept up to date. Rather, most information is not translated to any kind of reporting, creating a risk to information loss if staff leave or pass away.
- Technical capacity building: Further capacity is needed to be developed amongst conservation committees if data collection and conservation effectiveness is to be measured in the future.
- Scope of reporting conditions: Limits to reporting capacities are evident in the Annual Report template which includes only the collection of qualitative or observational data, based on the impressions of the committee members about their conservation area, with no requirements for regular monitoring. The conditions referred to in the national target indicators – 'agreed national and international protected

area conditions and management effectiveness' – have not been adequately defined for the purposes of monitoring, and this is required to enhance progress against this target going forward.

- Development of relevant indicators: It is considered necessary to review the indicators relating to this target, to ensure that they capture suitable data collection methods and define what should be measured.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu's NBSAP are the following indicators, which are ascribed to this national target, and National Target 2, 3 and 4:

1. Total area of representative coverage of legally recognised, other effective conserved areas and locally managed areas in terrestrial and marine areas including sites of particular importance for biodiversity.
2. Percentage of terrestrial and marine protected areas that are effectively managed based on agreed national and international protected area conditions and management effectiveness.
3. Measure of ecosystem service values and equity of benefits from CAs.
4. Level of connectivity of CAs and other area based approaches with broader landscapes and seascapes.

EN

Indicators used for the assessment of this target:

For the purposes of this Sixth National Report, Indicator 2 has been used for the assessment of this national target. At this stage, 'condition' and 'management effectiveness' has been taken to mean those registered CCA committees which have submitted their compulsory Annual Reports.

Limiting factors relating to Annual Reports are described above. As the national protected area network matures, it is planned that Vanuatu will update its definition and inclusion of criteria for what 'conditions' and 'management effectiveness' entails for the local island-based context, to ensure it is as robust as possible whilst maintaining consideration for the challenges at the grassroots level.

The other indicators are not relevant for this target and as such, have not been included in this assessment.

Any other tools or means used for assessing progress.

- Expert opinion and interview of DEPC Senior Conservation Officer.
- Interview with CB2 Environmental Information Management System Project Coordinator.
- Review of CCA Annual Reports - Summary Database (incomplete).
- Review of sample of CCA Annual Reports between 2014-2018.
- Community consultation sessions with registered conservation area committee member/s at:
  - Amal Craby Ba CCA, Malekula, Malampa Province
  - Vatthe CCA - Saama village + Matantas village committee representatives, Santo, Sanma Province
  - Wairua CCA, Santo, Sanma Province
  - Loru CCA, Santo, Sanma Province

EN

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

The level of confidence for this assessment has been listed as being based on comprehensive indicator information. The level of information available does indicate that CCAs are complying with their reporting obligations at a rate of 100%. It should however be noted again that:

- The indicators for this target require review to be better suited to available data and data collection

EN

methods.
- The rating does not, at present, take into account the quality of reporting, or the usefulness of information presented.

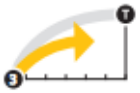
Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Monitoring of the target is conducted by the Senior Conservation Officer through the recording of Annual Reports in the national database. Monitoring is partial, as evidenced through incomplete records and a lack of focus on quality of reporting. Further development of indicators is required in relation to this target, to ensure that Vanuatu is able to track progress against relevant and suitable indicators. EN

National Target 4: Targets for conservation areas set in provincial strategic plans are achieved.



2019 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

29 May 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to Implementation Actions 1.7 and 6.5 for information relating to the progress made toward achieving this national target.

At present, there are no provincial strategic plans which encompass the up-to-date provincial targets, as outlined in the NBSAP 2018-2030.

Progress has been made toward this target being achieved, in that provincial consultations for the NBSAP were conducted and resulted in the creation of the NBSAP Provincial Implementation Plans, which have defined specific targets for the establishment of both registered and traditional conservation areas before 2030. The targets for each province are ambitious, and will likely require review, in consultation with key stakeholders in each province, to create a realistic, and detailed action plan for the achievement of these targets considering resources and budget.

It was evidenced through consultations with some provincial stakeholders as part of the preparation of this 6NR, that few parties were aware of the finalised NBSAP or had access to a copy. DEPC will be required to improve communications with provincial stakeholders in order to have conservation targets included in provincial strategic plans, and for the required planning and budgeting which this entails, to be carried out.

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Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu’s NBSAP are the following indicators, which are ascribed to a group of targets, being National Targets 1, 2, 3 and 4:

1. Total area of representative coverage of legally recognised, other effective conserved areas and locally managed areas in terrestrial and marine areas including sites of particular importance for biodiversity.
2. Percentage of terrestrial and marine protected areas that are effectively managed based on agreed national and international protected area conditions and management effectiveness.
3. Measure of ecosystem service values and equity of benefits from CAs.
4. Level of connectivity of CAs and other area based approaches with broader landscapes and seascapes.

Indicators used for the assessment of this target:

The specific allocated indicators from Vanuatu's NBSAP are not considered relevant to this particular national target. As such, these indicators have not been used in this evaluation. Rather, the target has been assessed by the following:

- Number of provincial strategic plans which incorporate up-to-date provincial targets, as per NBSAP Provincial Implementation Plans.
- Progress (qualitatively described) towards the achievement of:
    - Setting of provincial targets (regardless of achievability of these targets).
    - Inclusion of targets in provincial strategic plans.
    - Review of targets in consultation with provincial stakeholders, and realistic implementation plans set.

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Any other tools or means used for assessing progress.

Other tools or means used for assessing progress:

- Consultations undertaken by 6NR author with various government, non-government and community-based stakeholders in provinces around Vanuatu (with the exception of Penama Province, due to current relocation

EN

activities due to volcanic activity impacting the Penama provincial capital).

- Provincial government consultations included:
  - Secretary-General, Malampa Provincial Government.
  - Consultant - Tafea Plan, Tafea Provincial Government.
  - Acting Secretary-General, Sanma Provincial Government.
  - Provincial Planner, Sanma Provincial Government.
  - Area Administrator, Torres and Ureparapara Area Council.
  - Provincial Planner, Torba Provincial Government.
  - Project Officer, Torba Provincial Government.
  - Councillor for Merelava, Torba Provincial Government.
  - Community Liaison Officer, Mota Lava.
  - Community Liaison Officer, Ureparara.
  - Accountant, Torba Provincial Government.
  - Environment Officer, Shefa Provincial Government.
- Review of the NBSAP Provincial Implementation Plans.
- Review of provincial strategic plans.

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

The level of confidence of this assessment is not based on formal monitoring results for this national target. However, it is still deemed an accurate and valid assessment based on available information. Therefore the confidence is high in the evaluation.

No formal monitoring system is set up for the monitoring of this national target. Consultations with provincial

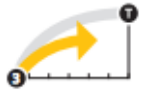
EN

governments by the DEPC are not undertaken on a regular basis in relation to this target. Relationships will need to be developed, and may be assisted by the formal employment of Environment Extension Officers in provincial centres, who would be able to closely plan and monitor efforts toward the achievement of provincial conservation targets.

Adequacy of monitoring information to support assessment

No monitoring system in place

National Target 5: By 2030, at least 17% of important biodiversity areas, livelihoods and kastom importance are conserved through community and government effective management measures.



2019 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

30 May 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 1.3, 1.4, 1.5, 1.8, 1.9, 1.10, 2.3, 3.1, 3.3, 3.4, 3.5, 4.2, 4.3, 4.4, 4.5 and 6.5 for information relating to the progress made toward achieving this national target. The NBSAP does not define what ‘important biodiversity areas’ entails, as referred to in this national target. This led to the need to describe what 'important biodiversity areas' comprised, for the purposes of this assessment. For conservation and project prioritisation, Vanuatu does use the CEPF’s East Melanesian Islands Biodiversity Hotspots, as defined in their 2012 Ecosystem Profile for East Melanesia. Vanuatu has 27 Key Biodiversity Areas (KBAs), as defined by CEPF, which cover a range of ecosystem types and an area of 4,731.16 square kilometres. The full list of KBAs is provided below. In addition, those KBAs which contain some formally protected areas (under EPC Act) are also identified. In total, 1.83% of Vanuatu’s KBAs are legally protected as registered conservation areas under the EPC Act. Data on traditional protected areas within the KBAs was deemed too incomplete to include in this assessment.	EN

KEY BIODIVERSITY AREA (CEPF, 2012)	AREA (km2)	KBA CONTAINS REGISTERED CCA	CCA AREA (km2)	CCA AREA (ha)
Ambae	153.96			
Ambrym	176.05			
Aneityum	38.50			
Epi	137.42			
Erromango	327.17			
Futuna	10.77			
Gaua	187.25			
Green Hill	20.30			
Homo Bay	20.63			
Loru	140.53	Yes - Loru CCA	2.20	220
Maewo South	37.68			
Mota Lava	35.62			
Mount Tukusmera	59.69			
Neck of Malakula - Crab	222.46	Yes - Amal Crab Bay CCA	7.47	747
North Efate	612.01			
Pentecost North	51.97			
Ringi Te Suh	97.32			
Rowa Reef	46.37			
Santo Mountain Chain	1,683.60	Yes - Tabwemasana CCA	49.59	4959
Small Nambas	213.90			
Tongoa - Laika	34.41			
Torres Islands	3.73			
Ureparpara	58.81			
Vanua Lava	148.51			
Vatthe	113.32	Yes - Vatthe CCA	27.40	2740
West Malo	56.45			
Wiawi	42.73			
TOTAL	**4,731.16**		**86.66**	**8,666**
PERCENTAGE TOTALS	**100%**		**1.83%**	**1.83%**

Source: Report author based on compiled data, 2019

As can be identified in the table above, at present, only 1.83% of KBAs in Vanuatu are legally protected.

Author opinion in collaboration with expert advice and a solid understanding of the speed of progress to date leads to the conclusion that Vanuatu's progress will need to increase in speed to achieve this national target of 17% of important biodiversity areas to be protected by 2030. This does note however, that community protected areas (not legally registered, but protected under customary law) which also exist within 'important biodiversity areas', are not included in this assessment, nor is 'important biodiversity areas' fully defined, thus there is the potential that an area larger than 1.83% of current KBAs are protected at present. A review and clarification of this national target has been identified as a need for DEPC to complete.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu’s NBSAP are the following indicators, which are ascribed to a group of targets, being National Targets 5, 6 and 7:

1. Trends in forest and inland waters species diversity including traded ones.
2. Trend to which biodiversity and ecosystem service values are incorporated into government accounting reporting.
3. Percentage of forest and inland waters conservation areas to meet national and global targets.
4. Impact of threats to forest and inland waters such as invasive species, deforestation, logging and other threats.

EN

Indicators used for the assessment of this target:
For the purposes of this assessment, indicator 3 was used. Conservation areas which include wetlands were used for this assessment.

Any other tools or means used for assessing progress.

Other tools or means used for assessing progress:

- Expert advice from DEPC Senior Conservation Officer.
- Expert advice from DEPC Director.
- Quantitative data from CEPF East Melanesia Islands Biodiversity Hotspot report.
- Quantitative data from National Conservation Registry.

EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

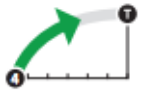
The level of confidence is based on partial evidence, being the National Conservation Registry and the CEPF report. However, due to the lack of data on traditional conservation areas that are contained within KBAs, the level of confidence is not high of the accuracy of the assessment.

EN

Adequacy of monitoring information to support assessment

No monitoring system in place

National Target 6: By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.



2019 - On track to achieve target

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 May 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 1.4, 1.5, 1.8, 2.1, 2.2, 2.3, 2.4, 4.1 and 6.5 for information relating to the progress made toward achieving this national target.

Natural forest

According to the most recent National Forest Inventory (1993), approximately 74% of the land area in Vanuatu (approximately 9,000 square kilometres), are covered with different types of forest (National Forest Sector), of which 890,000ha is still natural forests.

According to the National Forest Policy, produced in 2016, approximately 3% of the mid-to-high forest (approximately 60 square kilometres) and 0.7% of the low forest (approximately 14 square kilometres) are in protected areas. Since then, it is estimated that approximately 54 square kilometres of forest conservation have been added to the protected area registry, which is not significant enough an area to change the overall percentage protected.

Wetlands

EN

The Vanuatu wetlands inventory, most recently updated in 2014, lists the following sites and associated coverage areas.

Site	Island	Ha	Square km
Alligator River	Vanua Lava	30	0.3
Nagpen (Selva) River	Vanua Lava	36.5	0.365
Lake Letas and Solomul River	Gaua	1971	19.71
Jordan River lower reaches and floodplain wetlands	Santo	3335	33.35
Lake Wai Memea	Ambae	19.5	0.195
Lake Wai Lembutaga	Ambae	69.5	0.695
Lake Manaro Ngoru	Ambae	15	0.15
Lake Vui	Ambae	150	1.5
Lake Manaro Lakua	Ambae	170	1.7
Port Stanley, Bushman's Bay, Crab Bay	Malekula	4132	41.32
Port Sandwich, Cook Bay and Maskelyne Islands	Malekula	7004	70.04
South-west Bay Lagoon (Tisiri Lagoon)	Malekula	194	1.94
Duck Lake (Emaotul)	Efate	76.3	0.763
Emaotfer Swamp	Efate	192	1.92
South-east Santo Blue Holes (6 ponds)	Santo	5	0.05
Creek Ai	Efate	50	0.5
TOTALS		**17449.8**	**174.50**

Source: Vanuatu Directory of Wetlands, 2014 (Kalfatake and Jaensch, 2014)

Based on this total of 174.5 square kilometres of Vanuatu containing wetlands, 10% requiring protection to meet this national target equates to 17.45 square kilometres of protected wetlands. If using CCA registration as a means for measuring conservation 'through effective community and governance management measures', the target has been met (and was met prior to the development of this national target). The registration of Amal Crab Bay CCA, and Vatthe CCA (Jordan River and floodplains), which includes the protection of the 74.67 square kilometres of wetland in the national

wetland inventory shown above, totals approximately 42% of national wetlands, which well exceeds the national target of 10% for protection. In addition, the following wetlands from the list above are in the progress of being, or have been proposed for registration under the EPC Act.

Site	Island	Status	Pathway to registration/listing of proposal
Alligator River	Vanua Lava	Proposed	NBSAP Provincial Implementation Plan
Lake Letas and Solomul River	Gaua	In progress	EPC Act
Jordan River lower reaches and floodplain wetlands	Santo	Registered	EPC Act
Lake Wai Memea	Ambae	Proposed	NBSAP Provincial Implementation Plan
Lake Wai Lembutaga	Ambae	Proposed	NBSAP Provincial Implementation Plan
Port Stanley, Bushman's Bay, Crab Bay	Malekula	Registered	EPC Act
Port Sandwich, Cook Bay and Maskelyne Islands	Malekula	Proposed	Pathways CBFM project

Source: Author compiled (with information from National Conservation Registry)

Caveats to this assessment and challenges with regard to achieving this national contribution, are described below:

1. As stated in the most recent Director of Wetlands of Vanuatu (2014), the current wetlands inventory is not exhaustive – “There has been no systematic inventory of all wetlands across the entire area of Vanuatu but such an initiative would undoubtedly identify additional important wetlands, some of which may be suitable for informal or formal conservation measures.” Therefore the percentage coverage of protected wetlands may have to be adjusted in the future, if such a systematic inventory is undertaken on a national scale.
2. As stated above, the parameters of what encompasses “effective community and governance management measures”, are not well-defined in the NBSAP or the indicator listings for the national targets. Whilst this assessment has assumed legal registration of the area to be sufficient to calculate percentage of protected wetlands at this moment in time, further field research with community conservation area representatives, and relevant government staff, as part of consultations for this 6NR, have determined that registration alone does not guarantee protection. For example, the Chairperson of Amal Crab Bay CCA (a significant wetland site included in the above inventory), outlined the challenges of keeping conservation awareness and initiatives active in their

CCA, particularly across numerous villages which share customary ownership of the site, and without secure and sustainable funding. Challenges faced by DEPC in relation to this issue include the department's limited resources (time, funding and staff) in being able to adequately support conservation area committees to stay active in their important community roles. This is particularly important considering the high ecosystem value per hectare of coastal ecosystems (coastal coral, seagrass beds and mangroves combined, 'despite the total areas of these systems being small. It is therefore important that coastal ecosystems are maintained in good ecological condition to ensure sustainable delivery of these high value flows.' (Mackey, B. et. al, 2017). Moreover, many traditionally manged wetlands and conservation areas are effectively managed, but are not included in this report due to a lack of boundary data meaning DEPC currently can not ascertain their size. This work, as described in Section II of this 6NR, to map and ascertain the boundaries of conservation areas, will commence within the next year.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu's NBSAP are the following indicators, which are ascribed to a group of targets, being National Targets 5, 6 and 7:

1. Trends in forest and inland waters species diversity including traded ones.
2. Trend to which biodiversity and ecosystem service values are incorporated into government accounting reporting.
3. Percentage of forest and inland waters conservation areas to meet national and global targets.
4. Impact of threats to forest and inland waters such as invasive species, deforestation, logging and other threats.

EN

Indicators used for the assessment of this target:

For the purposes of this assessment, indicator 3 was used. Percentages were calculated using baseline information

available and using the methods described above. Information sources are described below.

Any other tools or means used for assessing progress.

Other tools or means used for assessing progress include:

- Interview with Director of Department of Forestry (former).
- Expert advice from DEPC Senior Conservation Officer.
- Expert advice from DEPC Director.
- Quantitative information from and analysis of Vanuatu Directory of Wetlands 2014.
- Quantitative information from and analysis of National Forest Sector Policy.
- Qualitative information from the National Conservation Registry.
- Qualitative information from community consultation sessions with conservation committee member/s at:
  - Jinarong Conservation Area, Uripiv, Malampa Province
  - Navov Conservation Area, Uripiv, Malampa Province
  - Jinong Marine Park, Uripiv, Malampa Province
  - Amal Craby Ba CCA, Malekula, Malampa Province
  - Losenwai Conservation Area, Malekula, Malampa Province
  - Uri Narong Marine Park, Uri, Malampa Province
  - Vatthe CCA - Saama village + Matantas village committee representatives, Santo, Sanma Province
  - Wairua CCA, Santo, Sanma Province
  - Loru CCA, Santo, Sanma Province
  - Tekrkak Conservation Area - Imaio, Tanna, Tafea Province
  - Nusumetu Conservation Area, Tanna, Tafea Province
  - Port Resolution Marine Protected Area, Tanna, Tafea Province
  - Rockwater Marine Protected Area, Tanna, Tafea Province
  - Waisisi Marine Protected Area, Tanna, Tafea Province
  - Lake Letas Conservation Area, Gaua, Torba Province
  - Nerenigman Conservation Area, Mota Lava, Torba Province
  - Var Conservation Area, Mota Lava, Torba Province
  - Rah Conservation Area, Mota Lava, Torba Province

EN

- Totolang Conservation Area, Mota Lava, Torba Province
- Yemen Turtle Conservation Area - Vuslengleng, Vanua Lava, Torba Province.

- Qualitative infromation from interviews with Department of Forestry staff:
  - Tafea Provincial Extension Officer.
  - Torba Provincial Extension Officer.
  - Malampa Provincial Extension Officer.
  - Sanma Provincial Extension Officer.

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

The level of confidence is based on partial evidence. Due to the lack of a systematic baseline assessments for both wetlands and natural forests, the percentage of protected areas in these two ecosystem types are not without limiting factors. It is noted that by 2020 an updated National Forestry Inventory will be complete, and it is envisioned that the development of the Vanuatu EIMS will lead to better records and a more up-to-date National Conservation Registry. EN

Adequacy of monitoring information to support assessment

No monitoring system in place

National Target 7: By 2030, 30% of Vanuatu’s natural forest (Forestry) is being actively managed and protected.

2019 - Unknown

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Unknown

Date the assessment was done

09 Jun 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 1.8, 2.1, 2.2, 4.1, and 6.5 for information relating to the progress made toward achieving this national target.

According to the Vanuatu National Forest Policy, approximately 890,000ha of Vanuatu's land area is covered in what can be still considered as natural forest.

For the purposes of this assessment, areas being 'actively managed' are defined as areas of natural forest which are used for commercial purposes (timber harvesting), as monitored by the Department of Forestry. Areas which are 'protected' include those in legally-registered protected areas.

The total area under 'active management' is difficult to assess. According to the Department of Forestry, approximately 20% of the natural forest is used for commercial purposes. However, data is not kept on a regular basis on the proportion of land being 'actively managed', with pockets serviced by the Department of Forestry at any one time, but no regular and systematic monitoring occurring nation-wide.

Active management should include the monitoring of areas covered by mobile sawmills, and enforcement of the conditions for operating mobile sawmills. Mobile sawmills must be licensed and are legally obliged to record the

EN

cubic metres of timber harvested, the species logged and from which areas the harvest was obtained. According to interviews with Department of Forestry Extension Officers throughout the provinces, the Felling Register is not kept up to date with this information, which should be submitted on a monthly basis. Many challenges exist in ensuring sawmill licence holders report truthfully, with most not recording their data or recording false data. Moreover, mobile sawmills are said to often fell timber far beyond the approved area for harvesting. Monitoring takes place on an ad-hoc basis and often records are not adequately kept for the purposes of quantitative analysis. Meanwhile, deforestation was said to be continuing at a steady pace in most provinces, noting that large stands of single species are not often available to fell, and thus selected logging is often the preferred method of harvesting. As such, the percentage of commercially-used forest which is under 'active management' can not be determined at this stage.

The National Forest Policy states that 3% of mid-to-high forest and 0.7% of the low forest (total of 74 square kilometres) are in protected areas.

As such, it is determined that the outcome of the national target is unknown. A new database is currently under development for the Department of Forestry which should assist with ensuring data storage is easier.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu's NBSAP are the following indicators ascribed to a group of targets, being National Targets 5, 6 and 7:

1. Trends in forest and inland waters species diversity including traded ones.
2. Impact of threats to forest and inland waters such as invasive species, deforestation, logging and other threats.
3. Percentage of forest and inland waters conservation areas to meet national and global targets.
4. Trend to which biodiversity and ecosystem service values are incorporated into government

EN

accounting reporting.

Indicators used for the assessment of this target:

For the purposes of this assessment, from this list, anecdotal evidence was provided against Indicator 2, which has been included in the assessment. Indicator 3 was also utilised, with the percentage of natural forest area currently included in protected areas provided. The other two indicators require review of their relevance to National Target 7. Moreover, the creation of more suitable targets (such as mobile sawmill monitoring data) should be considered in the future, but will be dependent on available data.

Any other tools or means used for assessing progress.

Other tools or means used for assessing progress:

- Interview with Department of Forestry Director (former).
- Qualitative interviews with Department of Forestry staff:
  - Tafea Provincial Extension Officer.
  - Torba Provincial Extension Officer.
  - Malampa Provincial Extension Officer.
  - Sanma Provincial Extension Officers.
- Stakeholder input from Department of Forestry Consultant for M+E Database Design.
- Quantitative information from National Forest Policy.

EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

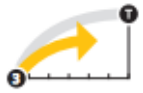
Level of confidence of the above assessment

The level of confidence for this assessment is based on partial indicator information and expert opinion. Not all

EN

indicator information was available, or its veracity was deemed inconsistent to use in this assessment. Expert opinion was heavily relied upon for this assessment.

National Target 8: By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.



2019 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

31 May 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 1.4, 1.5, 3.1, 3.3, 3.4, 3.5, 3.6, 3.7, 4.7, 6.2 and 6.5 for information relating to the progress made toward achieving this national target.

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The NBSAP does not define ‘important marine biodiversity areas’, as referred to in this national target. Due to the parcity of baseline data, for the purposes of this assessment 'important marine biodiversity areas' are defined as those Special and Unique Marine Areas, as identified in the MACBIO review, based on a national study of both offshore and inshore marine areas. The SUMA were rated according to a set of criteria, being:

- Geographic explicitness.
- Amount and nature of justification: whether the area is likely to support rare, vulnerable or unusual habitats or species, threatened species, endemic species, important life stages of key species, or physically or biologically outstanding attributes e.g. unique geomorphology, high species diversity or high productivity.
- Information source reliability.
- National or international obligations.

Some of the SUMA sites were given a special and/or unique status because of their remoteness. Furthermore, many sites have three highly valuable ecosystems in close proximity (coral reefs, mangroves and seagrass beds), which, due to the number of organisms that use all three habitats at different times in their life cycle, would confer a higher value to each individual habitat. Other sites include steep depth gradients that bring oceanic attributes close to productive coastal environments.

The total area of offshore SUMAs is 122,505.28 square kilometres, and the total area of inshore SUMAs is 799.55 square kilometres, with both offshore and inshore SUMA areas totalling 123,304.83 square kilometres. SUMAs therefore account for 19.8% of Vanuatu’s total marine area (622,073 square kilometres).

It is still necessary for a systematic national review to be conducted, to investigate new sites and complete further research on SUMAs which were identified but about which little data has been gathered. It is therefore important to note that this assessment is not based on the definitive baseline, and may change in the future. Of all offshore SUMAs, none are legally protected as yet, nor are they protected under customary law.

Of the inshore SUMAs, two are legally protected under the EPC Act as registered Community Conservation Areas:

- Amal Crab Bay CCA: approximately 7.74 square kilometres

- Wairua CCA: approximately 9.53 square kilometres

Of the remainder of inshore SUMAs, the majority are subject to a customary or traditional tabu, such as the Maskelynes in south-east Malekula which has been supported by the Pathways project.

What can not be currently measured is how effective the government or community governance management areas are. No data has yet been recorded for any indicators on effectiveness of the customary tabu areas, whether they are active or inactive, and whether the communities respect, enforce and monitor the tabu rules, though government staff have general understandings of the 'activeness' of some communities, and effectiveness of their managed area.

For the purposes of this assessment however, registered areas only have been mentioned, as boundary data and area size is known for these sites. DEPC is commencing planning for activities which will be funded through the BIOPAMA and ECARE projects in the coming months/years, which will focus on mapping the boundaries of active conservation areas, so that these can be included in the national dataset for marine and terrestrial areas covered by conservation areas. As data is collected, it will be reflected in the National Conservation Registry, Vanuatu's new EIMS and online regional and international protected area portals. In this way, the data will reflect those communities who have chosen to proceed to legal registration status and those that have not, but are equally or more effective in managing their resources in a sustainable way.

With regard to the formal conservation areas, anecdotal evidence given by the Chairperson of both Amal Crab Bay CCA and the Wairua (Kevin Anderson) CCA, indicated that awareness regarding the conservation area is strong, but that it is thought that poaching still occurs as full-time monitoring is difficult to enforce.

If all SUMAs were indeed being actively and effectively managed, this national target would already be met, as SUMAs cover 19.8% of Vanuatu's marine area. Expert opinion indicated that it is not likely that every inshore SUMA would be currently be under effective management, but it is unclear without further

investigation.

It is important that in future, clarification be obtained on the following:

1. The extent of ‘important marine biodiversity areas’ outside of the SUMAs.
2. How to measure ‘effectiveness’ of the conservation areas.
3. The status and effectiveness of all SUMAs and other ‘important marine biodiversity areas’ (according to revised criteria on the definition of 'important'.

Considering these factors, it has therefore been evaluated that further work and progress needs to increase to achieve this national target.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu’s NBSAP are the following indicators, which are ascribed to National Target 8:

1. Total area of representative coverage of legally recognised, other conserved areas and locally managed areas in marine areas including sites of particular importance for biodiversity.
2. Total number of marine protected areas that are effectively managed based on agreed national protected area conditions and management effectiveness.
3. Measurement of ecosystem services and equitable benefits from CAs.
4. Account for Payment of Ecosystem Service (PES) and other sustainable financing strategies.
5. Measure if trends in connectivity of CAs and other area based approaches integrated into landscapes and seascapes.
6. Assess impact of coastal developments through EIAs and measures of EIA enforcements and compliance.

EN

Indicators used for the assessment of this target:

For the purposes of this assessment, some data towards Indicator 1 has been collected and assessed, as described

above, based on legally recognised marine areas, and SUMAs. However, a total percentage can not be calculated at this time to track progress against this target.

However, as stated above, the data is not complete in terms of measuring 'effectiveness' of management measures or even what constitutes 'sites of particular importance for biodiversity'. All other indicators require review in relation to their relevance to measurement of this target.

Further work is required within DEPC to define 'important marine biodiveristy areas' to create a nationally relevant target to be associated with marine conservation.

Any other tools or means used for assessing progress.

Other tools or means used for assessing progress include:

- Expert opinion from DEPC Director.
- Expert opinion from DEPC Senior Conservation Officer.
- Expert advice from IUCN Liaison Officer.
- Community consultation sessions with:
  - Wairua CCA Chairperson.
  - Amal Crab Bay CCA Chairperson.
- Quantitative information from MACBIO Project Officer on SUMA area coverage.
- Qualitative and quantitative information from MACBIO SUMA report and SUMA GIS files.
- Online questionnaire via interview with Pathways Project Manager.
- Review of SUMA areas using Google Earth.

EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

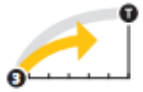
Level of confidence of the above assessment

The level of confidence is based on partial indicator information, being the tentative baseline provided in the description above, and information about SUMAs as indicated in the SUMA study. Expert opinion was also heavily considered in the assessment of this national target. EN

Adequacy of monitoring information to support assessment

No monitoring system in place

National Target 9: By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.



2019 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

31 May 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 4.2, 4.3, 4.4, 4.5, 4.6 and 4.7 for information relating to the progress made toward achieving this national target. The assessment below is based on qualitative information only.

The work described in these implementation actions is positive and moving forward in the right direction for species-specific management and conservation in Vanuatu. The activities listed below and in Section II involve the collection of vital baseline data, which will assist in future monitoring of species, to determine successful conservation measures to improve and sustain the conservation status of species.

Key species-specific work conducted between 2014-2018 has included:

- **Megapode:** Development of the Kurumambe Conservation Area Management Plan for management of the Megapode (*Megapodius layardi*) population inhabitating the cliffs of Kurumambe in Tongoa, which is listed as vulnerable on the IUCN Red List. The work of Megapode conservation by Vanuatu Environmental Advocacy Network and Birdlife International, has now also extended to megapode-inhabited areas in West Ambrym.
- **Dugongs:** Completion of baseline surveys and identification of priority hotspots to progress conservation measures toward the protection of dugongs (*Dugong dugon*) in Vanuatu, undertaken by Vanuatu Environmental Science Society. Dugongs are listed as vulnerable on the IUCN Red List.
- **Flying foxes:** Collection of baseline field-based information on Vanuatu's flying fox species, to begin understanding distribution and populations of bats in Vanuatu, through the scientific studies conducted by Vanuatu Environmental Science Society. The threatened flying fox species being studied include:
  - Fijian Mastiff Bat (*Chaerephon bregullae*) – listed as endangered on IUCN Red List
  - Pacific Sheath-tailed Bat (Emballonura semicaudata) – listed as vulnerable on IUCN Red List
  - Fijian Blossom Bat (*Notopteris madonaldi*) – listed as vulnerable on IUCN Red List
  - Vanuatu Flying Fox (*Pteropus anetianus*) – listed as vulnerable on IUCN Red List
  - Banks Flying Fox (*Pteropus fundatus*) – listed as endangered on IUCN Red List
- **Collared Petrel:** Work by Vanuatu Environmental Advocacy Network and Birdlife International to set up the Tkerkak Community Conservation Committee, will commence data collection and monitoring of Collared

EN

Petrel (*Pterodroma brevipes*) populations on Mt. Tukusmera in Tanna, which are listed as vulnerable on the IUCN Red List.

- **Turtles:** Work within the Vanua'tai Resource monitors network and supporting NGOs such as Island Reach, on turtle monitoring and reef and seagrass conservation activities, is ongoing. Threatened turtle species in Vanuatu include:
    - Loggerhead Turtle (*Caretta caretta*) – listed as vulnerable on IUCN Red List
    - Green Turtle (*Chelona mydas*) – listed as endangered on IUCN Red List
    - Leatherback Turtle (*Dermochelys coriacea*) – listed as vulnerable on IUCN Red List

Anecdotal evidence has been given as to the improved populations of some threatened species. This is particularly relevant to turtles, the growing population of which has been verified anecdotally across numerous locations and by numerous sources, and can be largely attributable to the setup of the turtle monitor network throughout Vanuatu and its associated awareness campaigns, as well as good awareness promotion of the nationally legislated turtle-hunting ban. However, solid and robust data sets for species do not exist to adequately assess the conservation status of species on a scientific basis. Ongoing work by these organisations, as well as better training of community conservation committees in the National Ranger Toolkit for terrestrial species, and the Community and Marine Monitoring and Management Toolkit for marine species, has the potential to collect data which will inform better decision-making for conservation in the future.

It is considered that beneficial and productive work has been undertaken in relation to each of these threatened species (or groups of species), which will contribute to the eventual protection of the species. Indeed, it is considered that the work of each of these organisations and community members involved in conservation activities for these species, are undertaking exceptional work which is assisting Vanuatu's environment and supporting work that the government is currently unable to undertake due to resourcing issues. The steps undertaken are generally considered important foundational steps to either build community awareness about the species, its habitat, development of conservation areas and sustainable management plans for species, or the collection of important data about the species.

However, due to fact that only 5 species (or groups of species) are currently being targeted for activities, the overall

assessment of work towards this national target - which aims for protection of 10 species - is that progress is not being undertaken at a sufficient rate and needs to be increased to meet the target by 2030.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu's NBSAP are the following indicators ascribed to National Target 9:

1. Reduced trend in extinction risks of Vanuatu's five national priority species.
2. Increased trend in population of the five priority threatened species for Vanuatu.
3. Increased trends in distribution of the five selected (priority) species.

At present, these indicators can not be used due to a lack of available data and progress against baseline data which has been collected thus far. A monitoring program is required for future tracking against these indicators, including identification of species most in decline.

Indicators used for the assessment of this target:

Due to the lack of data available to use the indicators ascribed to this national target, the following indicator was used:

1. Activities undertaken in relation to specific threatened species which could contribute to the protection and conservation of these species, and the number of threatened species addressed in relation to the target number.

It is recognised that this target is qualitative in nature, and a review of the target and potential data for future collection is required to design relevant quantitative indicators.

EN

Any other tools or means used for assessing progress.

Other tools or means used for assessing progress include:

- Qualitative information from interview with Vanuatu Environmental Advocacy Network CEO.
- Qualitative information from interview with Vanuatu Environmental Science Society CEO.
- Review of dugong IEC materials on VESS website (materials provided in Section II).
- Qualitative information from VESS Flying Fox expedition summary - public presentation.
- Community consultation session with Tekrkak Community Conservation Committee and chief.
- Review of video IEC materials on tekrkak conservation (video provided in Section II).
- Community consultation session with Vanua'tai Resource Monitor Network representatives:
  - Yemen Turtle Conservation Area, Vuslengleng, Vanua Lava
  - Mota Lava - full island turtle monitor.
- Review of Island Reach Annual Reports.
- Stakeholder input from DEPC Senior Conservation Officer.
- Review of Kurumambe Community Conservation Management Plan.
- Qualitative and quantitative information from Megapode Monitoring presentation by Birdlife International.
- Review of Kurumambe Megapode Project Final Report to CEPF (report provided in Section II).
- Stakeholder input from Birdlife International Ornithologist.
- Author opinion.

EN

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

Level of confidence of the above assessment

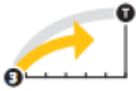
The level of confidence is based on qualitative information only from a range of sources which were pertinent to each species being included in the assessment. However, no quantitative data was available as yet for the purposes of assessing measurable progress against the target.

EN

Adequacy of monitoring information to support assessment

No monitoring system in place

National Target 10: By 2030 Vanuatu’s invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.



2019 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

31 May 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 5.1, 5.2, 5.3 and 5.4 for information relating to the progress made toward achieving this national target.

EN

Invasive species pathway identification

Vanuatu does have a solid grasp of which invasive species affects its terrestrial and marine environments. With regard to pathway identifcation, some work has been conducted, through the collaborations between Department of Biosecurity and Biosecurity Queensland, and their programs of work (summarised in Implementation Actions 5.1, 5.2, 5.3 and 5.4). No systematic assessment has been conducted relating to pathway identification, though anecdotal information and knowledge is present amongst Biosecurity staff in Vanuatu.

Invasive species pathway management

The most pressing issue in pathway management is inter-island spread of invasive species. Preliminary discussions of this inter-island biosecurity measures have been raised between DEPC and the Department of Biosecurity, but no work has been undertaken to move toward targeting this issue.

Domestic biosecurity measures have been prioritised as an emergency response measure to a recent outbreak of Coconut Rhinoceros Beetle in north-west Efate. However, no national domestic biosecurity program exists as yet. Department of Biosecurity staff who participated in this evaluation agreed on the necessity for such a program.

International biosecurity measures have been maintained but not improved in any way, in relation to invasive species spread.

Control of priority invasive species

Most work in Vanuatu has progressed the control of priority invasive species through:

- Collection of baseline information on distribution of priority invasive species.
- Control programs to eradicate or manage the spread of invasive species (especially biocontrol programs).

This work will continue with ongoing collaborations between Biosecurity Queensland, Landcare Research New Zealand and the Vanuatu Department of Biosecurity.

Due to invasive species constituting the most serious threat to Vanuatu's biodiversity, it is not considered that action

being undertaken and financial resources being allocated towards invasive species management, are sufficient to meet this national target by 2030.

Evaluation:

Work which has been conducted in the last reporting period has progressed Vanuatu closer toward achieving this target (qualitative evidence available only). Author opinion, in collaboration with expert advice from government staff and NGO staff working on invasive species issues, and review of any reporting available, indicates that progress is not being achieved at the rate required for the achievement of what is a major national target on one of Vanuatu's most significant biodiversity challenges.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu’s NBSAP are the following indicators ascribed to National Target 10 and 11:

1. Assessment and measure of impact of invasive alien species on biodiversity and food security.
2. Impact of policy responses, legislation and management plans to control and prevent spread of invasive alien species.
3. Required information and data on invasive alien species are available.
4. National government commitment through financing of management of IAS.
5. Level of invasive alien species understanding increased.
6. More improved legal frameworks and policies are available.International border control system improved and internal quarantine system established.Invasive alien species population density are reduced.
7. The population density of invasive species in Conservation Areas are reduced.

EN

Of these, no data is available at present to track progress against Indicators 1, 2, 5, 6 and 7. Vanuatu will be required to develop data collection methods for these indicators, or a review of these indicators for appropriateness to the national context.

Indicators used for the assessment of this target:

For the purposes of the assessment this year, Indicators 3 and 4 have been considered, with the limitation that only qualitative information has been utilised for the evaluation.

Any other tools or means used for assessing progress.

Other tools or means used for assessing progress include:

- Expert advice from DEPC Biosafety and Invasives Officer
- Expert advice from Department of Biosecurity National Plant Health Officers.
- Interview with Department of Biosecurity Acting Division Manager - Sanma, Torba and Penama Provincial Office.
- Review of Day, M.D and S. Bule, 2016, 'The status of weed biological control in Vanuatu', In: Daehler C.C, van Kleunen M, Pyšek P, Richardson, D.M (Eds), *Proceedings of 13th International EMAPi conference*, Waikoloa, Hawaii, *NeoBiota* 30: 151–166.
- Qualitative information from Live and Learn Vanuatu Program Manager.
- Graham, S., 2015, Crown of Thorns Factsheet, Shefa Province Travel.
- Qualitative information from Live and Learn Vanuatu, 2016, *Final Narrative Report - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS)*, Port Vila, Vanuatu.
- Vanuatu Fisheries Department (VFD), 2014, 'Crown of Thorns sightings', Reporting database, Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity.
- Interview with Department of Tourism Torba Province Extension Officer.
- Author opinion.

EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

The level of confidence has been based on records of surveys and control programs, and their results. Qualitative discussion data and expert opinion have also informed the assessment. EN

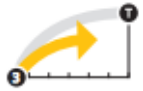
Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Monitoring of control programs will be undertaken going forward, as part of new collaborations and projects with support from Landcare New Zealand and Biosecurity Queensland. Data will be kept in an electronic database. The new EIMS at DEPC will also assist with safe record keeping and data storage. EN

National Target 11: Emphasis will be placed on maintaining current status of native species, improving border control, developing inter-island biosecurity programmes, IAS eradication and control.



2019 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

03 Jun 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 2.1, 5.1, 5.2, 5.3 and 5.4 for information relating to the progress made toward achieving this national target.

Maintaining current status of native species

There is not yet sufficient monitoring of the spread of invasive species or native species to adequately assess status change of either.

Improving border control
Please refer to National Target 10.

Developing inter-island biosecurity programs
Please refer to National Target 10.

IAS eradication and control

EN

Please refer to National Target 10.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu’s NBSAP are the following indicators ascribed to National Target 10 and 11:

1. Assessment and measure of impact of invasive alien species on biodiversity and food security.
2. Impact of policy responses, legislation and management plans to control and prevent spread of invasive alien species.
3. Required information and data on invasive alien species are available.
4. National government commitment through financing of management of IAS.
5. Level of invasive alien species understanding increased.
6. More improved legal frameworks and policies are available.
7. International border control system improved and internal quarantine system established.
8. Invasive alien species population density are reduced.
9. The population density of invasive species in Conservation Areas are reduced.

Of these, no data is available for Indicators 1, 2, 5, 6 and 7.

Indicators used for the assessment of this target:

For the purposes of the assessment this year, Indicators 3 and 4 have been considered, with the limitation that only qualitative information has been utilised for the evaluation.

EN

Any other tools or means used for assessing progress.

Please refer to National Target 10.

EN

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

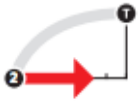
Level of confidence of the above assessment

The level of confidence has been based on discussion and reporting of surveys and control programs, and their results. Qualitative discussion data and expert opinion have also informed the assessment. EN

Adequacy of monitoring information to support assessment

No monitoring system in place

National Target 12: Communities’ understanding on invasive alien species is increased.



2019 - No significant change

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

No significant change

Date the assessment was done

03 Jun 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to implementation actions 5.1, 5.3 and 5.4 for information relating to the progress made toward achieving this national target.

There is currently no evidence-based data to assess any change in communities' understanding of invasive alien species.
Expert opinion has shown that understanding has increased in communities, particularly those that have had more rigorous and longer-lasting programs in place in their villages.

Programs, outlined in Section II, which have witnessed an improvement in communities' understanding include:

- **Live and Learn Vanuatu - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS):** Gradual community awareness is increasing according to Live and Learn as a result of this project, in their test villages. The education toolkits distributed to 105 primary schools and 25 secondary schools (130 schools total) in Efate, Santo and Tanna in November 2016, are also expected to play a role in increasing student-level awareness of invasive species issues. However, no follow-up has been completed as to the effectiveness of the resources or their distribution. Loru Community Conservation Area managers in Kohle village in NE Santo had a sound understanding of *Merremia peltata* and appropriate control methods, and this is attributed to the regular assistance of Live and Learn in this CCA during the lifetime of the project, as well as the solid community governance structure which has assisted in ensuring management activities continue.
- **Department of Biosecurity – various biocontrol programs:** According to the Department, the lack

EN

of understanding of the science of biological controls and eradication options for invasive species remains a challenge. The Department also highlighted the one-sided nature to eradication options, with more research needed into the social and customary uses of invasive species at a village level, which becomes an obstacle when viewing the plants merely as invasive and destructive. At present, the Department does not do any community-based monitoring of understandings of invasive species. Day and Bule in their 2016 article summarising Vanuatu weed control programs, also highlighted the need for an ongoing awareness campaign to assist control programs to succeed.

- **Department of Environmental Protection and Conservation – ad-hoc invasive species awareness:** Since the employment of a permanent Biosafety and Invasive Species Officer at DEPC in 2017, the frequency of invasive-related awareness sessions has increased (anecdotal evidence) due to the activeness of the staff member. Awareness sessions have been held on the Mynah Bird, fire ants and general invasive species at schools and environmental events such as Vanuatu Environment Week which is held annually.

Indicators and Activities

Indicator(s)used in this assessment

Context of indicators related to this target in Vanuatu's NBSAP:

Listed in Vanuatu’s NBSAP are the following indicators ascribed to National Target 10, 11 and 12:

1. Assessment and measure of impact of invasive alien species on biodiversity and food security.
2. Impact of policy responses, legislation and management plans to control and prevent spread of invasive alien species.
3. Required information and data on invasive alien species are available.
4. National government commitment through financing of management of IAS.
5. Level of invasive alien species understanding increased.
6. More improved legal frameworks and policies are available.
7. International border control system improved and internal quarantine system established.

EN

8. Invasive alien species population density are reduced.
9. The population density of invasive species in Conservation Areas are reduced.

Indicators used for the assessment of this target:

Of these, the most relevant to National Target 12 is Indicator 5 (though it is recognised that the non-specificity of this indicator will require its review by DEPC in the future). However, as no baseline has been established in relation to this target in Vanuatu, subsequent tracking of changes in communities' understanding is not undertaken, this indicator's utilisation in this assessment has been based on qualitative information collected during preparations for this Sixth National Report.

Any other tools or means used for assessing progress.

Other tools or means used for assessing progress:

- Expert opinion from DEPC Biosafety and Invasive Species Officer.
- Expert opinion from Department of Biosecurity Plant Health Officers.
- Expert opinion from Acting Division Manager at Department of Biosecurity - Sanma, Torba and Penama Provincial Office.
- Qualitative information from interview with Live and Learn Vanuatu Program Manager.
- Community consultation session with Chairperson and Land Management Manager of the Loru Community Conservation Area in Santo.
- Qualitative information from Live and Learn Final Narrative Report - Testing and modelling preventative measures to limit the spread and ecological impact of Invasive Species in Small Islands Developing States (SIDS).
- Qualitative information from Journal article: Day MD, Bule S (2016) 'The status of weed biological control in Vanuatu'. In: Daehler CC, van Kleunen M, Pyšek P, Richardson DM (Eds) *Proceedings of 13th International EMAPi conference*, Waikoloa, Hawaii, *NeoBiota* 30: 151–166. doi: 10.3897/neobiota.30.7049

EN

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

Level of confidence of the above assessment

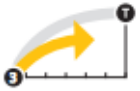
Level of confidence of the assessment is based on expert opinion only, due to a lack of collected data and monitoring system for tracking the impact of activities on communities' understanding of invasive species. A wide range of qualitative data sources were used for this assessment as alternative for the assessment.

EN

Adequacy of monitoring information to support assessment

No monitoring system in place

National Target 13: By 2020, government has put in place relevant legislations and policies and Access and BenefitSharing (ABS) protocols to support NBSAP implementation; businesses and production sectors are adopting Vanuatu’s National Sustainable Development Plan; and stakeholders at all levels have taken steps and implemented plans for sustainable production and consumption.



2019 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

03 Jun 2019

Summary of the assessment of progresses toward the implementation of the selected target

Relevant legislations and policies and Access and Benefit Sharing (ABS) protocols

In Section II of this 6NR, please refer to implementation action 6.1 for information relating to the progress made toward achieving this part of the national target.

Legislation and policies are being developed for Access and Benefit Sharing protocols to be introduced in Vanuatu. The main actions towards achieving this target, as outlined in Section II, include:

- Drafting of the Bill for the Protection of Traditional Knowledge and Expressions of Culture
- Development of ABS Regulations and alignment with EPC Act
- Consultations at national and community level with regard to ABS
- Development of Mutually Agreed Terms or community contract template
- Update to DEPC Bioprospecting Permit
- Capacity-building of DEPC and VANIPO staff

EN

The work towards ABS has progress significantly in the last two years especially, and is expected to continue being actioned. It is thought that ostensibly, the national target will be achieved with regard to ABS legislation and policies, though based on obstacles and complexities around ABS in Vanuatu, the ongoing work to enforce and build capacity around this legislation will need many years.

Adoption of Vanuatu’s National Sustainable Development Plan by businesses and the production sector

The adoption of Vanuatu’s NSDP by businesses and the production sector, as outlined in this national target, is not currently tracked. For the purposes of this target, the goal refers to the Environment Pillar of

the NSDP, which includes the following:

- ENVIRONMENT 1: A nation that ensures our food and nutrition security needs are adequately met for all people through increasing sustainable food production systems and improving household production.
- ENVIRONMENT 2: An economy which fosters sustainable growth and development through low impact industries and modern technologies to ensure the well-being of future generations.
- ENVIRONMENT 3: A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards.
- ENVIRONMENT 4: A nation which utilises and sustainably manages our land, water and natural resources.
- ENVIRONMENT 5: A nation committed to ensuring the conservation and sustainable management of our biodiversity and ecosystems.

There has been a solid uptake of the NSDP by government departments and NGOs, but whether or not business and the production sector have adopted the NSDP goals is unknown, but thought to be less than government adoption (expert and author opinions).

Sustainable production and consumption

Stakeholders at some levels in Vanuatu have taken steps and implemented plans for sustainable production and consumption.

With tourism as the main component of Vanuatu's GDP, it is important that this sector and non-government tourism stakeholders adopt sustainable production and consumption activities. As outlined in Section II, Implementation Action 1.8, with the introduction of Vanuatu's new Sustainable Tourism Policy 2019-2031, it is envisioned that eco-tourism and grassroots tourism philosophy will be encouraged and supported in Vanuatu going forward. At present, this kind of tourism is already widely practised (with the exception of Vanuatu's cruise ship industry) in Vanuatu.

Another major step toward the achievement of sustainable consumption, are the legislated bans as described in Implementation Action 6.2 in Section II. Introduced in July 2018, the prohibition on single-use plastic in Vanuatu has led to the switch to more sustainable alternatives, and support for Vanuatu's traditional handicraft industry.
In addition, World Vision's work in plastic recycling and composting, as outlined in Implementation Action 6.2 is assisting with waste reduction and sustainable consumption practices.

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

Level of confidence of the above assessment

Level of confidence is based on expert opinion only. Level of confidence is higher for ABS-related information than the other two parts of the target. Formal monitoring and data collection for the two other parts of the target has not yet commenced. EN

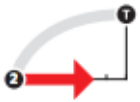
Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Monitoring of some aspects of this target are encompassed in the NSDP Monitoring and Evaluation Framework. EN

National Target 14: The Ministry of Finance will need to set realistic annual budgetary targets and DEPC to do 3 yearly resource mobilisation plan based on realistic NBSAP Actions & Targets.



2019 - No significant change

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

No significant change

Date the assessment was done

24 Jan 2019

Summary of the assessment of progresses toward the implementation of the selected target

In Section II of this 6NR, please refer to Implementation Action 7.1 for information relating to the progress made toward achieving this national target.

Since the publication of the NBSAP in 2018, no planning has commenced toward the development of a 3-yearly resource mobilisation plan based on realistic NBSAP actions and targets.

At present, the Department of Environmental Protection and Conservation allocates an annual budget of 1.2 million vatu (approx. US$10,300) to the Biodiversity and Conservation division, for biodiversity and conservation-related work. The division also accesses activity-related funding through externally-funded projects operating in Vanuatu, as described across all strategic areas of the NBSAP, and identified in Section II of this report.

EN

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

Level of confidence of the above assessment

The level of confidence is based on expert opinion, due to a lack of data and action in this field. EN

Adequacy of monitoring information to support assessment

No monitoring system in place

Section IV. Description of national contribution to the achievement of each global Aichi Biodiversity Target

1. Awareness of biodiversity values

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Customary terrestrial and marine resource management practices have long been used in Vanuatu in accordance with traditional beliefs and customary protocols. Though practices vary between cultures and locations in Vanuatu, in most cases, resource management decisions are established by customary chiefs, generally to provide an opportunity for depleted resources to recover.

Although some customary practices have been eroded over time due to a decline in traditional authority, and loss of respect of customary laws, as well as a loss of knowledge due to the westernisation of society, the knowledge of respect for biodiversity and natural resources, and the concept of conservation of resources is well-known in Vanuatu.

However, understandings of ‘tabu’ (prohibition of hunting or collection of resources in a specific conservation or 'tabu' area), exist in parallel with other beliefs or lack of knowledge about the biological world. For example, people’s understandings of waste and its impacts, or the scientific understanding of ecosystems and the role of different parts of the ecosystem, are not equal to traditional environmental knowledge for some of the population.

The opportunity in Vanuatu however, exists on building upon people’s cultural understandings of the natural environment. Awareness activities have been conducted across a number of programs (as described in Section II), and EN

many awareness activities regarding conservation area, for instance, are followed up by successful establishments of ‘tabu’ areas or the development of resource management plans using traditional rules and methods.

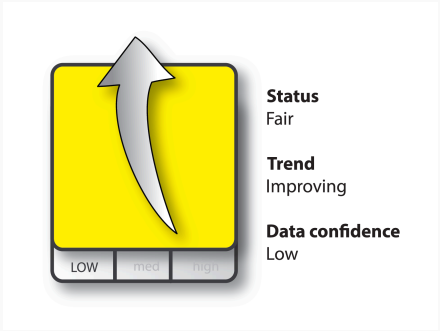
Significant developments towards the achievement of this ABT, and mkaing people aware of the value of biodiversity and the steps they can take to conserve it and use it sustainable, include the following actions which have been undertaken in Vanuatu since 2014 (with references to Section II provided):

- Expansion of the conservation area network in Vanuatu, through outreach work for both unregistered and registered community conservation areas (Implementation Actions 1.1 and 1.3). This work includes working with outer island communities in developing understandings of biodiversity and sustainable resource use, in a local context.
- Major changes to waste legislation, including the national banning of single use plastic products and significant public awareness and education programs in schools and in public, related to plastic pollution and ways to reduce reliance on plastic (Implementation Action 6.2), with Vanuatu being one of the first countries in the world to implement such significant changes.
- Awareness campaigns led by environmental NGOs, such as Live and Learn, Vanuatu Environmental Science Society, Island Reach, Vanua'tai Resource Monitors Network and Vanuatu Environmental Advocacy Network, related to the importance of biodiversity, species management and behavioural changes required. Ways in which awareness is promoted are through numerous community engagement activities (visits to communities, communication materials (booklets, training guides, posters etc.), public talks/seminars, school awareness sessions, interactive activities (such as reef checks or waste clean up campaigns). Encouragement of community management of resources is always fostered by these organisations, due to the high impact that customary ownership of land and resources has over the use of the resources (most Implementation Actions have elements of community awareness as part of their undertaking).

Evaluation of national contribution to ABT 1:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Improving
- **Data confidence:** Low



Vanuatu evaluates its contribution toward this ABT as being 'partially effective'.

That is, it is seen that there is improvement in the awareness of the values of biodiversity in the general population of Vanuatu. This is seen particularly through the slowly changing understanding of waste, assisted by the national single-use plastic ban and associated awareness campaigns, which as a byproduct, have encouraged more public discussions regarding the maintenance of healthy biodiversity. This awareness though, has mostly occurred in Vanuatu's urban centres, with plastic and packaging waste and the management of landfill waste and waste incineration still a major issue in the islands. It is also seen through the improving organisation of the Department of Environmental Protection and Conservation, and focus on protection of conservation areas in collaboration with communities.

However, it must also be considered that any improvements in awareness are being made in context of a growing urbanising and 'developing' country, whereby more high impact lifestyles are being adopted, particularly in the capital, Port Vila.

There is an encouraging growth in the number of university-level students undertaking environment-related courses, though the lack of professional jobs in this area is a disincentive for youth uptake of these issues. Having said that, a growing portion of youth in Vanuatu are becoming engaged in the climate change debate and advocacy, which is often linked to biodiversity protection due to the small size of Vanuatu's islands.

The improvement of awareness of biodiversity values and the improvement in education are seen to be linked, as are the protection and encouragement of customary knowledge and practices. The contradiction between respect for the environment through custom, and the treatment of the environment as a disposable resource in which to dispose of non-biodegradable waste is an area which needs further attention, to improve the general public's awareness of the values of biodiversity and conservation.

As there are no formal measures of increasing knowledge, the data confidence for this measure is considered low, though informal and anecdotal information has been collected through interviews, observation and a strong understanding of the breadth of grassroots environmental awareness being undertaken. The outreach work of environmental NGOs and the Department of Environmental Conservation and Protection, as well as the introduction of the Vanuatu Environmental Science Society in the area of environmental outreach, are the key measures which sees this trend improving.

2. Integration of biodiversity values

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Biodiversity values integrated into national development and poverty reduction strategies and planning processes

Vanuatu's National Sustainable Development Plan (NSDP) 2016-2030 is the foremost national plan for sustainable development, progress and poverty reduction. Biodiversity values have been integrated into its Environment Pillar, which sits alongside the Economic and Society Pillars. Targets 4 and 5 of the Environment Pillar are as follows:

- ENVIRONMENT 4: A nation which utilises and sustainably manages our land, water and natural resources.
- ENVIRONMENT 5: A nation committed to ensuring the conservation and sustainable management of our biodiversity and ecosystems.

Through these targets, indicators which adopt biodiversity values have also been integrated into the NSDP Monitoring and Evaluation Framework. Vanuatu's NBSAP is also aligned with the NSDP and its biodiversity objectives. It is noted that review of the NSDP indicators and associated data collection requires review in consultation with DEPC.

EN

Biodiversity values integrated into local development and poverty reduction strategies and planning processes

The integration of biodiversity values into local planning strategies and processes, will be best achieved by the inclusion of provincial conservation and biodiversity targets, as outlined in the NBSAP Provincial Implementation Plans (which may

require secondary review), in the strategic plans for each Provincial Government of Vanuatu. This is yet to be achieved, but planning will progress toward this objective, which is one of Vanuatu's national targets.

Biodiversity values incorporated into national accounting and reporting systems

A national target contained in Vanuatu's NBSAP refers to the need for national resource planning and mobilisation through the Ministry of Finance planning and budgeting processes. Whilst this target has not yet been actioned, its prioritisation as a national target will ensure that Vanuatu works toward incorporating biodiversity values into national accounts.

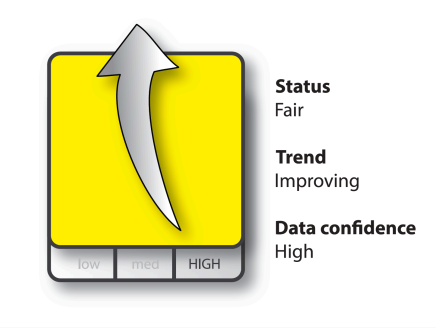
With regard to incorporating biodiversity values into national reporting systems, the development of DEPC's new EIMS will assist in achieving a more structured and organised approach to national reporting on biodiversity and conservation.

With regard to economic valuations of ecosystem services informing national accounting and reporting, this type of planning has not yet been incorporated into national planning processes in Vanuatu. For example, evidence of national ministries adopting the recommendations of the valuation in their accounting and reporting systems is not evident and should be followed up by DEPC.

Evaluation of national contribution to ABT 2:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Improving
- **Data confidence:** High



Vanuatu evaluates its contribution toward this ABT as being 'partially effective'.

Vanuatu has progressed since 2014, in the development of guiding national principles in the form of its National Sustainable Development Plan. The inclusion of a dedicated environmental pillar in the plan, under which sits a biodiversity and conservation-related target, which should form the basis of environmental planning across sectors, is a positive step towards mainstreaming biodiversity across national portfolios.

In addition, most updates of national plans and policies which have occurred since 2014, in fields which could impact on biodiversity and conservation, have included policy measures to acknowledge the importance of environmental protection. These include the National Forest Policy, Sustainable Tourism Policy, Agriculture Sector Policy, among others. There are still some sectors which are yet to incorporate environmental principles and actions effectively. Further cross-departmental awareness and education from the Department of Environmental Protection and Conservation to its partner departments is therefore required to improve mainstreaming.

With regard to economic valuations of biodiversity and the inclusion of this type of assessment in national accounting and reporting systems, Vanuatu has not progressed as significantly, though some steps have been taken. A national economic valuation of marine ecosystem services has been undertaken as part of the MACBIO project (Implementation Action 3.5), and a terrestrial ecosystem services valuation was undertaken as part of SPREP's PEBACC project (Implementation Action 1.10). In both cases however, data scarcity led to many gaps on which assumptions were made, or conclusions were drawn using older data. However, the work completed has laid solid groundwork for future development of ecosystem service valuations methodologies, and a guideline for the collection of more robust data, if this is financially and logistically feasible for Vanuatu in the future.

3. Incentives

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

A review has not been conducted of Vanuatu’s potential incentives which may be harmful to biodiversity.

On the alternate side, challenges faced with regard to enforcement of Vanuatu’s laws and regulations does allow environmental harm to proceed unpenalised, across many sectors. Disincentives are not adequately utilised for the benefit of environmental protection, though they are present in legislation. The hiring of a permanent Compliance Officer at Vanuatu’s Department of Environmental Protection and Conservation may assist in altering this culture.

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Positive incentives for biodiversity have not occurred at a national level, but can be witnessed through projects such as:

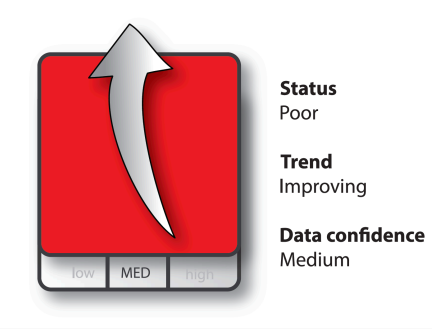
- Loru Community Conservation Area Payment for Ecosystem Services project.
- Conservation levy for North Efate tourism operators, which is funnelled into a trust fund for use on agreed conservation activities.
- 'Pem Bak Plastik' program - a collaboration between World Vision Vanuatu, and a local water bottling company, which allows individuals to return plastic items of particular classification to the company for reuse where possible, in return for a small payment (Vanuatu does not yet have a recycling facility).

More information on these activities is provided in Section II.

Evaluation of national contribution to ABT 3:

The evaluation of Vanuatu's contribution is:

- **Status:** Poor
- **Trend:** Improving
- **Data confidence:** Medium



Vanuatu evaluates its contribution toward this ABT as being 'partially effective' with a small amount of progress made towards the achievement of this target.

The status of work towards the ABT is considered ‘poor’ due to the lack of focus directed toward this type of analysis thus far in Vanuatu. More progress has been advanced for positive incentives than the elimination of negative incentives. A full

and proper inventory of any existing negative legislation or subsidies harmful to biodiversity is required, to fully assess the negative impacts that such mechanisms may be having in Vanuatu. Particular areas for focus for such an inventory would be agricultural incentives for particular crops (potentially leading to land clearance) and fisheries incentives.

Work towards tracking encouraging positive incentives have been outlined above, and are further elucidated in Implementation Action 1.7 of Section II. Such economic mechanisms are seen as positive livelihood options, which allow communities to benefit economically from protection of their customary resources. Three major programs of this kind have been implemented since 2014, and there is the potential for more to be developed. For this reason the trend is seen to be 'improving'. Data confidence is considered 'medium' due to the understanding that most information in relation to this target has been accessed for the purpose of this assessment.

4. Use of natural resources

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Vanuatu has contributed to the achievement or implementation of plans for sustainable production and consumption, in order to keep natural resource use within safe ecological limits, in the following ways:

- **National Sustainable Development Plan:** The most relevant plan to promoting sustainable production and consumption in Vanuatu is *Vanautu: The People's Plan - NSDP 2016-2030*, which includes in the Environment pillar, national goals relating to this issue, specifically:
  - Increasing agricultural and fisheries food production using sustainable practices.
  - Reducing reliance on food imports through domestic substitution and promoting traditional diets.
  - Enhancing traditional sustainable agricultural practices.
  - Promoting renewable sources of energy and efficient energy use.
  - Reducing waste and pollution.
  - Protecting vulnerable forests, watersheds, catchments and freshwater sources including community water sources.
  - Promote sustainable development of the fisheries sector.
  - Build capacity and support local communities to manage natural resources.
  - Support local conservation and protection of threatened species and ecosystems, including through

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traditional knowledge and practices.

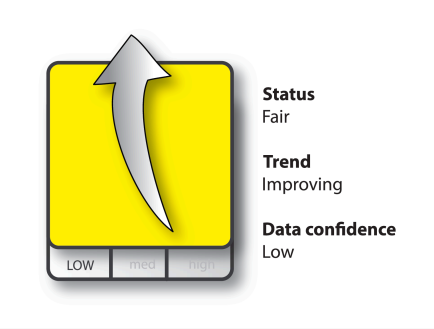
This national plan is the first of its kind for Vanuatu, and prioritises sustainable development, production and consumption through all sectors, soceity and the economy.

- **Local handicraft promotion:** In 2018, a four-year Handicraft Sector Action Plan was launched. The focus of this plan is on the increasing 'Made in Vanuatu' products to meet the demanding tourism market, to address the issue that although visitors contribute Vt1.3 billion annually to the handicraft sector, 90% or more of the products sold to tourists are imported. To ensure the tourism sector is sustainable, the production of Vanuatu-made handicraft products are essential. An Australian Government-funded program Vanuatu Skills Partnership also supports this Action Plan, through its 'Skills for Handicraft' work stream. The VSP supports DoI and other key stakeholders to facilitate the national handicraft agenda, with a particular focus on supporting rural economic growth and women's economic empowerment. The program has been very successful in the last reporting period, with a new 'Haos blong Handikraft' (House of Handicrafts) opening on the Port Vila seafront, which hosts only Vanuatu-made products and their creators.
- **Agriculture:** Vanuatu's largely subsistence agricultural production sector utilises sustainable farming methods such as organic small-scale mixed cropping, with no or limited use of manufactured fertilisers, amongst other techniques. The Agriculture Sector Policy also envisions that agricultural food and cash crops of Vanuatu are sustainably and profitably managed, contributing to sustainable development for the wellbeing of all people in Vanuatu by 2030. The policy aims to have the nation's agricultural resources managed in an integrated and sustainable manner to provide food and improved incomes as well as contribute to environmental and social services.
- **Fisheries:** Refer to Implementation Action 3.7 for information on community-based fisheries management and the encouragement of sustainable fishing practices in the coastal zone.
- **Waste:** Refer to Implementation Action 6.3 for further information on activities that contribute to sustainable consumption, through national legislated prohibitions of single-use plastic products in Vanuatu. Vanuatu is a leader in the world in progressive plastics legislation. As a result, there is burgeoning research and innovation to create alternatives to single-use plastic items, and to ensure that these are made from biodegradable and sustainable materials.

Evaluation of national contribution to ABT 4:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Improving
- **Data confidence:** Low



Vanuatu's contribution to this ABT has been evaluated as 'fair' primarily due to the large strides the country has taken to amend its waste legislation to prohibit single-use plastics, and encourage sustainable alternatives. This ban has also pushed the private sector involved in heavy plastic use (such as the water bottling sector) to find alternatives. It should be noted however that whether the beverage sector in Vanuatu has developed viable alternatives is under speculation in the Vanuatu environmental sector and requires further investigation.

In addition, policies and activities in the main productive sectors are aiming for sustainable production practices, though whether these are leading to reducing the impacts of the use of natural resources is not yet quantifiable. There remains a perception that at least in agriculture and fisheries, unsustainable practices such as coastal overfishing and increasing commercialisation of monocropping are impacting natural resources detrimentally.

However, the trend has still been evaluated as 'improving', as the National Sustainable Development Plan now exists as a national sustainability-focussed strategy which is beginning to guide other sectors, and general public/community discourse towards sustainable production and consumption activities. Traditional lifestyles of ni-Vanuatu are largely considered 'sustainable' (depending on the population in an area), and movements such as the 'Slow Food' movement which are gaining popularity in urban centres, are recognising and encouraging these qualities of traditional practices.

5. Loss of habitats

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Vanuatu has worked toward reducing the loss of natural habitats and forests, and reducing degradation and fragmentation via the following actions:

- **Conservation area expansion:** The Vanuatu legally-registered conservation area network has expanded in past years to include more forest and marine areas, with the total number of registered areas now at 9. Conservation areas managed traditionally have also been strengthened in particular parts of the country, through donor-funded projects, non-government organisations or DEPC. These specific measures are outlined further in Section II.
- **Forest-specific conservation areas:** The (not yet registered) conservation areas of Bay Homo in South Pentecost, Lake Letas in Gaua and Kauri Reserve in Erromango, were all established or strengthened with the assistance of the GEF4 Forestry and Protected Area Management project, which ran from 2012-2017.
- **REDD+ actions for forest management:** The REDD+ program has been active in working towards the reduction of forest and natural habitat loss. Its actions have included establishing provincial offices, conducting provincial and community-level consultations and awareness sessions on the importance of forests and impacts of deforestation, as well as conducting important analytical studies on the drivers of deforestation. The project also conducts important replanting initiatives.
- **Mobile sawmill and selective logging management:** The Vanuatu Department of Forestry is responsible for the management of mobile sawmill licence-holders. The monitoring of the volume and locations of logged timber to ensure it stays within national limits. It is noted that many provinces reported difficulties in monitoring, record-keeping and enforcement of penalties.
- **Reforestation activities and advocacy:** The Department of Forestry, particularly the provincial offices, advocate and undertake awareness sessions on the importance of replanting trees to replace those felled by landowners. Work is being undertaken on replanting in water catchments and DoF conducts a nation-wide distribution program for seedlings of its five priority species, which are often free for landowners wishing to undertake voluntary planting.

However, weaknesses still do exist in the enforcement of these policies and management measures, and as such, further work is required to ensure the theoretical policies and rules are carried out in reality.

Evaluation of national contribution to ABT 5:

The evaluation of Vanuatu's contribution is:

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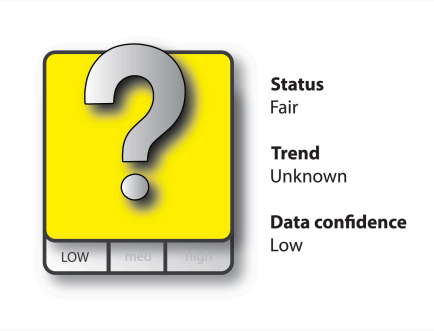
- **Status:** Fair
- **Trend:** Unknown
- **Data confidence:** Low



Vanuatu evaluates its contribution toward this ABT as being 'partially effective'.

It is difficult to adequately assess progress made towards this target, without a solid baseline against which to gauge progress. This is the main reason for the determination that the trend is ‘unknown’ and the data confidence level is ‘low’.

However work towards this target is evident more generally, as described in the activities above which are considered to have contributed to the reduction of degradation and fragmentation of indigenous habitats. Some of the activities, such as the REDD+ program work, have progressed major work towards establishing a stronger foundation of data on forests and ecosystems in Vanuatu, on which future conservation planning will be dependent. In particular, the National Forest Inventory currently being undertaken through the REDD+ program, will assist in establishing one form of baseline in relation to forest type and cover. This will need to be extended in the future to relate to specific fauna habitat in order to assess the status of such environments.

The Efate Land Cover Assessment, as described in Implementation Action 2.1, in Section II of this report, is a solid first step to providing information about forest and biome coverage on Vanuatu's most populous island. The assessment also included a 'change assessment' which indicated the areas which have changed land use classification since 2011 (approximately 4.3% of forest cover had changed - for more information refer to Section II).

Further work is required in the area of strategic island-wide environmental assessments, one of which has been undertaken for Tanna in the last reporting period (as explained in Section II, Implementation Action XX). This type of broad planning tool will assist government and provincial authorities to analyse changing land use on an ecosystem/biome scale and will assist in more cross-sectoral discussions on sustainable measures for island land use planning (for example, potential impacts of increasing commercial-scale agriculture and mono-cropping on indigenous forest cover). The work completed for Tanna is a good foundation and example for the rolling out of such assessments across Vanuatu, though this needs to be prioritised by national authorities and included in business planning for key departments.

The status of the work has led to the evaluation of the contribution towards this target as ‘fair’, with work having led to some improvements in setting up the foundations which will lead to a stronger national understanding of the status of habitat loss in the future.

Improvement needs to be made in the area of mobile sawmill management, led by the Department of Forestry. As indicted in interviews with Department of Forestry extension officers around the country, the growing access to chainsaws on the outer islands (through general stores and businesses which import cheap models of chainsaws) is leading to an increase in unregulated selective logging. Whilst it is not expected that the current rate of this logging is impacting heavily on forest cover at present, population growth and access to more disposal income through the growing popularity of schemes such as the Seasonal Workers Program with Australia and New Zealand, means that there is a risk that logging increases in the coming years.

Indicators for the monitoring of such activities that can have an impact on habitat loss will be best developed in collaboration between the Department of Environmental Protection and Conservation, and the Department of Forestry. The Department of Environmental Protection and Conservation's future recruitment of island-based Extension Officers will assist in compliance-related measures.

6. Sustainable fisheries

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Sustainable management and harvesting of fish, invertebrate stocks and aquatic plants

A description of regulatory activities undertaken primarily for Vanuatu's offshore fisheries is provided in Implementation Action 3.8 in Section II.

The Vanuatu Fisheries Department has developed the Vanuatu National Fisheries Sector Policy 2016-2031. The policy includes the following strategic policy objectives related to sustainable management and harvesting:

- **Fisheries investment and economic growth:** A strong fisheries sector generating maximum economic growth, increase employment, food security and livelihood development at the same time ensuring sustainability of fish stocks, healthy ecosystem and environmentally sound practices.
- **Monitoring, compliance, surveillance and illegal, unregulated and unreported (IUU) fishing prevention:** Advocate for zero-tolerance in IUU and ensure all Vanuatu flag and licensed fishing vessels are fully monitored and compliant.
- **Specific actions** related to these objectives cover the management of both offshore fishing stocks (the majority of which are never landed in Vanuatu but are exported directly through other ports), as well as coastal fishing stocks. Offshore and onshore fisheries pose different challenges and issues for sustainable management.
- **A National Plan of Action on IUU, National Fleet Management Plan and National Fishing Vessel Charter and Crewing Policy** have also been prepared to better monitor and enforce non-compliances and overfishing practices.

Projects which have implemented trainings and assisted in the development of plans for the sustainable management and harvesting of coastal fisheries include the Australian government-funded Pathways Project (including SPC and the University of Wollongong), the JICA-funded Grace of the Seas project/s and the SPC-funded Tails project, which has assisted in the collection of data on coastal fishery stocks. The Pathways Project has also assisted in the development of the recently-published Vanuatu National Roadmap for Coastal Fisheries: 2019–2030.

Recovery plans and measures for depleted species

Vanuatu has developed the following species-specific plans:

- Tuna Fishery Management Plan (revised)

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- National Plan of Action on Sea Turtles
- National Plan of Action on Sharks
- National Plan of Action on Dugongs (in progress)
- Sea Cucumber Management Plan
- Coconut Crab management (through purchase licences as described in Section II).

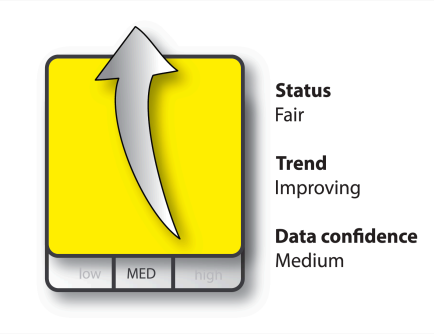
These plans do not focus on recovery or rehabilitation of stock, rather on preventing further depletion or damage to these species.

Recovery measures for depleted species have been implemented in the JICA-funded Grace of the Seas project, which has seen the relocation and restocking of coastal reefs with species which were previously overharvested (such as Trochus and Green Snail). Coastal resource management plans have also been developed through the VCA and PACFISH projects.

Evaluation of national contribution to ABT 6:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Improving
- **Data confidence:** Medium



Vanuatu evaluates its contribution toward this ABT as being 'partially effective'.

It is considered that the work undertaken in the last reporting period by the Vanuatu Fisheries Department was 'fair' in working towards sustainable management measures for fisheries, considering their resources and current capacity. Various types of activities are being undertaken with a common vision of sustainable management, including

the National Observer Program for ships in Vanuatu waters, community-based fisheries management and policy development. Overall offshore fishing volumes have decreased over the course of the reporting period, though this has been the result of commercial, rather than environmental reasons.

With regard to the National Observer Program, it is considered that those ships on which observers were placed underwent adequate tracking of their catch. However, as reported by the Vanuatu Fisheries Department, Vanuatu's observer coverage still stands as an issue and it has not yet reached its target percentage for coverage (particularly as no offshore catch is currently being landed in Vanuatu).

Whilst it is harder to evaluate the national contribution of efforts in coastal fisheries management towards this target, due to a lack of baseline or monitoring data, it can be qualitatively concluded that nationally, there seems to be a growing focus on contextually-specific ecosystem-based management approaches, through such programs as Pathways and Grace of the Seas (refer to Implementation Action 3.7 in Section II).

The actions undertaken are considered to have been 'improving' over the course of the reporting period, and the relevant agencies have expressed plans to continue improvement across all facets of fisheries and marine resource management. This aim will be assisted by major programs such as Vanuatu's Marine Spatial Plan and the MACBIO project, which will be completed during the next reporting period.

Due to available catch data, and extensive reporting on community-based fisheries management, the data confidence level for this assessment has been rated as 'medium'.

7. Areas under sustainable management

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Areas under agriculture

The Vanuatu Department of Agriculture and Rural Development (DARD) is responsible for guiding landholders in the management of areas under agriculture across Vanuatu’s islands. The Vanuatu Agriculture Sector Policy contains policy objectives on environmental protection and sustainable farming, including:

- Applying environmental considerations such as buffer zones and wildlife corridors, consideration of endemic

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species and implementation of environmental guidelines.
- Protection and promotion of sustainable traditional farming practices, agroforestry methods and soil improvement methods and technologies.
- Incorporating organic production in all agricultural practices.

Actions which have been implemented by DARD include a strong agroforestry program which has included an extensive awareness program for farmers (particularly larger-scale farmers through Vanuatu's Farming Association), on the importance of reducing deforestation for the purposes of cropping, and rehabilitating cleared land. Alley-cropping is also highly encouraged. DARD also provides advice to farmers regarding agricultural plans, taking into consideration the location of CCAs and water sources. DARD also runs a soil improvement program which encourages sustainable farming techniques such as avoiding chemical fertilisers, encouraging crop rotation, sequential planting and the use of particular partner planting methods to control pests and diseases. Due to a lack of industrial agriculture in Vanuatu, and few mechanised agricultural operations, as well as a strong heritage of organic customary farming methods, it is believed that the majority of agriculture is undertaken using sustainable methods. Demonstration plots have been established across the country, maintained by the DARD Provincial Extension Officers, which provide a practical example for farmers local to those islands to understand particular sustainable farming methods and practices. This capacity-building strategy has been very successful in passing on sustainable farming practices.

DARD also plans to investigate mapping of agricultural areas, and areas with high potential for particular species, which will assist in the sustainable 'zoning' of land in advance against competing interests, one of which is identifying ecosystems of importance for conservation.

Areas under aquaculture

Aquaculture in Vanuatu is comprised primarily of the farming of tilapia, which is promoted by the Vanuatu Fisheries Department as a way to alleviate pressure on capture fisheries.
In 2016, a Freshwater Aquaculture Trials and Governance project was introduced into Vanuatu, funded by the European Union under its Economic Development Fund. The purpose of the project was to test environmentally sustainable small-scale, community-based aquaculture models, and to upgrade a functional and effective national aquaculture facility to support community-based aquaculture. Since this time, a freshwater aquaculture hatchery facility has also been established on Santo to boost tilapia production. Aquaculture is a key focus of the Vanuatu Fisheries Department.

Areas under aquaculture are managed by VFD, and require adherence to biosecurity protocols to ensure the species are dealt with in a contained manner. On release into streams and rivers, tilapia have become an invasive species in Vanuatu

freshwater ecosystems. VFD operate their tilapia hatcheries and farms according to developed standards for sustainable management of the infrastructure, including cyclone-proofing.

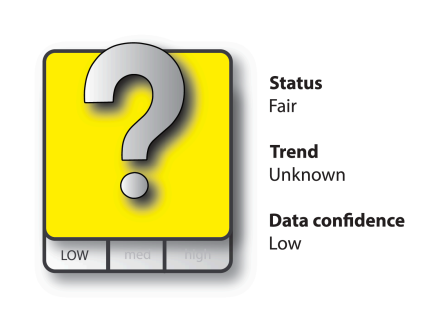
Areas under forestry

Please refer to National Targets 6 and 7 and ABT 5 for further information on the management of areas under forestry.

Evaluation of national contribution towards ABT 7:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Unknown
- **Data confidence:** Low



Vanuatu evaluates its contribution toward this ABT as being 'partially effective'.

The sectors of agriculture, fisheries and forestry in Vanuatu, are guided by policies which focus on the sustainability of methods employed at the grassroots level. Of these three sectors, it is thought that agriculture has the best practical implementation of its policy-based measures. However, focus is increasing in commercialisation of medium-sized farms and a move to monocropping for improved economic benefits for farmers and increases in Vanuatu’s export potential. As mentioned above, agroforestry is strongly encouraged along with other sustainable farming practices.

The work of the Vanuatu Fisheries Department in coastal fisheries management is benefitting from the assistance of community-based fisheries programs which are externally funded (refer to Implementation Action 3.7 in Section II for further information). However, as stated in interviews with Department of Fisheries staff for this report, the national department’s focus on increasing commercial fisheries and upscaling of aquaculture farming across the country (and in

consideration of risks associated with tilapia farming and its sustainability) is somewhat in contradiction with the aims of the department’s conservation branch. Recent publication of the Vanuatu National Roadmap for Coastal Fisheries 2019-2030 will improve the pressures on coastal fisheries, if it is adequately implemented in communities.

An evaluation of forestry management practices can be found in Aichi Biodiversity Target 5.

Overall, the impact of these three sectors is in relation to their small reach. The sustainability of the management of the sectors in particular locations is dependent upon the activeness and capacity of the relevant Extension Officer, and the size and geography of the island, which impacts the extent to which human settlements and activities such as agriculture, fisheries and forestry is impacting the island. On a national basis, it is deemed that the level of sustainable practice policy is good and improving. The status of on-the-ground implementation is deemed to be ‘fair’ due to the variables identified above. The trend is 'unknown', although indicators to monitor this information should be developed within each department, guided by the Department of Environmental Protection and Conservation. The data confidence for this target is categorised as 'low', considering this evaluation has been based primarily on qualitative information gained through interviews conducted for this national report.

8. Pollution

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Vanuatu's main work on managing pollution has been in the area of marine litter.

Introduction of legislation to ban single-use plastics

Please refer to Section II, Implementation Action 6.2 for further information on this activity.

Commonwealth Litter Program (CLiP)
The Cefas Commonwealth Litter Programme is led by the UK through the Centre for Environment Fisheries and Aquaculture Science (Cefas). The Cefas team worked on Efate in Vanuatu in 2018 and 2019, carrying out beach litter surveys across the island and monitoring the water and sediment in Port Vila harbour for plastics and microplastics. Stakeholder meeting with community and businesses were held to discuss key marine pollution issues and to collectively identify litter-reducing actions for implementation. Socio-economic surveys were undertaken to understand people’s value of the marine environment and register individuals’ interest in protection of the ocean. Capacity-building and

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the various Government of Vanuatu ministries, including the Ministries for Foreign Affairs, Environment and Education, amongst others. Work will continue to create solutions to the issue of marine litter in Vanuatu.

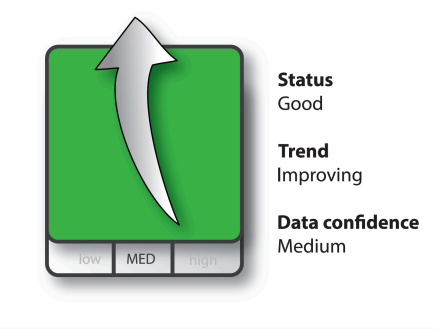
Commonwealth Blue Charter
The Commonwealth Blue Charter is an agreement by all 53 Commonwealth countries to actively co-operate to solve ocean-related problems and meet commitments for sustainable ocean development. As part of the implementation of the Blue Charter, Vanuatu and the UK are co-championing the working group on marine plastic pollution. Of this work, it is likely that a Marine Waste Accord will be developed for signing by all Pacific countries to deal with the management of marine plastic pollution.

Pacific-EU Waste Management Program (PacWaste and PacWaste Plus)
The PacWaste Plus program is implemented by SPREP and funded by the European Union. The objective of the program is to improve and enhance waste management activities and the capacity of governments, industry and communities to manage waste to reduce the impact on human health and the environment. The programme is a continuation and up-scaling of a previous European Union funded Hazardous Waste Management project (PacWaste) that assisted countries to manage asbestos, e-waste and healthcare waste.
As part of PacWaste Plus, SPREP have funded specialised training in healthcare waste management as well as the purchase of new high temperature incinerators for hospitals in Malampa, Shefa, Tafea, Sanma and Penama Provinces. Also, PacWaste arranged for the removal, secure transport and safe disposal of around 6250 metres squared of asbestos from five different locations and launching an e-waste pilot project. SPREP also ran a water quality testing program for water bodies around Vanuatu’s capital, Port Vila, to determine nutrient loading levels, contamination and confirm waste streams in order for better management of waste sources.

Evaluation of national contribution toward ABT 8:

The evaluation of Vanuatu's contribution is:

- **Status:** Good
- **Trend:** Improving
- **Data confidence:** Medium



Vanuatu evaluates its contribution toward this ABT as being ‘effective’.

Since the last reporting period, Vanuatu has implemented major steps towards pollution control, with a particular focus on plastic pollution. The legislation which bans particular kinds of single-use plastics is a key move towards controlling plastics entering the marine ecosystem – one of the main types of pollution in Vanuatu. The trend for the target has been cited as ‘improving’ as announcements have been made by the Government of Vanuatu in relation to the next phase of the legislative prohibition, which may expand to include plastic diapers and other single-use plastic items. New waste collection surveys will determine the change in plastic pollution in select areas in Vanuatu, especially the capital, Port Vila, where a concentration of urban waste enters the marine environment. General waste management remains an issue, particularly in Port Vila. Discussions have commenced about improvements to the general landfill located on the outskirts of the city, though plans are yet to be implemented. Vanuatu will need to align the speedy introduction of prohibitive laws with the accompaniment of viable investment and research into appropriate alternatives.

Vanuatu does not have major environmental impacts from the use of industrial fertilisers, due to primarily organic subsistence farming practice across the islands.

9. Invasive Alien Species

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

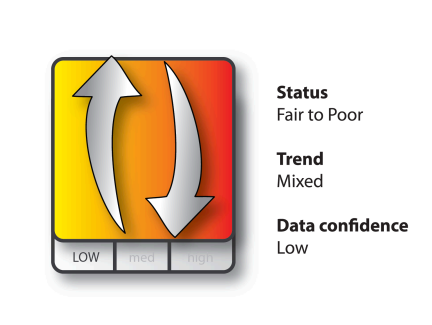
Aichi Biodiversity Target 9 aligns directly with Vanuatu's National Target 10. Please refer to Section II, Implementation Actions 5.1, 5.2, 5.3 and 5.4 and Section III, National Target 10, for a summary of the actions	EN

taken by Vanuatu towards this ABT.

Evaluation of national contribution to ABT 9:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair to poor
- **Trend:** Mixed
- **Data confidence:** Medium



Vanuatu evaluates its contribution toward this ABT as encompassing ‘progress toward target but at an insufficient rate’.

Vanuatu’s Department of Biosecurity is the primary manager of invasive species control and eradication programs, supported by the Department of Environmental Protection and Conservation for the control of some specific species. Invasive species awareness and control programs are supported by some NGOs in Vanuatu, particularly Live and Learn.

The work undertaken by the Department of Biosecurity since the last reporting period has been fair. Work has continued on biocontrol measures for the eradication of weed species via biocontrol. However, with the loss of a key Biosecurity staff member, the department did face a skills and knowledge loss. This is slowly being recovered, and the department has commenced a new program for investigation into biocontrol measures which are safe for assisting Vanuatu’s farmers with weed control, supported by Manaaki Whenua (Landcare Research, New Zealand).

Outbreaks of particular species have been handled by the Department of Biosecurity with speed, although the capacity of the department can not always match the impact and severity of the threat. For example, current outbreaks of *Oryctes rhinoceros* (Coconut Rhinoceros Beetle) in the north-west of Efate have prompted the quick establishment of a Coconut Rhinoceros Beetle taskforce, which is conducting important implementation of education and management measures

to prevent further spread of the beetle which can devastate coconut plantations and has the potential to destroy the livelihoods of many on Vanautu's islands if left unchecked. To prevent its spread however, inter-island biosecurity has been established with the prohibition of export of manure, firewood, coconut husks and palm fronds from the island of Efate to other islands. For this reason, inter-island biosecurity, whilst not formally implemented or being implemented under a national policy, can be successfully set up when enforced in emergency situations. Whether or not the domestic biosecurity measures, coupled with biocontrol actions and awareness is enough to halt the spread of the beetle is yet to be seen.

Site-specific improvements are being made with regard to invasive species, as discussed in Implementation Actions in Section 5 of Section II of this report. However, national eradication programs are not able to be distributed under current government budgets, and control of species remains opportunistic and ad-hoc. Thus in some contexts and for particular species, progress has been fair, and in others, progress and invasive species control has declined or worsened. The status of data is improving with the assistance of Australia's Queensland Department of Biosecurity and Landcare Research New Zealand.

10. Vulnerable ecosystems

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

In line with the technical rationale for this Aichi Biodiversity Target, it is important to urgently reduce the anthropogenic pressures on vulnerable ecosystems, particular coral reefs, which include land-based pollution/sedimentation, unsustainable harvesting and physical pressures, so as to increase their resilience to climate change and ocean acidification.

Vanuatu has implemented the following actions which seek to reduce anthropogenic pressures on our reefs and vulnerable ecosystems:

- Legislative ban on single-use plastics to reduce impacts of marine litter on reefs and marine species (for further information please refer to Section II, Implementation Action 6.2).
- Wide-reaching Community-Based Fisheries Management programs, which seek to strengthen the capacity of local communities in the management of their coastal resources, so as to reduce overharvesting and allow

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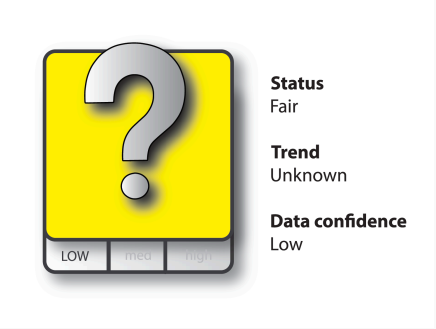
time for rehabilitation (refer to Section II, Implementation Action 3.7).

- Extending the community conservation area network to include more Marine Protected Areas
- Development of a national Marine Spatial Plan so as to better zone, manage and enforce restrictions on activities which are impacting our oceans.
- Development of Vanuatu's first National Roadmap for Coastal Fisheries: 2019–2030.
- Implementation of measures through the Pacific Ridge to Reef project, which is seeking to limit the downstream impacts of upstream activities.
- Protection of upper catchments, and restrictions on activities upstream which impact downstream environments, such as the Efate Land Management Area (ELMA) which seeks to conserve and restrict environmentally-destructive activities in the central upper catchment area of Vanuatu's most populous island.

Evaluation of national contribution to ABT 10:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Unknown
- **Data confidence:** Low



Vanuatu evaluates its contribution toward this ABT as encompassing 'progress toward target but at an insufficient rate'.

The work towards this ABT has been 'fair'. This result is mainly attributed to national-level work described in Section 3 of Section II of this report, in relation to the development of the Pacific's first Oceans Policy, work towards a national Marine Spatial Plan, and the development of the National Roadmap for Coastal Fisheries in Vanuatu. The activities also include work to limit the pressures of overfishing on reefs through the promotion of community-based fisheries and resource

management. However, a full island-wide assessment of the status of reefs has not been undertaken, which would assist the establishment of a baseline for this assessment on the impact to coral reefs since 2014. Thus data confidence is categorised as 'low'. The trend has been categorised as 'unknown' due to this lack of baseline and evaluation against an established existing status.

Work undertaken has been successful and impactful in assisting communities to garner decision-making strength in relation to the management of their coastal resources and reefs. A solid example of this type of community capacity-building has been enacted through the PACFISH and Pathways projects (refer to Implementation Action 3.7 in Section II), which has been successful in the villages in which it is working, in collaboration with Vanuatu Fisheries Department staff. However, population growth remains a growing pressure on Vanuatu’s coastal resources and overfishing of reefs is a likely future issue. A national prioritisation plan for conservation measures which suit reefs of varying health is needed in coming years, to protect Vanuatu’s most pristine reefs, and to prevent overexploitation of its most impacted reefs, to allow recovery of reefs to occur.

The focus on Crown of Thorns outbreaks has slowed in the Vanuatu Fisheries Department, but needs to maintain priority status to ensure that outbreaks are reported and prevented from spreading.

The vulnerability of other ecosystems at risk is required to be assessed at a national level, particularly with regard to mangroves and indigenous forest.

11. Protected areas

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

As Vanuatu’s National Targets 1, 5 and 6 align directly to Aichi Biodiversity Target 11, please refer to Section II, Implementation Actions 1.1-1.11 and Section III, National Target 1, 5 and 6, for a summary of the actions taken by Vanuatu towards this ABT.

Evaluation of national contribution to ABT 11:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair

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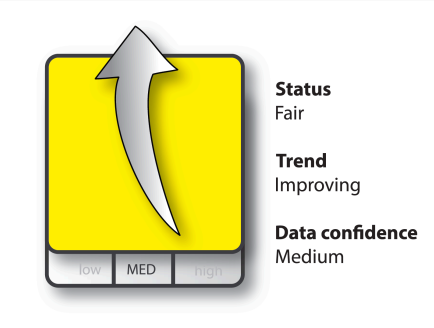
- **Trend:** Improving
- **Data confidence:** Medium



Vanuatu evaluates its contribution toward this ABT as encompassing ‘progress toward target but at an insufficient rate’.

Vanuatu’s network of protected areas has been improving and increasing (for both marine and terrestrial protected areas) since the last reporting period (refer to Implementation Actions above for the full description of activities undertaken in direct alignment with ABT 11). The Department of Environmental Protection and Conservation (DEPC) has been focussing on expanding the network of conservation areas which are legally registered and listed on the National Conservation Registry. This process includes an extensive program of capacity building with the community, including environmental education, and governance and decision-making assistance.

Since 2014, the number of traditionally protected areas (‘tabu’ areas) has also been increasing, through the work of customary Chiefs, and roving environmental NGOs such as Island Reach, who work primarily in assisting communities to establish marine protected areas. However, these areas are yet to be counted as part of the national conservation coverage, due to a lack of boundary information. The collection of this information is a future priority for DEPC.

DEPC has also commenced improving the organisation of protected areas in Vanuatu (described in Implementation Action 1.4 of Section II). This work will assist in ensuring that all conservation actions are centralised and collaborations can occur between organisations working in this space with more ease. The increase in the coverage of protected areas has led to the categorisation of the trend as ‘improving’.

Effective management of protected areas has also been a focus for work by DEPC and other organisations. As described in Section II, both a marine-based and terrestrial-based monitoring and management toolkit have been developed, to assist communities to improve the robustness of their management measures in their protected areas. The further

implementation of these materials will improve Vanuatu’s ability to establish baseline data in its protected areas so as to better track the change in ecosystems and the impact of conservation.

A major issue for Vanuatu’s protected area network is the enforcement of rules and the transparency of information relayed to DEPC on the status of management measures. Most information is anecdotal or observational and not supported by data or regular verification. Moreover, poaching is difficult to control if communities do not observe it, or are not willing to strongly enforce their conservation management rules. The conservation network system does still rely heavily on customary systems and laws to ensure that rules are followed.

Furthermore, limited work on representivity has been completed in Vanuatu. The MACBIO project has undertaken some research which will be effective to use as a baseline for the representativeness of marine protected areas, though further work needs to be completed in this area, as well as an update to the CEPF 2012 study for an Ecosystem Profile for East Melanesia undertaken by CEPF in relation to terrestrial biodiversity hotspots.

12. Preventing extinctions

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

As Aichi Biodiversity Target 11 aligns directly with National Target 9, please refer to Section II, Implementation Actions 4.1-4.7 and Section III, National Target 9, for a summary of the actions taken by Vanuatu towards this ABT.

Evaluation of national contribution to ABT 12:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Improving
- **Data confidence:** Low

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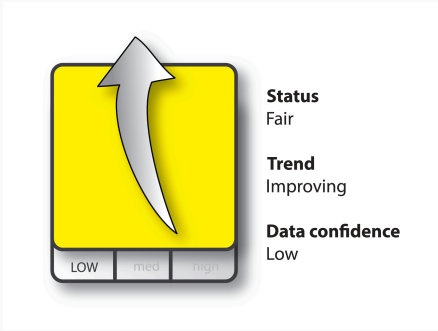

Vanuatu evaluates its contribution toward this ABT as encompassing ‘progress toward target but at an insufficient rate’.

Species-specific activities are being undertaken by a variety of organisations in Vanuatu, and work on the protection of particular species, or their habitats, has been expanding and improving (refer to Implementation Actions in Section 4 of Section II). These species programs primarily focus on dugongs, flying foxes, megapodes, Collared Petrels, turtles and Coconut Crabs. The work that has been undertaken has been successful in establishing solid baseline data, improving awareness of species and their habitats and protection of habitats.

The status of species is dependent upon the species but is considered to be ‘fair’ across species. However there are some species which are in decline and further attention needs to be focussed on these in the coming years. The most prominent of these is the Coconut Crab, the issues surrounding which are explained further in Implementation Action 4.5 in Section II.

The trend of species preservation is not known, however as good work has been implemented on a species-specific basis it is considered that for those species, their status is improving. Much work implemented over the past four years has not yet been monitored or evaluated as to its impact on species populations. Further information is required via a systematic review on those species which are in decline, and which require attention for protection.

13. Agricultural biodiversity

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Vanuatu is working towards this Aichi Biodiversity Target. Activities which have been undertaken to meet this target include:

- The development of the Agriculture Sector Policy 2015-2030 which focuses on the importance of maintaining genetic diversity, after research field work conducted by the Vanuatu Agriculture Research and Technical Centre (VARTC) and locally-based researchers into varieties of taro and yam on major producing islands, found that Vanuatu is facing conservation and genetic improvement issues (Department of Agriculture and Rural Development, 2015). The policy contains directives prioritising agrodiversity including:
  - Conserve genetic resources and materials.
  - Improve genetic resources and materials based on sectoral needs.
  - Undertake collaborative research using internationally recognised standards.
- Specified officers within Department of Agriculture and Rural Diversity, Department of Livestock and Department of Forestry, who look after genetic diversity and breeding programs, to ensure that genetic diversity is not eroded. These include Root Crop Specialists who document varieties of local root vegetables, and assist communities in propagating varieties which suit their local environment.
- Growing documentation and programs to collect a full database of Vanuatu's flora and fauna species. This is particularly pertinent to the goal of completing a Vanuatu Flora - an activity which is being assisted by New York Botanic Gardens, particularly in Vanuatu's southern province (refer to Implementation Action 2.1.
- The keeping of a National Herbarium which contains specimens of all plant species which have so far been found in Vanuatu. Department of Forestry maintains this, and runs a small program to propagate native species.
- The operation of the Vanuatu Research and Technical Centre (VARTC) which is the national research centre for coconut, coffe, cocoa, livestock and more recently root/tuber crops, nuts and breadfruit. VARTC contributes to the economic development of Vanuatu by selling improved plant materials and cattle, providing training in agriculture and breeding, and providing scientific and technical information.
- Participation in the Pacific Seeds for Life program, implemented by SPC in collaboration with the Department of Agriculture and Rural Development, VARTC, Vanuatu Agriculture College and Vanuatu Climate Adaptation Project, along with farm support agencies. The program aims at empowering Pacific Islands to develop resilient food production systems and, ultimately, achieve food security. The project will allow governments to better develop and operationalise seed systems, thereby giving researchers, extension agents, and farmers better access to skills and knowledge – and giving communities access to crop varieties to achieve these goals.

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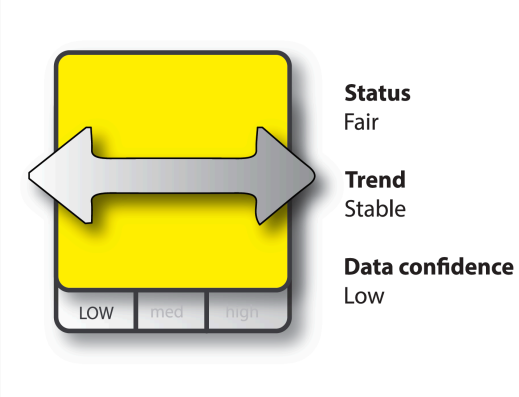
Through the program, varieties and technologies are delivered to small-scale farmers for further selection and bulking. Outcomes include increased awareness and capacity on seed systems development, strengthened enabling policies for effective seed systems, and enhanced regional and national seed networks.

Evaluation of national contribution to ABT 13:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Stable
- **Data confidence:** Low



It is considered that Vanuatu's work towards maintaining genetic diversity of cultivated plants and farmed and domesticated animals can be categorised as 'fair'. This is also based on an existing agro-biodiversity base which is considered to be good, due to varietal diversity of a number of important food crops. For example, it was discovered that there are more than 1,000 varieties of 13 species of root crops grown in Vanuatu (Sardos, 2008). Ni-Vanuatu traditional gardening practices maintain the diversity of their crops by mixing crops, which mixing crops, which provides protection against pathogens, ensures better use of soils and sunlight, makes certain plants are more drought-resistant, allow harvests to be spread over time, and provides a more varied diet. Moreover, ancestral crops which are well-suited to local growing contexts, are still maintained as respected and significant part of ni-Vanautu's diets in rural areas.

However, as the DARD Root Crop Specialist reported, genetic erosion is occurring naturally and climate change is assisting the rate at which this is occurring. Moreover, DARD is currently promoting mono-cropping and commercial

cropping for livelihood improvement, which is decreasing the popularity of root crops.

Current policy directives and programs are bringing to light the increasing need for programs which prioritise genetic diversity measures, and are cognisant of a changing agricultral context n Vanuatu and the promotion of cash cropping, which could increase the risk of losing genetic diversity around the country. Moreover, Vanuatu is leading the Pacific in commencing the rollout of seed systems. However the growing impact of climate change on the sector, as well as a changing social and economic fabric of the agriculture sector has led to the categorisation of 'stable' as the overall trend in this field of work. Further work will need to be completed on this target, with more involvement from cross-sectoral players such as the Department of Forestry. However, as the data is largely anecdotal and not yet quantifiable, the data confidence is considered 'low'.

Reference list:

- Department of Agriculture and Rural Development, *Agriculture Sector Policy 2015-2030*, Ministry of Agriculture, Livestock, Foresty, Fisheries and Biosecurity, Government of Vanuatu, available at <https://malffb.gov.vu/doc/Vanuatu_Agriculture_Sector_Policy.pdf>
- Interview with Department of Agriculture and Rural Development Principal Agriculture Officer South.
- Interview with Department of Agriculture and Rural Development Root Crop Specialist.
- Pacific Community, 2018, 'Pacific Seeds for Life becomes a reality', Suva, Fiji.
- Sardos J., 2008, *Maintenance of agrobiodiversity of Vanuatu root and tuber crops: specific and varietal diversity and management of these diversities*, PhD thesis, CIRAD (Agricultural Research for Development), Montpellier, France.

14. Essential ecosystem services

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Ecosystems important for the provision of ecosystem services in Vanuatu includes both marine and terrestrial ecosystems. The pressures on ecosystems which provide essential services to Vanuatu's population, the majority of whom rely heavily on natural resources for survival in the outer islands, are growing. Particularly on Efate and Santo, increasing pressures from urbanisation are evident on the ecosystem services of these

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islands, in light of environmental safeguards not being adequately established to address the rapid growth rate.

The ecosystem which is degrading the quickest in Vanuatu is its marine ecosystem, primarily through overharvesting of marine species, particularly overfishing. The degradation occurs mainly in the coastal zone, where access to fish is easiest. Many communities in Vanuatu are reporting declines in coastal fisheries, and community-based fisheries management projects, such as those described in Implementation Action 3.7 of Section II, are seeking to prevent further degradation of the services these ecosystems provide, both from a nutritional and livelihood perspective, across Vanuatu.

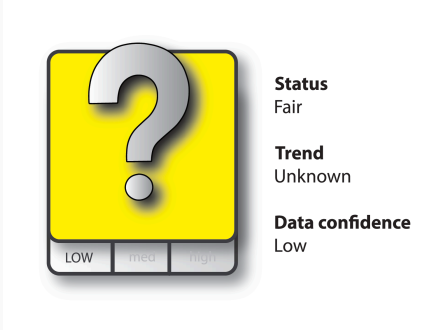
Land use change is another major threat to Vanuatu's terrestrial ecosystems. In more populous islands like Tanna and Santo, the spread of agriculture is leading to the clearance of forests, and impacts on water catchment areas, due to a lack of pre-planned and island-wide zoning, or similar. Research has commenced into the viability of incorporating Strategic Environmental Assessments into the national Environmental Impact Assessment legislation, as discussed in Implementation Action 6.3. This would allow for more strategic oversight at an island-wide level, as to how best to protect the ecosystems and related services, on which many island populations reply.

Vanuatu is also a leader regionally, and globally, in the development of Alternative Indicators to Well-being, to directly counter the measurement of national progress through GDP. With a pilot study conducted in 2012, and the first national baseline data collection currently underway in 2019, the well-being indicators will collect tangible data on important ecosystem service use (for example, distance to firewood, access to forest resources, distance to seashore, access to marine resources, access to customary lands, strength of traditional environmental knowledge, access to traditional wealth items, amongst others). Having locational information about these human-natural environment links will assist in planning for restoration and prevention of ecosystem services degradation.

Evaluation of national contribution to ABT 14:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Unknown
- **Data confidence:** Low



Status
Fair

Trend
Unknown

Data confidence
Low

Vanuatu evaluates its contribution toward this ABT as encompassing ‘progress toward target but at an insufficient rate’.

Vanuatu’s population, particularly in rural areas, relies heavily on ecosystems that provide essential services. Due to the majority of the country living a subsistence lifestyle, ecosystem services used by ni-Vanuatu communities are numerous and are provided by both terrestrial and marine processes. All communities for instance, rely on access to productive land for their vegetable gardens, as well as clean freshwater. Coastal communities also depend on healthy coastal ecosystems for sustenance. The majority of these ecosystem services are currently in a healthy condition.

As the majority of protected areas (both registered and unregistered ‘tabu’ areas) are community-nominated, the essential ecosystem services that are important to those communities are protected through the tabu process in pockets across Vanuatu. However, there has been no systematic mapping or compilation of particular ecosystem services used by each community. A national-level identification and valuation of marine ecosystem services has been completed as part of the MACBIO project (refer to Implementation Action 3.4 in Section II for further information). The SPREP PEBACC project also completed a national ecosystem service study (refer to Implementation Action 1.10 in Section II). These studies require further baseline information to increase their validity and usefulness, but can be used in the future as a starting point to assist prioritisation of the most important ecosystem services across the islands.

The most significant impacts to ecosystem services have occurred in the vicinity of Port Vila and broader rural Efate, due to increasing urbanisation. The most significant ecosystem service on Efate which requires protection is the island’s water catchment area. Whilst there is a proposed conservation area in place over the water catchment area, the registration of this area has not yet occurred for the purposes of legal protection (refer to Implementation Action 2.1 in Section II). As development increases on the more populous islands (Efate, Santo, Tanna), ecosystem services should be safeguarded. As yet, only the community conservation area process covers the protection of ecosystem services as a by-product of broader conservation goals. In the future, Vanuatu aims to include ecosystem services as a criteria for

identification of areas which are important to protect.

15. Ecosystem resilience

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Vanuatu has not suffered systematic degradation of landscapes through extensive mining or logging, to the same extent as some its Pacific island neighbours such as Solomon Islands or Papua New Guinea. Nonetheless, degraded environments do exist as the product of development activities and should be flagged for restoration.

Most causes of deforestation in Vanuatu have been identified and assessed at a national level by the REDD+ program. No national plan for ecosystem restoration has been developed in Vanuatu as yet, but if further REDD+ activities proceed, reforestation activities could be nationally coordinated. Moreover, no monitoring of degraded habitat rehabilitation which may have occurred has been recorded in Vanuatu.

However, activities have been undertaken which contribute to this goal. These include:

- Payment for Ecosystem Services program at Loru Community Conservation Area (refer to Implementation Action 1.7 in Section II) which incentivises the community of Kole to participate in carbon storage and sequestration within the international carbon trading market.
- Department of Forestry seedling planting activities, which occur nation-wide, through the provincial DoF offices and nurseries. However, whilst this activity is important for increasing Vanuatu's carbon sink, it does not necessarily target rehabilitation of degraded areas.
- REDD+ Analytical Studies which have assessed the state of the forested areas on the five project islands (being Efate, Tanna, Malekula, Santo and Erromango) and the primary drivers of deforestation on these larger islands. An economic and carbon analysis of REDD+ reforestration strategy options was also undertaken, to estimate the potential economic and carbon implications of the options going forward. These include potential timber reforestation with native species, as well as agroforestry options.
- Small patches of community-led projects involving the transformation of *Merremia*-infested areas into indigenous forest (e.g in Loru CCA, as discussed in Section II). Anecdotal evidence indicated that restoration activities involving the transformation of ground overrun with invasive alien species has been successful when properly attended to.

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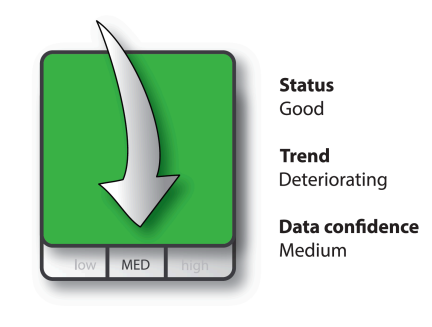
Evaluation of national contribution to ABT 15:

The evaluation of Vanuatu's contribution is:

- **Status:** Good
- **Trend:** Deteriorating
- **Data confidence:** Medium



Vanuatu evaluates its contribution toward this ABT as encompassing ‘progress toward target but at an insufficient rate’.

The primary program in Vanuatu which will assist the enhancement of ecosystem resilience and the contribution of biodiversity to carbon stocks, through conservation and restoration, is the REDD+ program. Planning and research work in this area may lead to a national restoration program through REDD+ in the future. However, at present, work to enhance carbon stocks continues on an ad-hoc or project and site-specific basis.

Regardless of a lack of confirmed national strategy in this area, the status of ecosystem resilience and contribution of biodiversity to carbon stocks in Vanuatu would be said to be ‘good’, due to a healthy presence of indigenous forests on most larger islands. However the trend is generally ‘deteriorating’, though slowly, on the more populous islands, due to increasing population growth, more unregulated selected logging through the spread of chainsaws, and the growth of subsistence, semi-commercial and commercial agriculture. The natural result would be an eventual decrease in Vanuatu's carbon stock, though the trend is not declining urgently. Strategic island-based environmental assessments and planning are required as a priority for the populous islands, to ensure that existing carbon stocks remain protected and reforestation can occur on impacted land.

16. Nagoya Protocol on ABS

Description of how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target

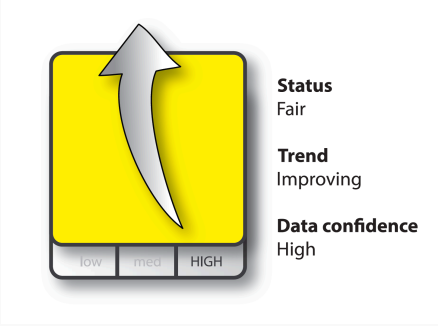
Vanuatu ratified the Nagoya Protocol in 2014, and since then has been actively pursuing a program of work to enact legislation regarding ABS, as well as policies and mutually agreed terms for use in relation to ABS cases (described in full in Implementation Action 6.1 of Section II). Awareness sessions are also being held with communities regarding ABS, and capacity-building of key national staff is occurring to develop Vanuatu's skills in this field of work. The work is progressing Vanuatu towards the use and enforcement of ABS processes and protocols.

Vanuatu has not completed the interim national report on the implementation of the Nagoya Protocol.

Evaluation of national contribution to ABT 16:

The evaluation of Vanuatu's contribution is:

- **Status:** Fair
- **Trend:** Improving
- **Data confidence:** High



The national contribution towards the achievement of ABT 17 has been fair, with work progressing towards passing of ABS-related legislation and MATs, as well as advocacy and community education being undertaken. This work has led to an ‘improving’ situation in relation to ABS and the Nagoya Protocol. The data used as the basis for this evaluation is of ‘high’ confidence level.

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17. NBSAPs

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The review process for the 1999 VBSAP was initiated in 2014 when Vanuatu undertook an extensive provincial awareness and consultation process to assess the priorities of the communities in terms of the sustainable use and conservation of biodiversity.

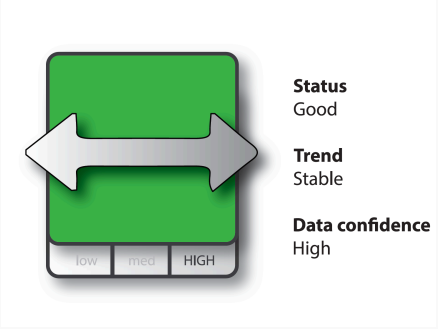
In 2015, a consultant was engaged to assist. The process included the review of existing national strategies to identify NBSAP-related priorities and conducting sector and national stakeholder consultations to finalise the NBSAP. The review was also informed by some of the latest assessments such as the SPREP/IUCN State of Conservation in Oceania Report for the Pacific (SPREP, 2013), which provided recent information on the status and trends of biodiversity in Vanuatu.

The strategic areas of the NBSAP 2018-2030 have been aligned to the CBD Strategic Plan and Aichi Targets and also to two key national strategies: the National Sustainable Development Plan (NSDP) and the National Environment Policy and Implementation Plan (NEPIP). It is important to note that the Vanuatu NBSAP has been aligned with the NSDP timing which is 2016–2030 and this should align with the next CBD 2020-2030 Strategic Plan.

Evaluation of national contribution to ABT 17:

The evaluation of Vanuatu's contribution is:

- **Status:** Good
- **Trend:** Stable
- **Data confidence:** High



Vanuatu evaluates its contribution toward this ABT as having ‘achieved target’.

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Though Vanuatu did not achieve this goal by 2015, the end of the sixth reporting period did see the publication of Vanuatu’s updated National Biodiversity Strategy and Action Plan (NBSAP published in June 2018), which encompasses new national biodiversity and conservation targets for the country and a set of 183 implementation actions. Due to the document’s recent publication, many implementation actions in the NBSAP have not yet commenced being undertaken.

It has been determined that review of the national targets and implementation actions may be necessary in the near future by the Department of Environmental Protection and Conservation, to refine and prioritise the actions and targets to better suit Vanuatu’s context, and to better mobilise financial resources against particular targets and proposed actions.

18. Traditional knowledge

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Please refer to Section II, Implementation Action 1.5 for a summary of the actions taken by Vanuatu towards this ABT. Moreover, traditional knowledge is encompassed in the overall vision of Vanuatu's national conservation strategy (refer to Section 1, National Targets 1 and 2 for an overview).

Evaluation of national contribution to ABT 18:

The evaluation of Vanuatu's contribution is:

- **Status:** Good
- **Trend:** Stable
- **Data confidence:** High

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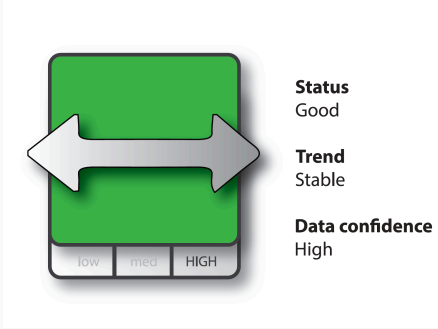

Vanuatu evaluates its contribution toward this ABT as having 'achieved target'.

As indicated in Section I and II of this report, Vanuatu has strong respect for traditional knowledge, innovations and practices of indigenous and local communities. This is reflected in the country's Constitution, and various legislation, including the Environmental Protection and Conservation Act CAP283. This legislation encompasses the requirements for the registration of a conservation area, which is also guided by a national Information Booklet on the Registration of Community Conservation Areas. This process places much importance on grassroots action, and is completely dependent on the will and commitment of the community to establish, monitor and manage the conservation area. Indeed, the name for a protected area in Vanuatu is 'Community Conservation Area'. Traditional knowledge and laws are often incorporated into the setup of protected areas and their management.

Due to the customary land management system in Vanuatu, communities must give consent and be involved in the establishment of protected areas, as all land is under customary ownership. In addition, the use of traditional knowledge in environmental management is highly encouraged and still the basis for much subsistence living on Vanuatu's islands.

Vanuatu has over 100 languages and is said to have the highest density of indigenous languages in the world (Lynch and Crowley, 2001). Ni-Vanuatu have strong cultural identities which are linked to their islands of origin, and customary knowledge is linked to this identity.

A pilot study entitled 'Alternative Indicators of Well-being in Melanesia', conducted by the Vanuatu National Statistics Office found that 80.9% of urban participants in the survey and 90% of rural participants knew the local names of flora and fauna. High percentages of the population surveyed also knew the traditional planting calendar and harvesting seasons. Respect for traditional environmental knowledge remains strong. Particular programs are also promoting the

improvement in, and use of traditional environmental knowledge (as described in Implementation Actions 1.5 and 2.1 in Section II).

Reference list:

- Lynch, J. and T. Crowley, *Languages of Vanuatu: a new survey and bibliography*, Pacific Linguistics, The Australian National University, Canberra.
- Vanuatu National Statistics Office, 2012, *Alternative Indicators of Well-being in Melanesia – Vanuatu Pilot Study Report*, Malvatumauri National Council of Chiefs, Port Vila, Vanuatu.

19. Biodiversity knowledge

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Vanuatu’s current science base and technologies relating to biodiversity are not robust. Many conservation decisions are made based on community will, rather than data or scientific evidence. Exceptions do occur of course, and several organisations and projects which have been working or been undertaken in Vanuatu have significantly improved access to important and useful environmental data for Vanuatu. Data baselines and the evidence of trends, status, values and functioning of ecosystems are growing as more technical assessments are completed in Vanuatu.

Vanuatu is also in the process of establishing an Environmental Information Management System, which will create a structured approach to the collection and storage of biodiversity and environmental data, which will assist monitoring of environmental progress against targets. In turn, this will assist in Vanuatu being able to assess its science and technology gaps, and to develop its knowledge and science base related to biodiversity. The ability will also be expanded to share this information with the wider Pacific region for important comparative and capacity-building purposes for better regional management of biodiversity.

Evaluation of national contribution to ABT 19:

The evaluation of Vanuatu's contribution is:

- **Status:** Poor

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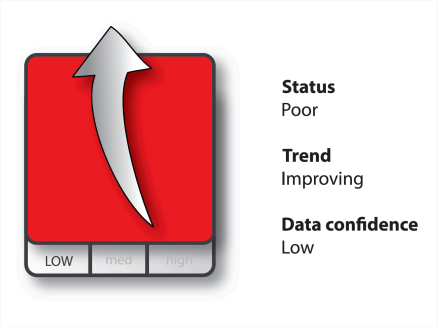
- **Trend:** Improving
- **Data confidence:** Medium



Vanuatu’s current access to biodiversity knowledge, science and technologies is categorised as ‘poor’, though the trend is ‘improving’. The data used to make this assessment is of a ‘medium’ confidence level.

20. Resource mobilization

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Vanuatu has not completed the Financial Reporting Framework.

Vanuatu has received Official Development Assistance for the development and preparation of this report.

Since the last reporting period, the mobilisation of financial resources for environment-related activities in Vanuatu has significantly increased. The most significant mobilisation of finance has occurred as a result of increased access to climate change-related funding. Whilst climate financing is not often directly intended for biodiversity conservation, the significant structural changes and financial preparation actions undertaken by Vanuatu to access these funds, are expected to have positive flow-on impacts for direct biodiversity activities in the coming years. This is particularly pertinent due to the links between the climate change and environmental conservation government ministries which now exist.

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In 2013, the Vanuatu Council of Ministers established the National Advisory Board on climate change and disaster risk resilience. The following year, in 2014, the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management (Ministry of Climate Change) was established and made operational. These measures were based on the Vanuatu Climate Public Expenditure and Institutional Review (CPEIR) report, which was prepared as a review of the country's policies, institutional arrangements, and public expenditure on activities related to climate change and disaster risk reduction. The CPEIR report led to a large restructuring of the environmental and climate change-related government bodies in Vanuatu, to allow for the building of national capacity to gain better access to climate finance.

The Department of Environmental Protection and Conservation was stationed under the Ministry of Climate Change at this time, linking the issues of biodiversity and climate change. This will no doubt lead to further opportunities for biodiversity-related adaptation and mitigation measures within future applications for climate finance, as the Ministry's capacity is built and Vanuatu applicants become more familiar with preparing cross-sectoral applications.

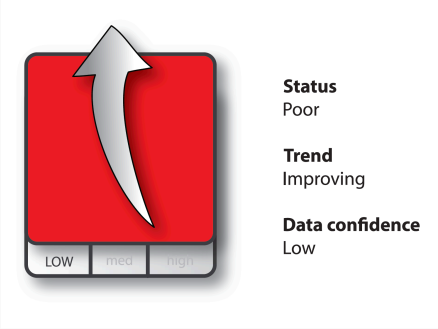
Since the establishment of the Ministry of Climate Change, the Government of Vanuatu received, in 2015/16, its first Green Climate Fund project funds, in the area of climate data and early warning systems. This work is linked to biodiversity as the availability of better scientific data will enable more robust projections of localised changes to Vanuatu's climate, and related impacts on biodiversity.

In addition, at present, Vanuatu is party to Green Climate Fund readiness funding, which is primarily being directed towards institutional capacity building within the Ministries of Climate Change, Finance and Foreign Affairs.

Moreover, following Tropical Cyclone Pam - a Category 5 cyclone which occurred in March 2015, eight cluster groups were formed, and are now active during 'peace' times, to ensure that decisions on strategy and implementation of climate funds and development funds have a space for discussion and decision-making.

Evaluation of national contribution towards the achievement of ABT 20:

- **Status:** Poor
- **Trend:** Increasing
- **Data confidence:** Low



Vanuatu evaluates its contribution toward this ABT as being 'partially effective'.

Progress has been made so far by Vanuatu to increase 'increase substantially' the access to, and mobilisation of biodiversity-related funding. Direct biodiversity-related funding needs to be increased if possible, in Vanuatu. A review similar to the CPEIR, for conservation and biodiversity, could be undertaken to assist Vanuatu.

Moreover, as indicated in Vanuatu's NBSAP, in-country budgetary and strategic planning needs to be led by the Department of Environmental Protection and Conservation, to adequately plan the potential conservation-related activities, and to engage more frequently and robustly with the Ministry of Finance, in relation to biodiversity-related finances. Strategic prioritisation of NBSAP 'implementation actions' and national targets is required for effective environmental planning and implementation of actions in Vanuatu.

The progress that has been made in the area of mobilising for climate finance access has been useful for Vanuatu, and the Department of Environmental Protection and Conservation can benefit from this improved financial mobilisation and structural change, if it works to integrate biodiversity conservation into understandings of, and applications for climate change adaptation and mitigation solutions for Vanuatu. This is approach is particularly relevant, and realistic for Vanuatu, where a large population is reliant and strongly

linked to natural resources for their livelihoods and daily lifestyles, and where there are sound opportunities for ecosystem-based adaptation options.

More improved budgeting will be required in the future to better allocate funds across the many targets of the NBSAP.

Section V. Description of the national contribution to the achievement of the targets of the Global Strategy for Plant Conservation

Vanuatu does not have national targets related to the GSPC Targets

1. An online flora of all known plants

2. An assessment of the conservation status of all known plant species, as far as possible, to guide conservation action

3. Information, research and associated outputs, and methods necessary to implement the Strategy developed and shared

4. At least 15 per cent of each ecological region or vegetation type secured through effective management and/or restoration

5. At least 75 per cent of the most important areas for plant diversity of each ecological region protected with effective

management in place for conserving plants and their genetic diversity

6. At least 75 per cent of production lands in each sector managed sustainably, consistent with the conservation of plant diversity

7. At least 75 per cent of known threatened plant species conserved in situ

8. At least 75 per cent of threatened plant species in ex situ collections, preferably in the country of origin, and at least 20 per cent available for recovery and restoration programmes

9. 70 per cent of the genetic diversity of crops including their wild relatives and other socio-economically valuable plant species conserved, while respecting, preserving and maintaining associated indigenous and local knowledge

10. Effective management plans in place to prevent new biological invasions and to manage important areas for plant diversity that are invaded

11. No species of wild flora endangered by international trade

12. All wild harvested plant-based products sourced sustainably

13. Indigenous and local knowledge innovations and practices associated with plant resources maintained or increased, as appropriate, to support customary use, sustainable livelihoods, local food security and health care

14. The importance of plant diversity and the need for its conservation incorporated into communication, education and public awareness programmes

15. The number of trained people working with appropriate facilities sufficient according to national needs, to achieve the targets of this Strategy

16. Institutions, networks and partnerships for plant conservation established or strengthened at national, regional and international levels to achieve the targets of this Strategy

Section VI. Description of the national contribution to the achievement of the targets of indigenous peoples and local communities

No information available

Section VII. Updated biodiversity country profile

Biodiversity facts : Status and trends of biodiversity, including benefits from biodiversity and ecosystem services and functions:

Terrestrial biodiversity

Seventy four percent (74%) of land in Vanuatu is covered with natural vegetation (DoF, 2013). Forest types include tropical lowland evergreen rain forest, broad-leaved deciduous forest, closed conifer forest, montane rain forest, cloud forest and coastal forest. Other notable vegetation includes swamp forest on Efate, kauri pine strands on Erromango and scattered mangrove forests covering around 3,000ha (most of which occur on Malekula Island).

Lowland forest has largely been cleared and replaced by anthropogenic vegetation but forested areas remain the dominant landscape element on most islands. High forests are restricted on most of the islands (especially those that are densely populated, such as Pentecost, Ambae, Tanna and Shepherd; or have active volcanoes, such as Ambrym). However low montane forests are generally well preserved and occupy large areas. Secondary forests (often consisting of a *Hibiscus tiliaceus* community in thickets) are dense and extensive in Vanuatu.

There are about 1,000 vascular plant species in Vanuatu of which around 150 are endemic. There is high diversity of orchids with 158 species and palms with 21 species, including 14 endemic species (DEPC, 2018). There are 123 bird species, with Birds of Vanuatu citing 121, and with two sightings confirmed since the publication of this document, being a migrant plover species and the resident Vanuatu Petrel (Kalfatak, D, 2019, personal communication, 10 July 2019). There are also 28 species of reptiles and 12 species of Chiropterae (Flying Foxes and Bats - 8 of which are insectivorous and 4 of which are fruit bats) (Baereleo, R., 2019, personal communication 9 July 2019). Invertebrate diversity is not fully described but includes the coconut crab (*Birgus latro*) the largest land crab, which is an important food resource in Vanuatu (DEPC, 2018).

Invasive animal species are a threat in Vanuatu and include the Indian Mynah (*Acridotheres tristis*), the Giant African Snail (*Achatina fulica*) and the Rosy Wolf Snail (*Euglandina rosea*). *E. rosea* was introduced as a biological control agent for *Achatina fulica* but the species has caused the extinction of numerous native snails in other countries. Another species of concern in Vanuatu is the Little Fire Ant (*Wasmannia auropunctata*), which has reduced arthropod species diversity in other locations, and may threaten crab species, including the coconut crab (Bakeo and Qarani, 2005).

Vanuatu has one recorded extinction: the Tanna Ground Dove (*Gallicolumba ferruginea*). Extinction drivers for this species are believed to have been hunting and predation by domesticated and feral mammals.

Inland waters biodiversity

Large rivers are present on the larger islands but the most common freshwater habitats are steepgradient mountain

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streams. Unique and rare habitats include freshwater lakes on several islands (including crater lakes on inactive volcanic islands) and subterranean streams in karst areas.

Exploration of caves on Santo revealed four species of invertebrate that were new to science and confined exclusively to these caves (Deharveng, 2011). Atolls and coral islets generally have underground freshwater lenses due to the porosity of the rock.

Most islands of Vanuatu contain a dense network of seas, lakes and rivers. The larger islands are well watered by rapid mountain rivers and creeks. Other freshwater systems include low gradient lowland streams, deep pits called blue holes, some lakes and swamps/marshes on plains. Most of the 25-30 lakes are crater lakes, with Lake Letas on the volcanic island of Gaua, being the largest freshwater system in the Pacific at 19 km2 in area and 350 m deep (Vanuatu National Museum and Vanuatu Environment Unit, 2004). The caldera lakes of Ambae lie at an altitude of over 1,300m and are the highest of the South Pacific (Kalfatak and Jaensch, 2014). Freshwater swamps and swamp forests are generally restricted to fringing areas around lakes (Efate, Thion), in depressions on plateaux (Efate, Epi, Maewo and Gaua), in extinct volcanoes (Vanua Lava) or on floodplains (East Santo).

Streams and rivers in Vanuatu are highly variable in size and length and can be divided into six zones depending on altitude and water velocity: spring zone (over 800 m); higher course (450-800 m; steep); middle course (150-450m; less than 10% slope), upper lower course (50-150 m) and lower course (less than 50 m; tidal) (Keith et al., 2010). Understanding this typical zonation allows understanding of the distribution of freshwater species. While the majority of species are found in low velocity reaches high velocity reaches often contain unique species adapted to this type of environment (e.g. *Sicyopterus spp*, *Gobiidae*). The estuarine zone is also an important thoroughfare for a freshwater fauna dominated by migratory species.

All freshwater fishes in the identified important biodiversity areas are amphidromous (i.e. with a marine larval stage), providing a clear linkage between freshwater and marine ecosystems. Diversity is dominated by gobies and some endemism is known in the subfamily Sicydiinae. However, these are very small fish, which are not currently utilised by local communities or represented in indigenous taxonomies. The larger but non-endemic species like eels (*Anguilla spp.*), Spot-tail Bass (*Lutjanus fuscescens*), Mullets (*Mugilidae*) and Grunters (*Terapontidae*) are utilised for food, as are neritid snails and prawns, and reduction in their populations is of direct concern to villagers. Surveys in Vanuatu indicate there may be some endemism in freshwater crustacea (Marquet et al. 2002). The intense utilisation of freshwater species for protein in some areas is having an impact on freshwater ecosystems but there is little to no research in this area.

Freshwater fish biodiversity can be highly localised and even small lake or stream systems may harbour unique locally evolved forms of life. The numbers of different species in any given freshwater habitat can be high even if the population numbers of the individual species are low. Generally speaking, the fauna of riverine systems has been better studied than other systems. The number of endemic species is greater in older islands that have retained a good natural vegetation cover and where flows have not been altered. Of the 96 known crustacean and fish species (29 decapod crustaceans and 67 fish), 5 are endemic to Vanuatu and 7 to both Vanuatu and New Caledonia (Keith, et al, 2010).

Marine and coastal biodiversity

Vanuatu's marine and coastal biodiversity contributes to generating goods and services that people value. These values total over VT4.5 billion. The values include, not surprisingly, tourism and tuna. The net value of tourism in 2013 was approximately VT850 million. The value of tuna to Vanuatu, mainly from access fees, was about VT160 million in 2013. The benefits of Vanuatu's tuna to the world is billions of Vatu/year. More surprising is how coastal habitats are valued in terms of what they contribute to subsistence fishers (about VT580 million), small-scale inshore commercial fishers (VT290 million), coastal protection (VT1.6 billion) and carbon sequestration (VT760 million) (Pascal et. al, 2015).

Vanuatu has a range of marine habitats and species, from inshore coral reefs to deepwater seamounts and canyons that generate these values and some are described in more detail here. Vanuatu's coral reefs are categorised as either fringing, barrier or atoll reefs. Within each of thes categories there are patch reefs, where the coral reef forms patches within a matrix of sand or seagrass. Coral species generally have wide geographic ranges in the Indo-Pacific region, but many are listed as globally threatened due to reef damage and bleaching, and will suffer additional impacts from sea temperature and pH changes associated with climate change. Reefs support a variety of mollusks, crustaceans and fishes, which in turn provide the main source of protein for people living in coastal villages. Coral reefs are also the habitat for most of the threatened coastal fishes of the region, such as Humphead Wrasse (*Cheilinus undulatus*), Green Bumphead Parrotfish (*Bolbometopon muricatum*) and Hump-backed Rock Cod (*Cromileptes altivelis*). White sand beaches adjacent to coral reefs are important nesting sites for Green Turtle (*Chelonia mydas*) and Hawksbill Turtle (*Eretmochelys imbricata*).

Seagrass beds occur in soft-bottom areas and, like coral reefs, require clear water (low turbidity) away from sediment plumes of large rivers. Seagrass beds are the habitat of Dugong (*Dugong dugon*), which reaches the eastern limits of its distribution in Vanuatu. Results of aerial and postal surveys conducted at least 17 years ago (in 1987) indicated that dugongs occur in small groups (single or pairs of animals) throughout the sheltered waters of Vanuatu (DEPC, 2018),

with the identification of 20 dugong habitat hotspots by Vanuatu Environmental Science Society in 2017, 6 of which have been prioritised for conservation and awareness (C. Shaw, 2019, personal communication, 1 February 2019). Dugong are protected in Vanuatu under the Fisheries Act 2014, which prohibits the capture of marine mammals in Vanuatu's international waters. Dugongs were formerly hunted but their numbers are so low now that there are few contemporary records of hunting. A recent initiative being implemented by the Vanuatu Environmental Science Society (VESS) involves mapping the distribution of dugong and their seagrass habitat, which will help to identify priority areas of conservation and raise awareness in moving the dugong conservation forward (C. Shaw, 2019, personal communication, 1 February 2019).

Mangroves are a marine habitat and widely recognised as an important nursery for juvenile fish. They also provide coastal buffering against tropical cyclones and other extreme weather events. As with terrestrial forests, mangroves and seagrass meadows remove and store carbon from the atmosphere. Other ecosystem services include tourism, wood extraction and bioremediation and sediment trapping. From 2010-2014, the Mangrove Ecosystems for Climate Change Adaptation and Livelihoods (MESCAL) project conducted an economic valuation of nine ecosystem services in Crab Bay, Malekula and Eratap on Efate Island. The study found that in 2012, 136.5 ha of mangroves in Crab Bay produced ecosystem services worth US$586,000, while in Eratap, 31.2 ha produced ecosystem services worth US$266,000 (Pascal et. al, 2015).

Rocky shorelines occur along the coasts of islands of recent volcanic origin, or where rapid uplift or steep drop-offs preclude the development of coral reefs. The intertidal zones are frequented by people collecting gastropods for food. River mouths and sandy beaches often form small lagoons, which are important spawning sites for amphidromous fish. The river mouths themselves are important for larval/juvenile fish exchange between marine and freshwater ecosystems, and thus are favourite sites for fishing during "whitebait" runs, with people targeting both the larval fish themselves and the large predatory fish chasing them, such as trevallies.

Intertidal zones on coral reef flats, mangrove mudflats, rocky shores and river mouths are important habitats for migratory waders (families *Charadriidae* and *Scolopacidae*), which migrate from breeding grounds mostly in Siberia but also in Alaska, and include species such as the Bristle-thighed Curlew (*Numenius taitensis*). Most species recorded from the hotspot are passage migrants en route to or from "wintering" (i.e. northern hemisphere winter) grounds in New Zealand but a few are regular winter visitors, which remain in the islands through the non-breeding season, and, in some cases, the first few years of life. These include Whimbrel (*Numenius phaeopus*), Ruddy Turnstone (*Arenaria interpres*), common Sandpiper (*Actitis hypoleucos*) and Pacific Golden Plover (*Pluvialis fulva*).

Reference list:

- Bakeo, R. and F. Qarani, 2005, 'Country report on the forestry invasive species situation in Vanuatu' in P. Mckenzie, C. Brown, S. Jianghua, W. Jian, eds. *Asia-Pacific Forest Invasive Species Conference*, Food and Agriculture Organisation, Kunming, China.
- Deharveng L., 2011, *Caves and soils*, in Bouchet P., Le Guyader H. & Pascal O. (eds), T*he Natural History of Sant,*. Patrimoines Naturels 70. Muséum national d'Histoire naturelle, Paris; IRD, Marseille; Pro-Natura International, Paris.
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.
- Department of Forestry, 2013, *National Forest Policy 2013-2023*, Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity, Government of Vanuatu.
- Kalfatak, D. and R. Jaensch, 2014, Directory of Wetlands of Vanuatu – 2014, Report to the Secretariat of the Pacific Regional Environment Programme.
- Keith, P., Marquet, G., Lord, C., Kalfatak, D. and Vigneux, E., 2010, *Vanuatu Freshwater Fish and Crustaceans*, Société Française d'ichtyologie (SFI).
- Marquet, G., Taiki, N., Chadderton, L. and Gerbeaux, P., 2002, *Biodiversity and Biogeography of Freshwater Crustaceans (Decapoda: Natantia),* From *Vanuatu, A Comparison with Fiji and New Caledonia*, Bull. Fr. Píche Piscic, 2002, pp. 364: 217-232.
- Pascal N, Leport G, Molisa V, Wendt H, Brander L, Fernandes L, Salcone J, and A Seidl, 2015, *National marine ecosystem service valuation: Vanuatu*, MACBIO (GIZ/IUCN/SPREP): Suva, Fiji.

Main pressures on and drivers of change to biodiversity (direct and indirect)

Terrestrial biodiversity

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The forests of Vanuatu have been impacted by human activities, which have diminished and altered forest cover and biodiversity. There has been immense pressure on some timber species on the larger islands, where harvesting is concentrated. In 1998, for instance, 92% of logs harvested were of just two species, *Endospermum medullosum* (Whitewood or Basswood), and *Antiaris toxicaria* (known in Vanuatu as Milk Tree) (Bakeo and Qarani, 2005).

Agriculture, Fishing and Forestry has recovered from a decline in 2015 by registering a positive growth of 5.1%; an

increase of 10.7 percentage points. The components of agriculture that contribute to this positive growth, were crop production, it grew by 5.9%, followed by animal production at 2.6%, fishing at 3.9% and forestry at 0.7% (Vanuatu National Statistic Office, 2017). In the mid-2000s, natural forest cover in Vanuatu was estimated at 444,000 ha, equivalent to 36% of the total land area (1.22 million ha) (FAO, 2010), and at least 40% of the commercial forest area was regarded as degraded (King, 2007). Most of the high value forests were over-exploited in the 1980s and 1990s, until the government imposed a ban on the export of round logs in 1998. However, large scale logging has been banned since the late 1990s. Many landowners have used their logged forest lands for alternative activities like commercial agriculture, particularly coconut plantations and also livestock production.

In addition to traditional forest management concerns, such as declining forest cover and imbalance between utilisation and reforestation, invasive alien species are of significant concern and several have been identified as priority species for management under Vanuatu's National Invasive Species Strategy and Action Plan (NISSAP) 2014-2020. Of all invasive plants in Vanuatu, perhaps the most widely cited pest is Ecuador Laurel or Salmwood (*Cordia alliodora*). Introduced as a forestry tree to Vanuatu in the 1970s, this species has now become dominant and is considered a serious pest in locations where it was planted. Another invasive plant species that is common in the drier parts of certain islands, is kasis (*Leucaena leucocephala*), which forms dense monospecific thickets and is difficult to eradicate, rendering extensive areas unusable and inaccessible (Bakeo and Qarani, 2005).

Exploitation is the most significant threat faced by (or potentially faced by) Vanuatu's threatened (Critically Endangered, Rare, Endangered or Vulnerable) species recorded in the IUCN Red List. Hunting and exploitation affect 66% of total threatened species in Vanuatu, while agriculture and invasive alien species impact 20% and 15% of threatened species in Vanuatu, respectively. Some species face multiple threats. For example the Endangered Santa Cruz Ground Dove (*Gallicolumba sanctaecrucis*) is threatened by hunting and exploitation, the establishment of the invasive vine *Merremia peltata* in the Vatthe Conservation Area, and competition from the common native Emerald Dove (*Chalcophaps indica*) in degraded forest.

Agriculture, farming and forestry impact a number of threatened plant species in Vanuatu including the endangered Fijian Kauri Pine (Agathis macrophylla), which faces ongoing unsustainable logging in natural forests in parts of its range. The Pacific Sheath-tailed Bat (Emballonura semicaudata) is also impacted by the loss of native forests to agricultural and grazing land. This bat faces multiple threats including disturbance of roosting sites, pesticide use, invasive species and stochastic events.

Inland waters biodiversity

The major threats to freshwater ecosystems in Vanuatu are from human activities including poor land use practices; catchment alteration primarily for irrigation, weirs or hydropower dams; pollution from urban areas; and invasion of exotic species such as water lily (Water Hyacinths (*Eichhornia crassipes*), Guppy (*Poecilia reticulata*), Mosquitofish (*Gambusia affinis*) and Tilapia (*Sarotherodon occidentalis*). Poor agricultural practices often result in loss of riparian habitat, erosion of soil and increased turbidity which may disrupt feeding success of fishes. Forest clearance and land reclamation may affect river flows and water temperature in some catchments. Higher course species in particular, require good vegetation cover to survive. Dams or weirs reduce or block flow in others to the extent that lower reaches of waterways can no longer support aquatic life and migratory species such as eels and amphidromous species lose their migratory paths and cannot complete their life cycles.

Pollutants from increased agricultural practices may be washed into the water during rainfall events and affect the chemical and biophysical characteristics of the water, making the habitat non-conducive to aquatic life. Other threats to freshwaters include overfishing. For example, during the Santo expedition in 2006 it was observed that some villages were relying on freshwater fish for food because of the scarcity of marine resources. The aquarium trade is another threat to freshwater fish, especially colourful species (Keith et al., 2010).

Vanuatu is particularly exposed to cyclones and hydrological changes resulting from climate change could be significant in some of the catchments. Conservation initiatives have included freshwater surveys by the Department of Environmental Protection and Conservation (DEPC) and the requirement for an assessment of impacts on freshwater ecosystems as part of development projects and to implement good practice (Keith et al., 2011) have also considered options for optimising conservation of freshwater habitats in Santo.

Marine and coastal biodiversity

While the oceans offer great potential in terms of sustainable economic development, they are also under increasing pressure from many uses and impacts. Changes in the marine environment resulting from human activities are occurring faster than previously anticipated, affecting, especially, vulnerable marine ecosystems such as coral reefs. Major threats to the marine ecology of Vanuatu include: impacts associated with climate change including rising ocean temperatures, acidity and sea level rise; coastal and offshore developments (e.g. from Deep Sea Mining, shipping) and the destruction of marine ecosystems such as coral reefs and mangroves; unsustainable and destructive fisheries practices; pollution from land-based and offshore sources including from ships and damage from shipwrecks; conflicting uses and the increasing intensity of hurricanes and other storm events, as recently experienced.

Many stretches of coastline, notably some important tourism areas within Vanuatu, have experienced dramatic rates

of coastal erosion with considerable economic costs to owners and the nation. Nevertheless, significant areas remain relatively pristine and are targeted for tourism and other development.

The marine environment's ability to maintain its diversity and productivity, and to provide a wide array of valuable services to people, is therefore increasingly being compromised. Designing and implementing effective governance and management strategies is critical to address the challenges posed by the increasing impacts of human activities on the marine environment and to ensure the effective management and sustainable use of living and non-living marine resources (Ocean Sub Committee, 2017).

Species

Under the IUCN Red List of Endangered Species, 65 species endemic to Vanuatu have been assessed for their conservation status. Of these, 18 were found to be of conservation concern. This includes 12 bird species, one of which, the Tanna Ground Dove (*Gallicolumba ferruginea*) is considered extinct. Five are considered 'vulnerable': the Santo Mountain Starling (*Aplonis santovestris*), Green Palm Lorikeet (*Charmosyna palmarum*), Royal Parrotfinch (*Erythrura regia*), Vanuatu Mountain Pigeon (*Ducula bakeri*) and Vanuatu Megapode (*Megapodius layardi*). Of the mammals, the Banks Flying Fox (*Pteropus fundutas*) is 'endangered' and the Vanuatu Flying Fox (*Pteropus anetianus*) is 'vulnerable'.

There are nine endemic reptiles of which the Anatom Emo Skink (*Emoia aneityumensis*), found only on Aneityum, is endangered and the common Emo Skink (*E. erronan*), found only on Futuna and Aniwa, is endangered. One endemic land snail (*Partula milleri*) is critically endangered and P. eurania is endangered.
There are 38 recorded endemic freshwater species, of which only the Lobed River Mullet (*Cestraeus plicatilis*) is listed on the IUCN Redlist. The rest still need to be assessed.

These endemic species are threatened with extinction by a variety of factors and invasive species are likely to be one of the most important. Rats, particularly the ship or Black Rat (*Rattus rattus*) which is a very good climber, are known to prey on the eggs and chicks of many birds and take lizards. They are implicated in the extinction of the Tanna ground dove. Big leaf rope (*Merremia peltata*) (or locally, Big Lif) and other weeds damage the forest habitats in which most of these species live, and rats and Mice (*Mus musculus*) eat the fruits and seeds of trees and alter the composition of the forest. Native partulid land snails have been wiped out in several countries by the Rosy Wolf-Snail (*Euglandina rosea*). Lizards are a favourite food of feral cats though this is not an issue for the two threatened skinks as they live up in trees, but they will be vulnerable to rats. Yellow Crazy Ants (*Anoplolepis gracilipes*) have been recorded, for example, on Australia's Christmas Island) killing crabs, lizards and nestling birds and can change the forest structure leading to

declines in other native species.

Important terrestrial ecosystems occupied by a range of species can also be threatened by invasive species. For example, the Vatthe Conservation Area covers 2,720 ha of Big Bay, on the Island of Espiritu Santo and is Vanuatu's biodiversity hot spot. It is the most significant area of extensive alluvial and limestone forest left in Vanuatu. It provides habitat for a diversity of wildlife, including six of Vanuatu's endemic bird species, including the globally endangered Santa Cruz Ground Dove (*Gallicumba santecrusis*), three vulnerable or near threatened endemic bird species (the Vanuatu Megapode, Royal Parrotfinch, Chestnut-bellied Kingfisher (*Todirampus farquahri*)), three of Vanuatu's six endemic skinks and three endemic freshwater fish. The conservation area hosts many culturally significant tabu sites for the communities nearby. The people from Matantas and Sara depend on this area for their daily activities, including tourism, bean tree seed harvesting and copra production.

However, this massive primary forest is now threatened by the Big Lif vine, which is smothering and killing the native trees. This vine is seen as the number one killer of intact forest in the islands where they exist in Vanuatu. The Teouma River is also a critical ecosystem that was threatened by water hyacinth, which covered a large surface area of the river. The Water Hyacinth (*Eichhornia crassipes*) has been removed through biocontrol processes however the losses that it may have caused is still to be confirmed.

Many communities have concerns about the impact of crown-of-thorn starfish on reef habitats in the country. This species is considered native to Vanuatu but it can occasionally build up in large numbers, usually if the reefs are under stress from pollution or the impacts of natural disasters such as cyclones and tsunamis. Some parts of the country have experienced unusual outbreaks lasting several seasons. Reef cleaning for crown-of-thorns is happening in some communities with funding from outside donor but that is limited and is not able to fund all the infested reef areas.

Reference list:

- Bakeo, R. and F. Qarani, 2005, 'Country report on the forestry invasive species situation in Vanuatu' in P. Mckenzie, C. Brown, S. Jianghua, W. Jian, eds. *Asia-Pacific Forest Invasive Species Conference*, Food and Agriculture Organisation, Kunming, China.
- Department of Environmental Protection and Conservation, 2018, *National Biodiversity Strategy and Action Plan*, Ministry of Climate Change Adaptation, Meteorology and Geohazards, Environment, Energy and Disaster Management, Government of Vanuatu.

- FAO (Food and Agriculture Organization of the United Nations), 2010, *Global Forest Resources Assessment 2010,* Country Report. Vanuatu. Forestry Department, Food and Agriculture Organization of the United Nations. Rome, Italy
- Keith, P., Marquet, G., Lord, C., Kalfatak, D. and Vigneux, E., 2010, *Vanuatu Freshwater Fish and Crustaceans*, Société Française d'ichtyologie (SFI).
- Ocean Sub Committee, 2016, *Vanuatu's National Ocean Policy*, National Committee for Maritime Boundary Delimitation, Government of Vanuatu and MACBIO.
- Vanuatu National Statistics Office, 2016, *2016 Post Pam Mini-Census Report,* Port Vila: VNSO.

Implementation of the NBSAP

The responsibility for the implementation of the NBSAP is assigned to Vanuatu's Department of Environmental Protection and Conservation. Vanuatu's NBSAP commenced in June 2018, with implementation being carried out by a various of stakeholders in Vanuatu.

Specifically, the following strategic areas of the NBSAP are implemented by the following stakeholders:

- **Conservation Area Management:** DEPC leads the establishment of legally-registered conservation areas. Donor-funded projects also work in this area, such as the GEF4 Forest Protected Areas project and the GEF5 Integrated Sustainable Land Use and Coastal Management project. Live and Learn are another organisation who works on conservation-related activities. Eco-lifelihood Development Association has also been instrumental in developing the National Ranger Toolkit, with support from Live and Learn Vanuatu, and funded through CEPF.
- **Coastal and Marine Ecosystems:** The MACBIO project is a major stakeholder in the development of coastal and marine management measures. The most prominent activity currently underway is the development of Vanuatu's first Marine Spatial Plan and related baseline studies which will inform this plan. Other key activities in this area include work on community-based fisheries management, led by stakeholders including Department of Fisheries and external donors such as ACIAR on the Pathways project and JICA with the Grace of the Seas Project.
- **Forests and Inland Waters:** The Department of Forestry does conduct some biodiversity-related work in the area of forests, though this is mainly through awareness activities of the Forestry Provincial Extension Officers. The GEF4 project assisted in setting up community conservation areas in key forest ecosystems such as the Kauri Reserve on Erromango and the Bay Homo forest conservation area in Pentecost, though these sites have

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not yet been registered. Wetland work has progressed in Vanuatu through the GEF4 (and now GEF5) activities on the Lake Letas Conservation Area in Gaua.

- **Species Management:** Species-specific activities are mainly carried out by independent organisations in Vanuatu. Organisations such as Vanuatu Environmental Science Society, Vanuatu Environmental Advocacy Network, Island Reach and Vanau'tai Resource Monitors Network are instrumental in implementing work to study and conserve particular species. These smaller organisations work in collaboration with DEPC.
- **Management of Invasive and Alien Species:** Invasive species activities are implemented by both Department of Biosecurity (specifically with the Plant Health Division in relation to biocontrol options for weed control), Vanuatu Fisheries Department (specifically in relation to crown of thorns), and DEPC (specifically in relation to fauna and flora-related invasives, and chemical and manual control methods). Live and Learn has also been an important stakeholder and has carried out the largest invasives program in Vanuatu in the last 5 years. Another major implementation of invasive species control was through the activities of Eco-lifelihood Development Association, who piloted a *Merremia peltata* eradication program in which EDA trained DEPC to continue after the project finished.
- **Resource Mobilisation:** This strategic area of the NBSAP is to be implemented by DEPC, though progress has largely not commenced on the financial mobilisation planning aspect of this area. ABS-related activities are underway and managed by both DEPC and Vanuatu Intellectual Property Office. Mainstreaming of biodiversity should be led by DEPC, and implemented across all departments.

Overall actions taken to contribute to the implementation of the Strategic Plan for Biodiversity 2011-2020

Since 2011, Vanuatu has implemented numerous actions to contribute to the implementation of the Strategic Plan for Biodiversity 2011-2020, including work towards the Aichi Biodiversity Targets, as outlined in Section IV of this 6NR.

Vanuatu’s main actions include:

- Development of the National Environment Policy and Implementation Plan (NEPIP) 2016-2030.
- Update to the National Biodiversity Strategy and Action Plan 2018-2030, including the development of 14 national targets.
- Alignment of national targets with Aichi Biodiversity Targets.
- Development of other significant area-specific plans, policies and legislation.
- Expansion of Vanuatu’s protected area network and development of legally-registered and traditional conservation areas.

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- Collaborative projects between externally-funded aid projects and the Government of Vanuatu for terrestrial and marine environments.
- Species-specific studies and management measures implemented by key environmental non-government organisations in Vanuatu.
- Work on invasive species research and control.
- Actions towards planning for the mainstreaming of biodiversity measures.

Many of the targets and implementation actions contained in Vanuatu's NBSAP have been planned to extend beyond the life of the Strategic Plan for Biodiversity 2011-2020, to the Post-2020 Biodiversity Framework. Reviews of the NBSAP will seek to ensure that it remains aligned with international objectives of any new framework or global plan.

Support mechanisms for national implementation (legislation, funding, capacity-building, coordination, mainstreaming, etc.)

Mechanisms for national implementation of biodiversity work in Vanuatu includes:

- **Legislation:** The Environmental Protection and Conservation Act CAP283 acts as the mechanism for the development and enforcement of national plans such as the NBSAP, as per Part 2, Division 2, Sections 8 and 9 of the Act.
- **Funding:** Nationally-allocated funding is provided by the Government of Vanuatu to the Department of Environmental Protection and Conservation, for the completion of work towards the Department's objectives. As this funding stream is not sufficient for the completion of major biodiversity and conservation actions, mechanisms which allow for additional support include partnerships between major external donors such as GEF and the Government of Vanuatu, with the support of implementing partners FAO, IUCN and UNDP for example, for the funding of major projects.
- **Capacity-building:** A national capacity-building plan for biodiversity and conservation skills and objectives has not yet been developed. Two capacity-building mechanisms which are assisting with specific objectives of the NBSAP include the Access and Benefit Sharing Capacity Development Initiative, and the capacity development and training portion of the CB2 project which will strengthen staff skills in data collection methods and analysis, to support the proper use of the newly developed EIMS. More focus on capacity building needs are required in Vanuatu.
- **Coordination:** Coordination of NBSAP-related activities are the responsibility of the Department of Environmental Protection and Conservation. Whilst the Department does take on this role, much of the work towards the completion of the targets and implementation actions is reliant on the support of other

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organisations, such as locally-based NGOs or international environmental NGOs to support the government technically, or through the provision of resources. Such organisations include Live and Learn Vanuatu, Vanuatu Environmental Science Society, Vanuatu Environmental Advocacy Network, SPREP, Island Reach, Vanua'tai Resource Monitors Network, Birdlife International, IUCN, SPC and others. DEPC should also coordinate the environmental inputs of other departments, in conjunction with the management of these departments, in so far as their work overlaps with the objectives of the NBSAP. A mechanism for coordination is being looked at as part of the CB2 project, which will provide Vanuatu with an EIMS.

- **Mainstreaming:** The mainstreaming of the NBSAP across all sectors has not yet been implemented, nor has the financial planning processes which would support this objective. As the NBSAP was activated only in June 2018, it is expected that the resource mobilisation and mainstreaming objectives will be planned for implementation in the near future. With recent changes in staffing and a new DEPC Director appointed, new Department-wide planning will need to include mainstreaming of biodiversity.

Mechanisms for monitoring and reviewing implementation

Vanuatu is in the process of establishing an Environmental Information Management System, which will assist the Government of Vanuatu to efficiently collect, store and manage its environmental data, in order to effectively monitor and review the implantation of the national targets, NBSAP implementation actions and other national policy goals. The EIMS will be housed by the Department of Environmental Protection and Conservation, but will be cross-sectoral in its collection of information.

The NBSAP itself does not contain a robust monitoring system, beyond its description that progress updates will be completed biannually and reporting completed annually. Moreover the NBSAP states that monitoring will be based on measuring impacts using the indicators outlined in the NBSAP, for which, at present, much baseline data does not exist. The Department of Environmental Protection and Conservation may choose to review this in the future.

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