Vanuatu National REDD+ Strategy

Forward

Vanuatu recognizes the importance of its forests as a basis for rural livelihoods, a bulwark against climate change impacts, and a source of many cultural traditions and spiritual renewal. Vanuatu's Constitution reminds us: "to protect the Republic of Vanuatu and to safeguard the national wealth, resources and environment in the interests of the present generation and of future generations."

The *Vanuatu 2030: The People's Plan* highlights the social, environmental and economic benefits of forest ecosystems as a key means for Vanuatu to achieve resilient, inclusive green-growth. Reducing deforestation and supporting forest rehabilitation is one of many goals that this National REDD+ Strategy can help achieve. This Strategy defines actions to achieve that which can also deliver economic benefits to rural communities, thus strengthening their resilience.

This National REDD+ Strategy seeks to align with and support other key national strategies to be implemented up to 2030, such as the Agriculture Sector Policy, Sustainable Tourism Policy, Climate Change and Disaster Risk Reduction Policy, and the Biodiversity Strategy and Action Plan, among others. This Strategy envisions forging strategic partnerships between Government, NGOs and the private sector to advance activities. Such collaboration across government, and with Vanuatu's traditional governance systems and communities at island levels, promotes inclusive conservation and development.

Vanuatu's ambition to achieve the National REDD+ Strategy derives from domestic and international financial support. We look forward to working with all stakeholders, international donors, the private sector, traditional leaders, and communities, to realize this vision.

The Honourable Bob Loughman Weibur
Prime Minister of the Republic of Vanuatu

Forward

Vanuatu's enhanced Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change Paris Climate Agreement, covers the period 2021-2030. As a small-island state in the Pacific, Vanuatu has called on all Parties to increase ambition and move collectively towards emission reduction pathways consistent with the Paris Agreement's 1.5°C warming limit. This National REDD+ Strategy helps fulfill Vanuatu's goals to mitigate climate change and increase its adaptation potential in the forest sector.

However, this Strategy reaches much farther beyond the forest sector, as the sustainability and extension of our forest base is deeply connected to agricultural production, livestock grazing, infrastructure development, and other land uses that compete for land area. The Ministry of Agriculture Livestock Forestry Fisheries and Biosecurity (MALFFB) believes that cross-sectoral planning and coordination, and engaging our counterparts at the Provincial, island, and community levels is crucial for success.

Vanuatu has undertaken a National Forest Inventory and National Forest Monitoring System, as part of REDD+ readiness, to update detailed information on our forests across all islands, and develop solid tools for on-going management. These tools will be useful for all ministries and departments working on land and resource planning.

Seventy-five percent of our land area is covered with both closed and open forest. Our forests provide a range of ecosystem good and services at local, national, regional and global scales. Yet Vanuatu is losing more forest to agricultural production than any other activity, and the same is true for forest degradation. This Strategy outlines steps to address these pressures, while supporting rural livelihoods and climate adaptation. Vanuatu adopts a community-based approach to sustainably managing forest ecosystems, honouring our Constitutional commitments to customary land rights, while supporting ni-Vanuatu to derive economic, ecological, social and spiritual benefits from the forests surrounding them.

MALFBB is working to establish networks of primary producers, which this Strategy can help support, especially in areas of non-timber forest products and agroforestry crops. By increasing the productivity of our existing agricultural lands, and creating more value-addition for producers, we can support livelihoods while safeguarding our forests. The upcoming review of the National Sustainable Development Plan offer further opportunity to mainstream REDD+ objectives into policy.

We look forward to working across our departments to realize this cross-sectoral strategy.

The Honourable Mr. Willie Daniel Kalo
Ministry of Agriculture Livestock Forestry Fisheries and Biosecurity (MALFFB)

Preface

The Vanuatu National REDD+ Strategy encapsulates input and knowledge generated from many government departments, Provincial governments, island-level Councils of Chiefs, custom landowners, civil society organizations, primary producers and farmers, cooperatives, communities, international donors, and researchers. The process to draft the Strategy began just as Covid-19 was beginning to take hold as a global pandemic. This delayed field crews working on the National Forest Inventory, as did Cyclone Herold, which struck in April 2020. These experiences further remind us of the importance of resilience in the face of challenges, of the strength of local communities to face global threats with local solutions and traditional knowledge, and the value of our international partnerships to persevere.

The start of the REDD+ readiness process began in Vanuatu in 2007. Many partners have shaped this effort over the years, including the South Pacific Community (SPC) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Live and Learn International and the Nakau Programme. These have been investments in capacity and knowledge development, and many of our earliest partners have helped diversity the partnerships that will carry us towards the future.

We are grateful to the World Bank's Forest Carbon Partnership Facility (FCPF) for their support in readiness activities and the development of this Strategy.

[INSERT: individual acknowledgments?]

Mr. Moses Amos Tinapua
Director General of Ministry of Agriculture Livestock Forestry Fisheries and Biosecurity (MALFFB)

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Acronyms and abreviations

AUD	Australian Dollar
CBD	Convention on Biological Diversity
CCAs	Community Conservation Areas
CFCA	Custom Forest Conservation Area
CLMA	Custom Land Management Act
COP	Conference of the Parties
CSO	Civil Society Organizations
DEPC	Department of Environmental Protection
DoCC	Department of Climate Change
DLA	Department of Local Authorities
DoE	Department of Environment
DoF	Department of Forestry
DRR	Disaster Risk Reduction
ECSA	Ecological and Culturally Significant Area
EDF	European Development Fund
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPC Act	Environmental Protection and Conservation Act
ESMF	Environmental and Social Management Framework
EU	European Union
FCPF	Forest Carbon Partnership Facility
FGRM	Feedback Grievance Redress Mechanism
FPIC	Free, Prior and Informed Consent
FREL	Forest Reference Emission Level
GCF	Green Climate Fund
GEF	Global Environmental Facility
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoV	Government of Vanuatu
ITMO	Internationally transferred mitigation outcome
M&E	Monitoring and Evaluation
MALFFB	Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity
MCC	Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Environment, Energy and Disaster Management
MFAT	New Zealand Ministry of Foreign Affairs and Trade

MRV	Monitoring, Reporting and Verification
NAB	National Advisory Board on Climate Change and Disaster Risk Reduction
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contribution to the Paris Climate Agreement
NEPIP	National Environment Policy and Implementation Plan 2016–2030
NFI	National Forest Inventory
NFMS	National Forest Monitoring System
NGO	Non Governmental Organization
NSDP	National Sustainable Development Plan
NTFP	Non Timber Forest Product
NZD	New Zealand Dollar
PES	Payments for ecosystem services
PMU	Programme Management Unit
PSP	Overarching Productive Sector Policy
PTAC	Provincial Technical Advisory Committee
REDD+	Reducing Emissions from Deforestation and Forest Degradation, and conservation, sustainable management of forests and enhancement of forest carbon stock
SESA	Strategic Environmental and Social Assessment
SDG	Sustainable Development Goal
SIS	Safeguard Information System
SPC	Secretariat of the Pacific Community
TC	REDD+ Technical Committee
TMDP	Vanuatu Tourism Marketing Development Fund
VCM	Voluntary Carbon Market
VT	Vanuatu Vatu
UNFCCC	United Nations Framework Convention on Climate Change
USD	US Dollar
WB	World Bank

Executive Summary

The Vision 2030 highlights the social, environmental and economic benefits of forest ecosystems as a key means for Vanuatu to achieve resilient, inclusive green growth. Reducing deforestation and supporting forest rehabilitation (Environment Goal 4.6) is one of a few Vision 2030 goals that this National REDD+ Strategy can help achieve by 2030. REDD+ is reducing greenhouse gas emissions from deforestation, forest degradation, the sustainable management of forests, conservation of forest carbon stocks, and enhancement of forest carbon stocks. The National REDD+ Strategy also elaborates Vanuatu's forest sector commitments in its Nationally Determined Contribution (NDC) to the Paris Climate Agreement of the UNFCCC.

The vision for Vanuatu's National REDD+ Strategy is to safeguard and restore forest landscapes, facilitate climate- and forest-friendly production of goods and services, build resilience in forest-based communities, and support additional livelihood opportunities from sustainable forest management for the benefit of current and future generations.

Recent analysis of remote sensing imagery informed an assessment of land cover and forest cover change between 2008 to 2018, as a basis to identify what is driving forest loss and degradation. The findings indicate a general trend of increasing forest loss year by year, with about 24,000 ha lost over this period. The conversion of forest to cropland contributed to 75% of forest loss, while conversion to grasslands accounted for 11% and conversion to settlement accounted for 9% of forest loss in the time period. There is also a general trend of increasing forest degradation, with 60% being anthropogenic (human-induced), and 40% due to natural occurrences, such as cyclones. Annual rates of human-related forest degradation ranged between 3,500 to almost 6,000 ha per year. Agriculture contributed to 45% of observed degradation in the time period, while cyclone impacted 31% of forest degradation. Other factors contributing to forest degradation include erosion, fire, cattle grazing, timber harvesting, infrastructure and invasive species. Further insights at the island level reveal the unique patterns on each island.

The total emissions from forests in Vanuatu associated with deforestation, anthropogenic forest degradation and enhancement of forest carbon stock is estimated at 15,300,836 tCO2e between 2008-2017 and average annual emissions are estimated at 1,530,084 tCO2e over this time period.

The underlying drivers that influence the direct driver impacts are nuanced and varied between the islands. Islands with larger populations identify population growth, causing displacement of people into forest frontiers in search of arable land, as a primary underlying driver. Smallholders are increasingly seeking to generate cash crops, often to pay for school fees. There is also a preference for sun-growing crops, such as yam and kava (though kava can also grow in shade). Declines in agricultural production are another driver, related to lack of improved farming skills, extreme weather events, soil fertility stress, and technology. Governance and policy drivers include policy incoherence across the land use sectors, lack of land use planning, inadequate funding and management, and poor law enforcement.

Vanuatu's National REDD+ Strategy defines a package of activities to address the direct and underlying drivers of deforestation and forest degradation. Enabling interventions are to occur programmatically at the national level, and specific actions will occur at various island scales. Some actions should be prioritized due to anthropogenic driver hot spots. The spirit of bottom-up approach, with local communities and Area Councils of Chiefs identifying which activities are priorities for them, given local considerations, is proposed. All actors engaging in this holistic programme should commit to the principle of increasing agricultural

yields and livelihoods in a way that does not come at the expense of forests. REDD+ strategy elements are:

Enabling elements:

- Land Use Planning
- Enforce minimum standards for a % tree cover on cattle plantations
- Policy coherence across the land use sectors
- Innovative financing for stewardship

Strategy actions:

- Reduce deforestation risk and increasing economic value derived from forests
- Enhance tree cover on degraded lands (pasture, areas with invasive species, coastal stabilization, plantations for timber and firewood)
- Enhance tree cover on agricultural lands through agroforestry
- Ecosystem conservation (CCAs and CFCAs) and watershed management

The National Forest Monitoring System (NFMS) of Vanuatu has been designed to track progress in REDD+ implementation, and provide the national capacity necessary to monitor and report changes in forest resources for international reporting such as to the UNFCCC.

Guidelines are proposed for the nesting of REDD+ initiatives that comply with the Vanuatu's National Forest Monitoring System and the progress on REDD+ implementation reported to the UNFCCC.

A safeguards system has been developed to identify impacts and opportunities arising from strategy implementation, to mitigate negative impacts to the degree possible, and establish systems for the on-going monitoring of environmental and social impacts through the on-going monitoring of environmental and social impacts through the Environmental and Social Management Framework and Safeguards Information System. A REDD+ Feedback Grievance Redress Mechanism has been designed.

The National REDD+ Strategy proposes multisectoral, multilevel and multi-stakeholder effort for its implementation. The institutional arrangements to engage the multiple ministries, departments, Provinces, Councils of Chiefs, and communities across many islands are detailed. The hub of implementation is to be led by the Department of Forestry, with support from the MALFFB Programme Management Unit, to facilitate cross-sector collaboration. A new legal mandate will be required to enable the REDD+ Technical Committee to function as necessary for REDD+ implementation, which is possible in the existing legislative framework.

Financing for Strategy implementation is explored, based on current and new possible sources of finance, both internationally and domestically. A key role is envisioned for the private sector and CSOs in developing sub-national or project-level initiatives to restore or maintain forest carbon that can nest into the National REDD+ Strategy, and be monitored and accounted for through Vanuatu's NFMS and reporting to the UNFCCC. These initiatives would not only support implementation, but also the financing of the Strategy.

Every person has the following fundamental duties to himself and his descendants and to others to protect the Republic of Vanuatu and to safeguard the national wealth, resources and environment in the interests of the present generation and of future generations

<div align="right">-   Fundamental duties, Constitution of the Republic of Vanuatu</div>

1. Introduction

The forests of Vanuatu have provided food, fuel, building materials, and cultural and spiritual significance for millennia. While forests have helped sustain Ni-Vanuatu in the past, they also have a key role in Vanuatu's future. Vanuatu's Vision 2030 states, "We need to realise the true cultural, economic and social value of our natural capital, biodiversity and ecosystems. Together with our ancestors we have lived in harmony with our natural surroundings for many millennia. Today we face increasing development pressures exacerbated by globalisation and the decline of traditional resource governance." The Vision 2030 highlights the social, environmental and economic benefits of forest ecosystems as a key means for Vanuatu to achieve resilient, inclusive green-growth. Reducing deforestation and supporting forest rehabilitation (Vision 2030 Environment Goal 4.6) is one of many goals that this National REDD+ Strategy can help achieve. REDD+ is reducing greenhouse gas emissions from deforestation, forest degradation, the sustainable management of forests, conservation of forest carbon stocks, and enhancement of forest carbon stocks.

REDD+ is a framework created by the United Nations Framework Convention of Climate Change (UNFCCC) Conference of the Parties (COP) to reduce emissions from the forest sector, based on the Warsaw Framework and the Paris Climate Agreement. A national REDD+ strategy is a prerequisite for defining policies and measures, implementation activities, and the measurement, reporting and verification necessary for results-based payments. The Vanuatu National REDD+ Strategy is an important avenue for Vanuatu to attract diverse sources of investment (both public and private) sources to reduce forest loss, conserve, restore and enhance forest resources that can support livelihood and climate objectives.

REDD+ in Vanuatu has evolved both in response to the need to be attuned to customary land tenure and rights and the priorities of REDD+. The Constitutional protections for customary land tenure and rights, and the lack of legal frameworks for forest carbon rights to be exercised on un-leased customary land, mean that carbon rights must be carefully considered. There is interest to derive economic value from forests and gardens that provides jobs and livelihood benefits. This Strategy seeks to respond to that need, to define an overarching government-facilitated process to convene many key actors around REDD+ objectives, carry out national- and island-level activities, and also define pathways for the private sector and CSOs to develop sub-national initiatives to restore or maintain and enhance forest resources to address climate change mitigation, adaptation and resilience priorities as part of the National REDD+ Strategy.

This National REDD+ Strategy first explores REDD+ in Vanuatu's context in Section 2, including updated information on Vanuatu's forests completed in the National Forest Inventory, and previous efforts to address pressures on Vanuatu's forests. This sets the stage

for the vision and approach for REDD+ in Vanuatu in Section 3, and the guiding principles for the development of the REDD+ Strategy. The process of developing the Strategy is explained in Section 4. This is followed by an overview of the policies, institutions and governance aspects that form the contextual basis for Strategy implementation (Section 5). Section 6 describes the drivers of deforestation or forest degradation, based on analyses of forest cover and land use change. This provides national-level data and identified patterns at the island-level. The underlying drivers are then explored, which influence the direct driver patterns. Projection of possible future drivers are explored.

The above sets the analytical framing for the REDD+ Strategy elements, which are explained in Section 7. These include enabling interventions, and the Strategy actions. Section 8 describes initial steps on the Forest Reference Emission Level, followed by the National Forest Monitoring System in Section 9. Section 10 summarizes work to define safeguards, including the strategic environmental and social assessment and the environment and social management framework, as well as the feedback and grievance redress mechanism. Section 11 details the action plan for the National REDD+ Strategy, including institutional arrangements, guidelines for the nesting of REDD+ activities into national GHG accounting frameworks, and financing options to implement the REDD+ Strategy, including NGO and private sector engagement.

2 REDD+ in Vanuatu's Context

A national strategy or action plan is one of the elements to be developed by developing country Parties implementing REDD+ activities.[1] Vanuatu has received technical assistance from the World Bank Forest Carbon Partnership Facility for REDD+ readiness activities. This National REDD+ Strategy defines how priorities of forest-based climate change mitigation, adaptation and livelihoods can be catalyzed via REDD+ to 2030.

Vanuatu is located in the South Pacific Ocean, about 1,750 km east of Australia and 500 km north-east of New Caledonia. Vanuatu includes more than 80 islands, of which about 65 are inhabited, and the land area is 1.23 million hectares, and a combined coastline of 3,132 km. Vanuatu's island chains are mostly of volcanic origin. The highest peak of Mount Tabwemasana rises to 1,879 m on Espiritu Santo. The weather is tropical, characterised by moderate rainfall from April to November and cyclones from December to April.[2]

Vanuatu's population is 301,695 in 2020.[3] In 2019, average per capita income was approximately US$ 3,6201 per year.[4] While about 75 % of population are rural, it is predicted that by 2050, this will drop to about 60% as more people move into urban areas.[5] Vanuatu's Human Development Index value for 2018 was 0.597, placing the country in the medium human development category, at 141 out of 189 countries and territories. Vanuatu graduated from the Least Developed Countries status to the Developing Country status in December 2020.

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[1] UNFCCC Decision 1/CP.16 paragraph 71
[2] Government of Vanuatu, 2018. National Biodiversity Strategy and Action Plan (NBSAP) 2018-2030.
[3] Government of Vanuatu, 2020 Census available at: https://vnso.gov.vu/index.php/en/2020-census/national
[4] "World Economic Outlook Database, April 2020". IMF.org. International Monetary Fund. Retrieved 9 August 2020.
[5] Worldometer, 2020. Based on UN data. Available at: https://www.worldometers.info/world-population/vanuatu-population/

The Vanuatu economy is based largely on agriculture, fishing, tourism and offshore financial services. As most exports are agricultural – for example, copra, coconut oil, kava, beef, timber, cocoa and coffee, Vanuatu is vulnerable to fluctuations in world commodity prices.[6] Many islands are remote and isolated, resulting in high transport costs for agricultural and other products seeking markets in Port Vila and beyond. In addition to the formal economic sector, the informal economy involves at least 84% of the population.

According to the National Forest Inventory of 2021, 75% of land area is covered with both closed and open forest.[7] 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 724 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 in range 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.[8]

The NFI and assessment of landcover and use based on satellite imagery that was completed during REDD+ readiness provides a more up-to-date view of Vanuatu's forests. The satellite imagery assessment identifies that dense forest accounts for 65% of land use, though this could also include some agriculture and agroforestry. Open forest accounts for another 10%. Cultivated land is about 14%, which includes subsistence and commercial agriculture, fallow land and coconut plantations.

At the island-level, the satellite imagery assessment provides details for 13 islands reviewed, which are detailed in Table 1 below. The islands
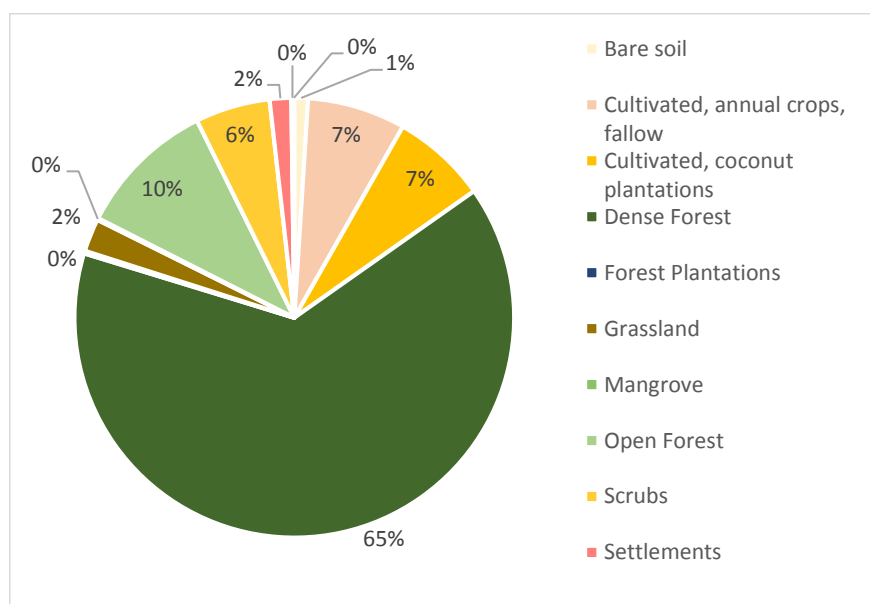
Figure 1: Land cover in Vanuatu - 2018, based on National Forest Inventory

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[6] The Commonwealth Secretariat. Available at: https://thecommonwealth.org/our-member-countries/vanuatu/economy
[7] The NFI Team defined forests as: Dense forest: natural forests with canopy cover higher than 40%; Open Forest: natural forests with canopy cover 10-40%; Forest Plantations: Established forest plantations with active management.
[8] Vanuatu National Biodiversity Strategy and Action Plan: 2018 – 2030.

differ significantly in their land use and the patterns of settlement. Table 1 provides hectare totals for each of the islands. While the 13 islands assessed represent 97.6% of total national geographic area.

The assessment finds that dense forest covers 772,212 ha, while open forest covers 122,937 ha. Forest plantations comprise 2,526 ha. Grasslands cover 30,123 ha. Coconut plantations account for 78,609 ha, which is slightly less than agricultural areas comprised of various perennial and annual crops and fallow. Agricultural areas cover 88,588 ha. Scrublands account for 63,271. Bare soil, which includes lava regions total 10,713 ha. Mangroves occur rarely in Vanuatu, totalling 724 ha.

The 2020 Census identifies that 77% of the population lives[9] in rural areas where agriculture is the main source of their livelihood. Further, about 98% of rural households were engaged in agriculture, fisheries and forestry, and these activities provide 65% of subsistence household income.[10] Crop production is the main farm activity of rural households. As the spatial analysis identifies, agriculture comprises Roughly 7% of the national land use in 2018, which is slightly more than the area covered by coconut plantations, which is the other large-scale agriculture use. Tanna has the largest share of its land area dedicated to agriculture —at 23% of its area, while Pentecost has 21%, and Malekula has 14%. Epi and Efate have almost 10% of land area dedicated to agriculture. Though Santo has only 3% its land is dedicated to agriculture, due to it being the largest island in Vanuatu, the area under cultivation is roughly equal to Tanna, at about 14,000 ha. Compared to these two islands, Malekula has double the amount of land under agricultural production, with 29,453 hectares.

Forests in Vanuatu provide wide range of forest products for local people in rural areas, for building materials and fuelwood for energy. Economically important tree species include Sandal wood *(Santalum austrocaledonicum)*, Mahogany *(Swietenia macrophylla)*, White wood *(Endospermum medullosum)*, *Artocarpus spp*, *Barringtonia spp Terminalia spp* and *Canarium spp.* Forests supply a broad spectrum of Non-Timber Forest Products (NTFPs) with economic and ecological importance such as tubers, fruits, nuts, fibres, grass, thatch, herbs, bark, herbal medicine honey and game (e.g. wild pigs). NTFPs play a vital role in the livelihoods as a source of food, medicine, and income generation. Some NTFP products already have established markets, such as Sandalwood, while essential oils and edible nut products from Canarium (*Canarium indicum*), Tamanu (*Calophyllum inophyllum*) and Indian Almond (*Terminalia samoensis*) species, among others, hold potential for market development. Since the poor people rely the most on Vanuatu's biodiversity and their ability to utilize NTFPs for subsistence and income generation is a priority. Such options have been assessed in a NTFP assessment[11] prepared as part of REDD+ readiness.

[9] Vanuatu National Statistics Office, 2021. Available at: https://vnso.gov.vu/index.php/en/2020-census/2020-urban-population
[10] Vanuatu National Statistics Office, 2007. Census of Agriculture 2007.
[11] Bourne, W., 2019. Vanuatu NTFP Value Chain Study Findings: Final Report. REDD+ PMU and Department of Forestry.

Table 1: Land cover by island in 2018 (hectares)

Island	Bare soil	Cultivated, annual crops, fallow	Cultivated, coconut plantations	Dense Forest	Forest Plantations	Grassland	Mangrove	Open Forest	Scrubs	Settlements	Water Body	Wetlands	Grand Total
Ambrym	7,2467	1,128	8,511	43,191	-	1,020	-	2,310	7,411	378	-	-	71,196
Aneityum	-	-	-	13,044	725	242	-	966	1,449	242	-	-	16,668
Ambae	-	2,714	8,216	23,434	-	108	-	2,873	3,706	1,454	-	-	42,504
Efate	54	7,991	2,826	33,189	-	14,717	-	19,159	10,749	3,744	483	54	92,966
Epi	108	4,248	5,052	20,592	-	457	-	9,721	6,447	432	-	-	47,057
Erromango	1,048	645	349	69,053	483	673	-	12,144	11,422	162	-	-	95,980
Espiritu Santo	1,048	13,686	28,161	297,073	432	9,139	-	36,281	7,609	4,062	537	537	398,565
Gaua	242	1,853	2,470	17,904	-	-	-	3,973	5,237	108	-	-	31,786
Maewo	-	1,719	1,986	17,449	54	349	-	7,730	3,785	-	-	54	33,127
Malekula	242	29,454	14,889	148,772	591	781	725	15,102	1,668	1,888	591	-	214,702
Pentecost	-	10,688	4,243	22,655	241	1,370	-	8,912	1,020	2,526	-	-	51,655
Tanna	725	13,740	1,424	35,177	-	1,025	-	3,040	1,801	2,772	-	-	59,704
Vanua Lava	-	725	483	30,679	-	242	-	725	966	242	242	-	34,302
Grand Total	10,713	88,589	78,610	772,212	2,526	30,123	725	122,937	63,271	18,009	1,853	645	1,190,214
Land cover by percentage	1%	7%	7%	65%	0%	3%	0%	10%	5%	2%	0%	0%	100%

Forests are a source of wood fuels and biomass energy. The National GHG Inventory (2019) identifies that mostly rural and some urban households use biomass as primary source of energy (~85% of households use wood and coconut shells). However, there is limited information on biomass use. Wood fuel is estimated at 91,000 m³/year between 2007-2015, which is 57% of all wood removals. However, the forestry sector remains a net sink, as annual increases in biomass carbon stocks due to biomass growth exceed removals. The Vanuatu Forest Policy regards forests as crucial for the wellbeing of the ni-Vanuatu population to furnish essential needs such as wood, food, fodder and traditional remedies. Thus, given population increases in the future, it is useful to allocate land close to population centres for fuel wood plantations.

Large areas of logged-over forests and abandoned agricultural land have been invaded by the introduced invasive vine *Merremia peltate* (Big Lif), which impedes the natural regeneration of the logged forest. Identifying these areas by satellite was found to be quite difficult, thus ground-truthing is necessary.

The Forest Department has implemented efforts in the past to address deforestation and forest degradation. 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 such as commercial agriculture.[12]

Addressing deforestation has been a priority for the government over the past 20 years. Australia/AusAID supported Vanuatu with a programme to address deforestation from 1995-2000 AusAID through Sustainable Utilisation Project. This was followed by a programme funded by New Zealand Aid and AusAID through Vanuatu Chamber of Commerce and Industry. Secretariat of the Pacific Community (SPC) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) Regional Project 'Climate Protection through Forest Conservation in Pacific Island Countries' was implemented from 2011 to 2015 and 'REDD+ Forest conservation in Pacific Island Countries' from 2015-2020.

It is useful to consider the factors for success and failure of previous efforts to address drivers of deforestation and forest degradation and promote sustainable forest management. The DoF views the AusAID Sustainable Utilisation Project was particularly effective, because standard operating procedures, regulations and operational capacity were developed.

Projects or efforts that were not successful were those that pursued a top-down approach. A New Zealand-funded Deforestation Project, which sought to support rural livelihoods through nursery establishment, failed to meaningfully engage communities. Project sites were selected at the national level and did not seek input or engagement with the communities. Also, there were no Forestry Officers connected to the nursery sites. As a result, the communities' interest in the project was low, and the management was poor.

Background to REDD+ in Vanuatu

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[12] Vanuatu NBSAP, 2018.

The REDD+ readiness process in Vanuatu began in 2007 with the establishment of Vanuatu Carbon Credits Project (VCCP). This was followed by the South Pacific Community (SPC) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) regional project, 'Climate Protection through Forest Conservation in Pacific Island Countries,' funded by the International Climate Initiative of the German Federal Environment Ministry. Efforts were also underway by Live and Learn International and the Nakau Programme, an independent Pacific regional forest protection and enhancement financing programme, which resulted in the Nakau Programme's Loru Forest Project on Santo, as a performance-based forest carbon offset project.[13] The Loru project generates 2,442 carbon offsets annually, and is certified under the Plan Vivo standard.

With the support of SPC/GIZ, Vanuatu has become a participant country of the World Bank's Forest Carbon Partnership Facility (FCPF). Vanuatu submitted its first Readiness Plan Idea Note (R-PIN) in July 2008. The R-PIN provided an initial overview of Vanuatu's land use pattern and the causes of deforestation as well as stakeholder consultation process and institutional arrangements for REDD+ readiness. The Government of Vanuatu established a REDD+ Technical Committee and formulated a Readiness Preparation Proposal (R-PP).

Vanuatu's 2013 Readiness Proposal (R-PP) identified the country's interest to implement a national approach for REDD+, which would invest in sustainable land use activities and thereby lower the rate of deforestation and forest degradation, and associated GHG emissions.[14] The R-PP identified that the main benefit for the Ni-Vanuatu will be the enhancement of sustainable economic activities and increase of incomes with national investment programs. This goal remains today, although the finance source, modalities, and institutional arrangements envisaged has shifted.

In April 2015, the World Bank Forest Carbon Partnership Facility (FCPF) Participants Committee approved a grant of US$ 3.6 million to enhance readiness of Vanuatu for REDD+ implementation. The grant was designed to : i) strengthen the institutions for REDD+ at the national and sub-national level through the Vanuatu REDD+ Unit, support to Technical Committee, National Advisory Board on Climate Change and Disaster Risk Reduction and its Project Management Unit and set up of Provincial REDD+ Committees; (ii) strengthen decentralized structures for stakeholders engagement, including the assessment and improving existing feedback grievance redress mechanisms for REDD+; and (iii) development of national REDD+ strategy, carry out a Strategic Environmental and Social Assessment (SESA) and prepare an Environmental and Social management Framework (ESMF). Additional financing was granted in 2018 to support the estimation of emission factor data based on a national forest inventory of selected islands, the assessment of activity data on forest cover and forest cover change based on remote sensing, development of a National Forest Reference Emissions Level (FREL) and Development of MRV (Measuring, Reporting and Verification).

3. Vision and approach for REDD+ in Vanuatu

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[13] Nakau Programme, 2017. Vanuatu National Forest Resilience Programme: Briefing paper.
[14] Government of Vanuatu, 2013. Readiness Preparation Proposal (R-PP), submitted to Forest Carbon Partnership Facility (FCPF) on 7 October 2013.

3.1 Vision for REDD+

The vision for Vanuatu's National REDD+ Strategy is to safeguard forest landscapes, facilitate climate- and forest-friendly production of goods and services, build resilience in forest-based communities, and support additional livelihood opportunities from sustainable forest management for the benefit of current and future generations.

Further, when implemented, the REDD+ Strategy can fulfill:

- The forest sector goals of the *Vision 2030 The Peoples Plan* and the Vanuatu National Sustainable Development Plan (NSDP) (2016 to 2030). The REDD+ strategy can mainstream forest sustainability in the ecological, social, economic dimensions of *The People's Plan.*
- Vanuatu's forest sector commitments in its Nationally Determined Contribution (NDC) to the Paris Climate Agreement of the UNFCCC
- Vanuatu's Forest Policy 2013-2023

3.2 Approach for REDD+

The approach seeks to achieve specific outcomes of the vision that are facilitated by the principles identified in Figure 1 (below).

Figure 2: Vision and approach for National REDD+ Strategy

While the Strategy defines Vanuatu's vision for achieving REDD+ goals, it must harmonize with and be mainstreamed into existing Government of Vanuatu priorities, particularly the National Development Plan and National Energy Plan, Agriculture sector plans, and Vision 2030, and Vanuatu's existing climate commitments. In this way, the National REDD+ Strategy can enable the forest sector components of Vanuatu's wider sustainable development, greenhouse gas emission reduction, and climate change adaptation goals.

Vanuatu's Nationally Determined Contribution (NDC) to the Paris Climate Agreement of the UNFCCC identifies areas where REDD+ could assist achieving the NDC goals: community-

based adaptation (specifically, how forests relate to community vulnerability assessments and comprehensive profiles) and ecosystem-based approaches ('Implementing sound land use planning approaches and policy documents (e.g. Land Use Planning Policy)' and 'Quantifying and building into adaptation planning and budgeting the value and benefit of ecosystem services).'

The *Vision 2030 The Peoples Plan* and associated *monitoring and evaluation (M&E) framework* is Vanuatu's National Sustainable Development Plan (NSDP) for the period 2016 to 2030. It serves as the country's highest level policy framework, and is coordinated by Department of Strategic Policy, Planning and Aid Coordination. Vanuatu's development aspirations are:

> *A vibrant cultural identity underpinning a peaceful, just and inclusive society;*

> *Supported by responsive and capable state institutions delivering quality public services, including health and education, to all citizens;*

> *Maintaining a pristine natural environment on land and at sea that serves our food, cultural, economic and ecological needs;*

> *With enhanced resilience and adaptive capacity to climate change and natural disasters; and*

> *A stable economy based on equitable, sustainable growth that creates jobs and income earning opportunities accessible to all people in rural and urban areas.[15]*

Figure 3: Vision 2030 goals and objectives which REDD+ can help fulfil

There are *Vision 2030 – People's Plan* policy objectives that support REDD+ such as Environment 4.6, which seeks to reduce deforestation and ensure rehabilitation and reforestation. There are other objectives that could fulfill REDD+ objectives, but are not

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[15] Vision 2030 The Peoples Plan, page 4.

identified within the 'forestry domain,' such as Watershed Protection Zones (Environment 4.2 – identifies a goal of establishing 6 of them by 2030) and registration of 10 Community Conservation Areas (CCAs) by 2030 and stimulating economic diversity through increasing the level of production of major commodities such as cocoa and copra (Economic 1.7) could provide support for agroforestry interventions identified in this National REDD+ Strategy.

3.2.1 Guiding Principles for the Development of the Strategy

Based on review of the REDD+ readiness reports and studies, interviews and consultations held in early January 2020, and consultations with stakeholders and DoF over the course of 2021 the guiding principles of REDD+ in Vanuatu were developed. The SESA Report and Annexes were particularly insightful in this regard, as extensive stakeholder consultation workshops were carried out, based on the first set of Strategic Options put forward in the *Analytical Studies* report from 2017. The perceived risks and opportunities associated with that set of priority options informed development of these guiding principles:

The guiding principles for REDD+ Strategy are as follows:

- **Align with existing and planned government priorities (e.g. Vision 2030), and help place forestry objectives into a wider framing of climate resilience and sustainable rural development**
- **Enables aligned strategies such as Vanuatu Forest Policy 2013-2023, Vanuatu NDC Implementation Roadmap of 2019, Vanuatu Forest Landscape Restoration Strategy 2020, and other priorities**
- **Reach people and communities on the ground— inclusive and active participation from other sectors/agencies (Top-down/bottom-up)**

Figure 4: Guiding principles for Vanuatu's REDD+ Strategy elements

In addition, National REDD+ Strategy also aligns with:

- The Vanuatu Agriculture Sector Policy 2015- 2030
- Vanuatu National Biodiversity Strategy and Action Plan (NSAP) 2018 - 2030
- The Vanuatu Climate Change and Disaster Risk Reduction Policy 2016-2030
- National Climate Change Adaptation Strategy for Land-Based Resources 2012-2022
- Vanuatu Sustainable Tourism Policy 2019-2030
- The Vanuatu National Coconut Strategy 2016-205
- Vanuatu National Livestock Policy 2015 - 2030
- National Integrated Coastal Management Framework and Implementation Strategy of 2010
- Vanuatu Land Use Planning and Zoning Policy Draft of 2012
- Vanuatu National Geospatial Data Policy Draft of 2020
- Vanuatu Forest and Landscape Restoration Strategy Draft of 2020

The National REDD+ Strategy also has a role to play in assisting Vanuatu to meet its Sustainable Development Goals, part of the 2030 Agenda for Sustainable Development adopted by all 193 member nations at the United Nations Sustainable Development Summit on 25 September 2015 (see box below).

REDD+ and the Sustainable Development Goals:

The Sustainable Development Goals (SDGs) were agreed as part of the 2030 Agenda for Sustainable Development, adopted by all 193 member nations of the UN including Vanuatu, in 2015. Action on REDD+ can support Vanuatu's achievements towards:

SDG 13: Climate Action

Take urgent action to combat climate change and its impacts — and more specifically targets

13.2 Integrate climate change measures into national policies, strategies and planning

13.B Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities

SDG 15: Life on Land

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss — and more specifically targets

15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

For more details see: sustainabledevelopment.un.org

Figure 5: REDD+ and the Sustainable Development Goals

4. National REDD+ Strategy Development Process

Vanuatu is in the late stage of Phase 1 of REDD+ readiness. The country is poised to define the direction it will take for REDD+ implementation (Phase 2) (see Figure 2). The National REDD+ Strategy is a key milestone and defines the national priorities, institutional arrangements, stakeholder partnerships and public and private financing from domestic and international sources for REDD+ implementation (phase 2).
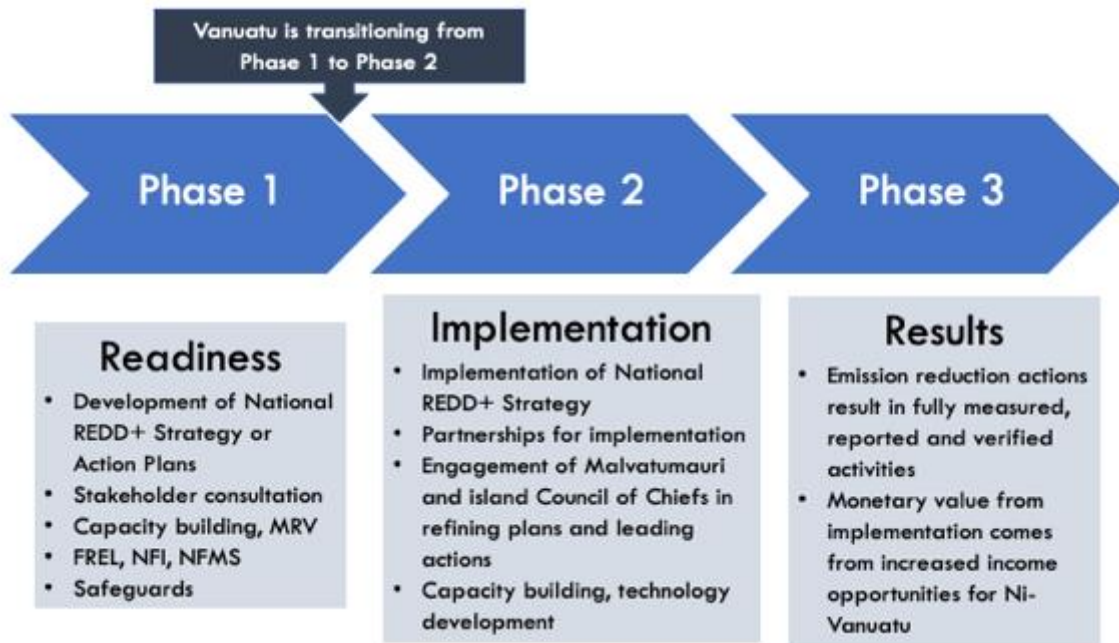
Figure 6: Phases of REDD+ implementation in Vanuatu

The objective of R-PP implementation was to support the preparation of a national REDD+ strategy through a participatory and inclusive process and by producing technical and policy advice to help strengthen sustainable land and forest management practices.

Significant efforts have been undertaken through a range of technical analyses and readiness activities (Figure 6). The National Forest Inventory, National Forest Reference Emission Reference Level, National Forest Monitoring System, Environmental and Social Management Framework, assessment of opportunities from non-timber forest products and benefit sharing mechanisms, all provide a basis that informs development of this Strategy. The readiness activities also provide technical inputs supporting Vanuatu's capacity development for forest and land use monitoring which reaches far beyond REDD+. This is detailed in subsequent sections.

REDD+ Readiness Reports and Studies:

- Analytical Studies for Reducing Emissions from Deforestation and Forest Degradation (REDD+) in Vanuatu

- Vanuatu NTFP Value Chain Study Findings: Final Report

- Vanuatu Sandalwood Value Chain Case Study

- National Forest Inventory of Vanuatu - Draft report (until July 2020)

- National Forest Monitoring System (NFMS) Vanuatu - Draft report

- Final report: Strategic Environmental and Social Assessment of REDD+ Activities in Vanuatu

- SESA Annex I: SESA Workshops Report: Preliminary identification of social and environmental risks associated with the proposed REDD+ activities

- SESA Annex II: Situational Analysis: Environmental and Social issues identified through the assessment of Vanuatu's legal and institutional framework relevant to Cancun safeguards

Figure 7: REDD+ Readiness Reports and Studies

4.1 Strategy development and consultation process

The National REDD+ Strategy development process began in January 2020. Previously completed REDD+ analytical studies and readiness activities were reviewed, particularly the report of *Analytical Studies for Reducing Emissions from Deforestation and Forest Degradation (REDD+) in Vanuatu*[16] and other documents prepared in support of REDD+ readiness. An assessment was completed to refine the criteria for consideration of final REDD+ priority options, and these were vetted with stakeholder consultations during the interviews conducted between January and March 2020. An *Inception Report*[17] was completed in mid-January 2020, which revised strategy and finance options based on discussions with stakeholders. Consultations occurred in Port Vila, Efate, then on Espirito Santo, Malekula, Erromango, and Tanna islands, and inputs were summarized in a report, *Field Visits: Report on Key Findings from visits to 5 REDD+ islands.*[18] The consultations in Port Vila included key Vanuatu government departments, civil society organizations, research institutions, and private sector actors. Consultations at island and provincial levels included a range of stakeholders, from Provincial authorities to Island Councils of Chiefs, private sector actors, and farmers. The consultations were organized to engage a wide cross-section of stakeholders that could be impacted by REDD+ activities, had expertise to inform Strategy development, or would be involved in implementation.

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[16] Carodenuto, S., B. Schwartz, G. Andre, J. Kampai, A. Nelson, S. McDonnell, S. Weaver, 2017. Analytical Studies for Reducing Emissions from Deforestation and Forest Degradation (REDD+) in Vanuatu. UNIQUE forestry and land use.

[17] Kissinger, G., 2020. Vanuatu National REDD+ Strategy Development—Inception Report.

[18] Kissinger, G., 2020. Field Visits: Report on Key Findings from visits to 5 REDD+ islands.

Further literature review and virtual and in-person consultations occurred between January and July 2021, including with key government agencies, particularly those that have a role in the NAB, have potential project or programme synergies based on existing or future priorities, and civil society and private sector actors that would have a role in implementation. A total of 102 stakeholders were interviewed between early 2020 and August 2021, and a sub-set were interviewed and consulted multiple times. A national validation workshop was held in October 2021, and final approval by the Government of Vanuatu is expected in month? 2021.

5. Policies, institutions and governance

The primary aspects of Vanuatu's legal framework are the Vanuatu Constitution and the National Sustainable Development Policy (NSDP). The Constitution is the supreme law of Vanuatu and therefore all laws, regulations, or government actions must be consistent with the articles of the Constitution. The NSDP guides the work of the Government allocating activities between the Ministries and their departments. Policies at the ministry or department level are also supposed to align with the NSDP. Vanuatu has set ambitious national targets under the NSDP and the National Environment Policy and Implementation Plan 2016–2030 (NEPIP) to effectively conserve 15% of natural forest and 10% of wetland areas through community and government management measures by 2030. Targets include 90% of community management committees complying with their CCA reporting obligations by 2020 and 10 registered CCAs in Vanuatu by 2020. The Vanuatu Forestry Policy has set a target to actively manage 30% of Vanuatu's forest by 2030.[19] The National REDD+ Strategy was developed around the same time as a Vanuatu Forest Landscape Restoration strategy, with support from the Food and Agriculture Organization of the United Nations, on behalf of the Department of Forests. Complementarity between these two strategies is encouraged.

The Department of Forestry (DoF), within the Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity (MALFFB), is the lead department to achieve these NSDP and NEPIP goals, along with implementing forest sector laws and regulations, including:

- *Forestry Act* [Cap 276] providing for the protection, development and sustainable management of forests and regulation of the forestry industry in Vanuatu.

- *Forestry Act* [2019] replaces Cap 276 and in addition to the objectives in the old Forestry Act, is intended to strengthen sector collaboration and update the institutional framework, streamline operational regulations and improve the regulation of domestic markets. Regulations made under the Forestry Act:
    - *Code of Logging Practice* (Order 1998)—however, a current limitation is that training and enforcement is not widely implemented.
    - *Control of Mobile Sawmills* (Order 1996)
    - *Sandalwood Harvesting Season* (Order 2013)
    - *Maximum Annual Quantity for Harvesting Sandalwood* (Order 2006)
    - *Management and Control of Sandalwood Trade and Exports* (2008)
    - *Sandalwood Harvesting Season* (Order 2014)

- *Planted Forests Act 2018* [repealing the Timber Rights and Registration Act) provides for the registration of planted forests, regulation of harvesting of planted forests and carbon rights. The separate property right for carbon can be decoupled from the land. It provides for the sharing of benefits arising from carbon rights, subject to the agreement of the customary land owners. Related to forest governance, a concern is that there are different standards for forestry harvesting between the *Planted Forests Act* and the *Forestry Act*. The definitions of 'forests' vs 'planted forests' between the two Acts provide an opportunity for similar, if not the same, forestry harvesting to be carried out under the Planted Forests Act without needing to comply with the same harvesting standards

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[19] Vanuatu NBSAP 2018 – 2030.

set out under the Forestry Act. This may lead to the conversion of natural forests into 'planted forests' and potentially further deforestation.

Other relevant institutions responsible for environment and biodiversity include:
- The Department of Environment (DoE) operates under the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Environment, Energy and Disaster Management (MCC) and is the main department responsible for environmental matters, including biodiversity.
- The Department of Biosecurity operates under MALFFB, and is responsible for biosecurity.
- The Department of Forestry has the mandate to declare endangered plant species protected species under the *Forestry Act.*

Relevant laws and regulations for environment and biodiversity include:
- *Environmental Protection and Conservation Act (EPC Act),* which sets out the requirements for environmental assessments, the registration of community conservation areas and their management. However, EIAs are only triggered by large scale projects, particularly if foreign investors are involved. Conversion of forests to plantations or agriculture on customary land is largely unregulated
- *Convention on Biological Diversity, Convention on Biological Diversity Ratification Act (CBD Act)* supported by the *Biodiversity Strategy and Action Plan*
- *International Trade (Flora and Fauna) Act,* supported by the *National Invasive Species Strategy and Action Plan*
- *Plant Protection Act,* also supported by the *National Invasive Species Strategy and Action Plan,* which allows for the protection of plant species, can prohibit logging and clearing, and allow for declaration of protected areas, provided consent is given by the custom owners or the land is acquired for a public purpose by the Government
- *Forestry Act,* supported by the *Forestry Policy*
- Acts with mechanisms to declare protected areas: *National Park Act, Forestry Act 2019, EPC Act, Land Leases (Amendment) Act, Fisheries Act* and *Preservation of Sites and Artefacts Act.*

There are conflicts and inconsistencies between the policy objectives for the productive sector under MALFFB and sustainable forestry. Many of the activities being pursued under the policies having been identified as drivers of deforestation and there is no active land use planning policy to effectively manage the competing interests between these sectors.

The MALFBB has a new initiative under the *Primary Producers Authority Act* (2018), intended to establish a network of primary producers. There is potential for this institution to influence the direction of forestry, land use and planning. The Authority was established in early 2020 and is yet to implement the creation of the networks.

The DoF has capacity limitations largely due to budget constraints. It has the smallest budget allocation under MALFFB and fewest number of staff, impacting on the capacity of DoF to fulfil its mandate. Although additional funding is available to the DoF through MALFFB, this funding is allocated on a competitive tender basis against the other departments under the Ministry. Additionally, the DoF has limited competitive advantage against the other

departments given their proposed activities are not revenue generating activities or focusing on directly economic development – one of the selection criteria.

The relevant forestry and environment/biodiversity laws and regulations are limited in their impact particularly when considering land tenure. There are no public forests in Vanuatu. They are owned by custom owners and cannot be dealt with without their consent. While the *Forestry Policy* states one cannot clear forests to plant forests, there are no other mechanisms prohibiting the conversion of natural forests, which is left to the discretion of the custom owners.

Honouring customary land tenure is an important constitutional right. At independence in 1980, the new Constitution restored perpetual land rights to the "indigenous custom owners and their descendants" and proclaimed that the "rules of custom shall form the basis of ownership and use" in the country.[20] However, the Constitution overlays a pre-existing set of interests in land, which had to be reconciled. Some of the most valuable lands were held by foreign interests.[21] The Land Reform Act of 1980 began a process to define rights, delineating custom areas (mostly rural), 'public land' which vested rights with government (mostly urban), and leasing arrangements with 'alienators,' which includes tourism, business, agriculture, industry, urbanization, and the desire to use land to secure loans.

- *Lease lands*: Over the last twenty years, Vanuatu has experienced a dramatic land rush with over 10% of all customary land now leased.[22] On Efate Island, which hosts the capital city of Port Vila, 43.6% of land previously held under customary tenure is now leased. Many of these leases are along the coastline—56.5% of Efate's coast is now leased—limiting Indigenous access to the most arable land and much of the coastal estate. Beyond Efate Island, Santo Island accounts for most of the leased land with over 10% of the land mass held under lease. A significant proportion of other islands are also held under lease including: Bokissa Island (90%), Aore Island (65.3%), Aniteyum (21.3%), Epi Island (14 %), Malo Island (13%), Malekula (5.5%). Most rural leases are for 75 years.[23]

  Agricultural leases account for 82% of leased land across the country. This is particularly significant for islands that are beginning to face a critical land shortage, such as Efate Island. Much of the land held under existing Agricultural leases is environmentally degraded due to overgrazing or the planting of long-term coconut plantations.

- *Custom land holdings:* Ninety percent of customary land is unleased, which means landowners have unalienable rights to use their land according to their own terms. Land is closely linked with cultural and clan heritage, power structures, and spirituality. Most ni-Vanuatu have access to land through customary systems. At the same time, however, the potential of land to drive economic development in Vanuatu has rarely been realised

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[20] Constitution of the Republic of Vanuatu, Sections 73–75.
[21] Farran, S. and J. Corrin, 2016. Developing Legislation to Formalise Customary Land Management: Deep Legal Pluralism or a Shallow Veneer?" Law Development Review 2016
[22] Scott, S., M. Stefanova, A. Naupa and K. Vurobaravu 2012. Vanuatu National Leasing Profile: A Preliminary Analysis. Justice for the Poor, World Bank.
[23] Scott, S., M. Stefanova, A. Naupa, K. Vurobaravu, 2012. Vanuatu National Leasing Profile: A Preliminary Analysis. Justice for the Poor. World Bank.

under customary practices alone. Constraints such as poor inter-island transport, lack of access to credit, poor access to basic services, and limited income-earning opportunities have restricted people's ability to explore the potential of their land and have resulted, directly or indirectly, in emerging social problems. Rights to land often depend upon oral histories, 'memory culture', complex local categories, and varying inheritance practices. The clustering of the population into villages, plantation communities and towns has also meant that many customary landowners and users no longer live within their traditional boundaries or even with their own communities. Because of this, boundaries and rights have inevitably become less certain over time. In 2013, the land laws were reformed to remove Ministerial powers to deal with land and most of the Governments' role in resolving land disputes. The *Customary Lands Management Act* details the procedures for identifying customary land owners, which is determined by according to custom rules and determined within that custom area.

The customary rights guiding the distribution of benefits from the land are not consistent. In general, benefits derived from improvements to the land, or agricultural activities, planted forests etc. are owned by the individual or group involved in making the improvements. In the context of forestry, the legal framework under the *Forestry Act* does not contain benefit-sharing processes or mechanisms, however there are 'Access and Benefit Sharing Protocols' referred to in the Biodiversity Strategy and Action Plan. Benefit-sharing in relation to land leases also varies across Vanuatu and is not well-documented.[24]

Vanuatu's National Biodiversity Strategy and Action plan identifies that conventional land protection and conservation has not been in practice to the degree seen in other countries. Delineating protected areas in the context of customary land ownership often conflicts with local practice, and in many areas there is also limited government capacity. The World Database on Protected Areas lists four formal protected areas, covering 98 km² or 1% of the total land area: Erromango Kauri Forest Conservation Area; Nguna-Pele Marine Protected Area; President Coolidge and Million Dollar Point Marine Reserve; and Vatthe Forest Conservation Area, the latter two on Santo. Although established with government support, these areas are typically managed by, or in collaboration with, customary landowners. As a result, Community Conservation Areas (CCAs) and Custom Forest Conservation Areas (CFCAs) have emerged as viable means to recognize customary tenure and resource access, and make use of existing community strengths in traditional knowledge, traditional resource management techniques and traditional governance, to protect Key Biodiversity Areas (this is explored as a Strategy element). There are around 50 listed sites which are currently considered to be legally recognised as conservation areas, but not legally registered under the *Environment Protection and Conservation Act*. This has been supported by initiatives such as the GEF 4 Forest Protected Areas Management (FPAM) project which supported sites such as Lake Letas on Gaua Island and Kauri Reserve in Erromango. There are other projects such as the Nakau Programme and Critical Ecosystem Partnership Fund (CEPF).

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[24] SESA Final Report, April 2020.

6. Drivers of Land Use and Land Use Change

Direct drivers of deforestation or forest degradation are human activities or immediate actions that directly impact forests and land (Geist and Lambin, 2002), such as logging, agricultural expansion, or infrastructure and road development. These are observable, but the underlying causes that motivate the drivers are hard to detect. The Warsaw Framework for REDD+ reaffirmed, "the importance of addressing drivers of deforestation and forest degradation in the context of the development and implementation of national strategies and action plans by developing country Parties, referred to in the UNFCCC decision 1/CP.16, paragraphs 72 and 76.[25] This decision recognizes countries' national circumstances, capacities and capabilities, and encourages to take action to address drivers. This section presents an overview of drivers reflected through the activity data of forest cover change (Sections 4.1 and 4.2), and an assessment of the underlying causes (Section 4.3).

6.1 Assessment of drivers of deforestation and forest degradation

The analysis of activity data using sample-based approach to conduct assessment of remote sensing imagery covering different islands formed the basis for assessment of the land cover and land cover change for the reference period from 2008 to 2018 . The Open Foris Collect Earth was used to assess the available imagery in the archive. The activity data analysis represents the assessment of land cover and land cover change reflect the most recent drivers and underlying causes influencing the forest resources of Vanuatu.

6.1.1 Deforestation

The land use change matrix illustrates that between 2008 and 2017, approximately all of the additional cropland, grassland and settlement came from forests. Cropland is the land use category with the highest growth in area of 19,193 ha (11.7%) over the 10 year reference period. Settlements (20% rate of change) followed by grasslands (5%) were other notable increases. See Table 3 and 4.

Land Cover - Level 1	Area 2008 (ha)	Area 2017 (ha)	Area change (ha)	Rate of change
Cropland	164,333	183,526	19,193	11.7%
Forest	991,242	966,851	-24,391	-2.5%
Grassland	29,565	31,183	1,619	5.5%
Other Land	83,975	84,029	54	0.1%
Settlements	16,867	20,392	3,525	20.9%
Water Body	2,121	2,121	-	0.0%
Wetlands	897	897	-	0.0%
Total	1,289,000	1,289,000	0	0.0%

Table 2: Land use change matrix (2008 – 2017)

Comparing the amount of dense forest versus open forest that was lost to different activities over the ten-year timeframe illustrates that agriculture is more likely to expand into dense forest than the other activities. Of the 19,131 ha lost to agriculture, 9,652 ha came from dense forests, while 10,135 ha came from open forests. Grassland expansion occurred almost equally

Table 3: Land use change 2008 – 2017

	Cropland	Forest	Grassland	Other	Settlement
Gain	21,721	1,989	3,394	2,205	3,525
Loss	2,528	26,379	1,776	2,151	-
Total	**19,193**	**-24,391**	**1,619**	**54**	**3,525**

between dense and open forests. It was more common for settlement expansion to occur in open forests. Thus, conversion to cropland accounted for 75% of forest loss, while conversion to grasslands accounted for 11% and conversion to settlement accounted for 9% of forest loss between 2008-2017 (See Figure 9).

An overall pattern of slightly increasing forest loss each year is visible, showing a general trend of increasing forest loss to cropland each year (Figure 10).

Figure 8: Forest loss by type (2008 - 2017)
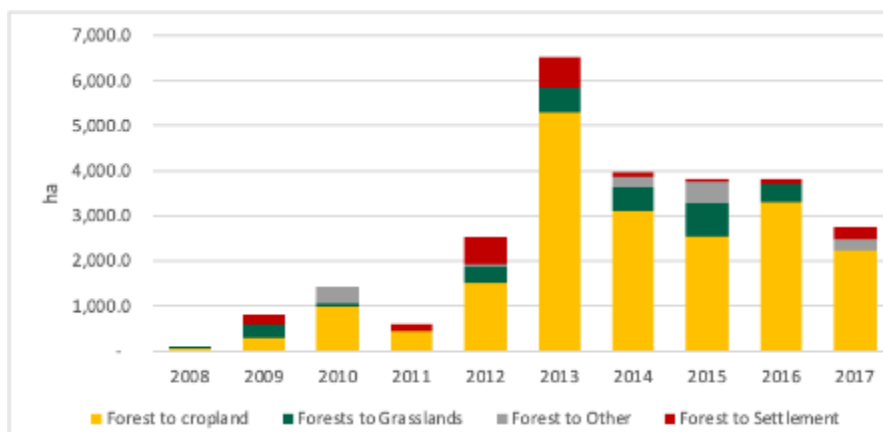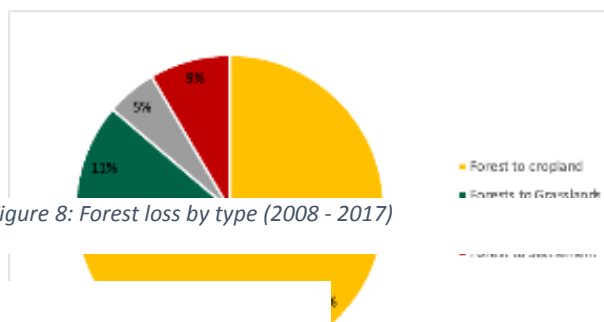
The rate of forest loss was 0.2% per year between 2008 − 2017.

Figure 9: Activities causing forest loss (2008 – 2017)

4.1.2 Forest Degradation

Forest degradation is either human induced or from natural occurrences. The sample-based approach, based on satellite imagery, illustrates that 60% of forest degradation in Vanuatu

occurs due to human-induced changes to the forest. Whereas 40% of degradation is attributed to natural occurrences.
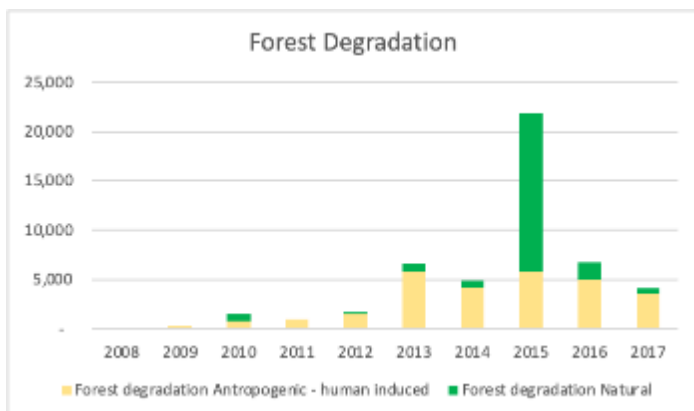
Figure 10: Forest degradation (2008 – 2017)

What is clearly apparent in the data on forest degradation is the effect of Cyclone Pam on Vanuatu's forests in 2015, which is visible in Figure 11.

The trend indicates a general increase over the ten year reference period in forest degradation attributed to human activity. Annual rates of human-related forest degradation ranged between 3,500 to almost 6,000 ha per year between 2015-2017.

Attributing forest degradation to specific activities highlights the large impact of agriculture on Vanuatu's forests. Agriculture contributed 45% of observed degradation between 2008-2017 (See figure 12). That was followed by cyclone impacts, contributing 31% of forest degradation over that timeframe. Other activities such as erosion, fire, cattle grazing, timber harvesting, infrastructure and invasive species contribute between 3-6% each. It should be noted that this analysis may underestimate *Merremia peltata* and other invasive species that would appear as canopy cover in the visual assessment of satellite images.
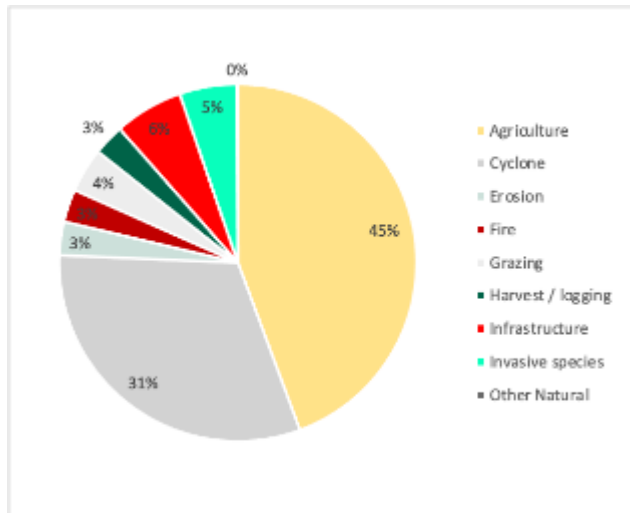
Figure 11: Activities causing forest degradation (2008 – 2017)

When only considering human or anthropogenic degradation of the forests, agriculture therefore assumes a larger percentage of impacts—77% of degradation. That is followed by infrastructure which accounts for 11% of impacts, then grazing at 7%, and logging at 5% of degradation impacts.

When only considering natural causes of forest degradation, cyclones had the largest impact between 2008 - 2017, at 74% of impacts. That was followed by invasive species at 12%, and fire and erosion each contributed 7% of impacts.

6.1.3 Island-level findings on deforestation and forest degradation

On an island level, the patterns of deforestation and forest degradation and associated activities are nuanced and varied. Table 5 below summarizes the findings of the satellite imagery assessment (2008-2017). With regards to deforestation patterns at the island-level, the largest driver of forest loss is cropland expansion with variations between islands. Santo saw the largest losses by hectares (5,375 ha) over the time period, followed by Tanna (3,842 ha) and Malekula (3,685 ha). Dense forest was the primary source of new cropland on Ambae, Efate, and Espirito Santo. On Tanna, half of new cropland comes from dense forest and the other half from open forest. On Malekula and Pentecost, the majority of cropland comes from open forest. Open forest was the primary source of new cropland on Epi and Gaua. Forest changing to grassland is sizeable on Efate (1,695 ha) and Santo (1,105 ha). Forest loss to settlement occurred on Tanna, Espirito Santo, Efate, and Malekula. Settlement most commonly occurred in open forests in Espirito Santo, Efate and Malekula.

A few islands experienced forest regrowth, including Espirito Santo, Tanna, Aneityum, and Malekula.

Forest degradation is primarily due to natural causes on Ambae and Ambrym, especially due to the volcanic activity on both islands. About half is natural, half is anthropogenic on Gaua. Efate experienced more anthropogenic degradation, though still a sizeable share coming from natural causes. Whereas, on Epi, Erromango, Espirito Santo, Pentecost, Tanna, and Vanua Lava it is primarily anthropogenic causes. On Malekula, though a quarter of observed degradation is mostly anthropogenic, large impacts occurred from Cyclone Pam (12,972 ha in 2015).

Activities causing forest degradation are varied, but agriculture stands out as the dominant factor on Espirito Santo (5,828 ha), Tanna (3,949 ha), Malekula (3,415 ha), Pentecost (2,523 ha), and Efate (1,531 ha). Espirito Santo, Erromango and Vanua Lava experienced a strong upward trend in agricultural disturbances. Cyclones (on Malekula, Tanna, Ambrym, Efate, Pentecost), grazing (on Efate, Santo, Erromango), infrastructure (on Santo, Efate, Malekula) and erosion also had impacts. Tanna, Espirito Santo and Malekula experienced degradation from timber harvesting. On Ambae and Ambrym, fire related to volcanic activity was the dominant degradation factor.

Table 4: Drivers of deforestation and forest degradation at the island level (2008 - 2017)

Island	Deforestation drivers/ impacts (2008-2017)	Forest degradation drivers/impacts (2008-2017)	Observations from island consultations – early 2020
Ambae	- Forest to cropland (215 ha) - Forest to other (295 ha) - Most came from dense forests	- Most degradation is naturally caused - Fire is largest driver	
Ambrym	No deforestation	- Fire and cyclone - All degradation is naturally caused	
Aneityum	- Forest to settlement (241 ha) - Forest regrowth was notable (483 ha)	Most degradation is anthropogenic	
Efate	- Forest to cropland (2,582 ha) - Forest to grassland (1,695 ha) - Forest to settlement (377 ha) - Forest to other (295 ha) - Dense forest was primary source of new cropland - Forest to grassland and settlement more commonly came from open forests	- More than half of degradation is anthropogenic - Agriculture and cyclones had roughly equal impact (1,531 ha and 1,611 ha respectively), followed by grazing (968 ha), infrastructure (645 ha) and erosion (241 ha)	Development, Cyclone Pam (especially in East)
Epi	- Forest to cropland (1,693 ha) - Most forest from cropland came from open forests	- All is anthropogenic - Agriculture is the primary driver	
Erromango	No deforestation discernable from satellite imagery	- Majority is anthropogenic - Agriculture (537 ha), followed by cyclone and grazing (54 ha each)	Agricultural clearings in forest
Espirito Santo	- Forest to cropland (5,375 ha) - Forest to grassland (1,105 ha) - Forest to settlement (645 ha) - Forest to other (241 ha) - Forest regrowth (940 ha) - New cropland primarily come from dense forest - Grassland equally came from dense and open forest - Settlement primarily came from open forest	- Large majority is anthropogenic - Agriculture is largest (5,828 ha) - Infrastructure (1,531 ha) - Harvesting/logging (781 ha) - Grazing (457 ha) - Strong upward trend in agricultural disturbance	Direct drivers: Agriculture, residential development in East Coast. Kava
Gaua	- Forest to other (565 ha) - Forest to cropland (54 ha)	Half is natural, half is anthropogenic	

	• All losses came from open forest	• Half was from fire, half was from agriculture	
Maewo	• Forest to cropland (216 ha) • Forest to grassland (54 ha) • Cropland comes mostly from open forest (161 ha), but 54 ha came from dense • Grassland expansion came from dense forest (54 ha)	• No degradation	
Malekula	• Forest to cropland (3,685 ha) • Forest to settlement (108 ha) • Forest growth (108 ha) • 2,284 ha came from open forest, and 1,400 ha came from dense forest • Settlement came from open forest	• Largest impacts are from cyclone (12,972 ha, mostly all in 2015), a quarter is anthropogenic • Agriculture (3,415 ha) • Invasive species (2,523 ha) • Timber harvesting (483 ha) • Infrastructure (295 ha)	Agriculture, completeness of clearings, cyclone impacts, new sub-divisions
Pentecost	• Forest to cropland (1,020 ha) • Forest to grassland and forest to settlement the same at 54 ha) • 724 ha came from open forest, while 295 ha came from dense forest	• Mostly anthropogenic • Agriculture (2,523 ha) • Erosion (242 ha) likely related to cyclone (occurred in 2015)	
Tanna	• Forest to cropland (3,842 ha) • Forest to settlement (699 ha) • Forest to grassland (54 ha) • Forest growth (699 ha) • Of forest to cropland, over half comes from open forest, the rest from dense forest. • Settlement comes equally from dense and open forest • Grassland came from dense forest	• Mostly anthropogenic • Agriculture (3,949 ha) • Infrastructure (457 ha) • Cyclone (403 ha) • Erosion (54 ha), and both cyclone and erosion occurred in 2015 • Timber harvesting (54 ha)	Smallholder agriculture expansion, volcanic ash and related clearing of new areas for subsistence farming, cultural practice of cattle farming which seeks open pasture, bushfires
Vanua Lava	• No deforestation discernable from satellite imagery	• All anthropogenic • Agriculture (241 ha)	

6.2 Analysis of the underlying causes of the drivers of deforestation and forest degradation

Working behind the direct drivers of forest loss or degradation are underlying causes, which are often harder to identify and quantify, but which must be addressed in any effort to reduce pressures on forests (Geist and Lambin, 2002; Kissinger et al, 2012). Underlying drivers are complex interactions of fundamental social, economic, political, cultural and technological processes that are often distant from their area of impact (Geist and Lambin, 2002)(See Figure 13 below).

The identification of underlying drivers and causal factors (including agents/actors), is based on island-level interviews, multi-criteria analyses and stakeholder consultation. The
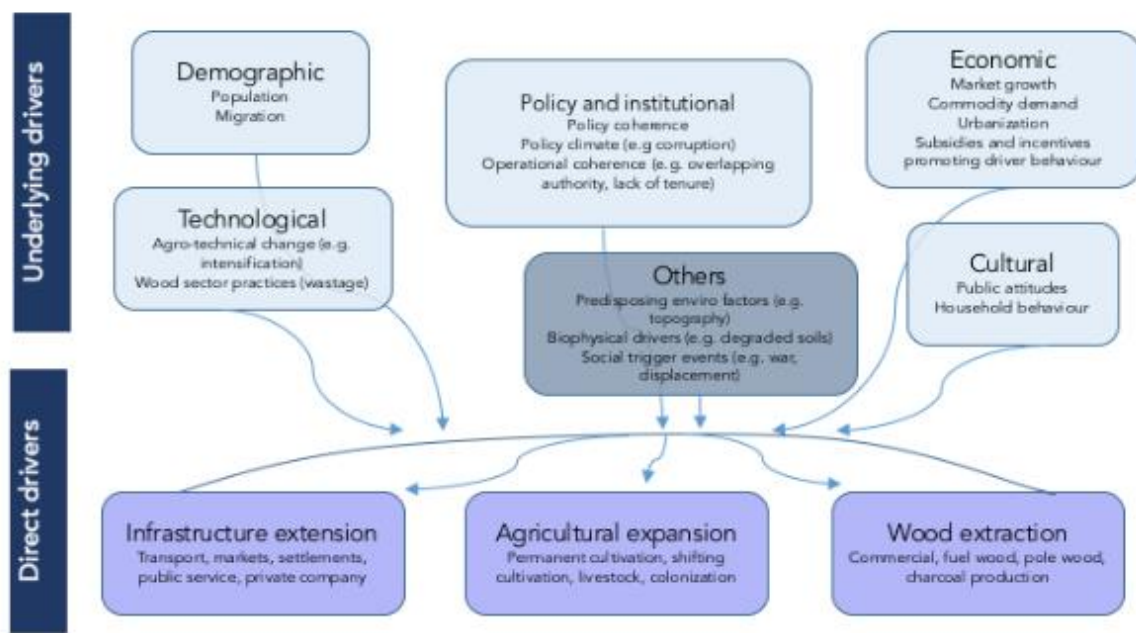
Figure 12: Relationship between underlying and direct drivers of deforestation and forest
Source: Adapted and modified from Geist and Lambin (2002)

relationship between underlying drivers and direct drivers is nuanced, and describes a set of interactions and motivations that drive decisions and behaviour in relation to forests. This section explores a range of underlying causes that are found to influence direct drivers. For instance, high agricultural commodity prices may serve as incentives to clear forest. These form analytical basis for identifying the strategy elements.

6.2.1 Population growth and limited land availability

Vanuatu has low population density, however, density varies among islands and population in urban centres is densifying, with Port Vila, Luganville and Pango having greatest density. [26] The population increased 2.1% per year between the 2009 and 2016 censuses. These rates varied greatly among islands. Of the five REDD+ islands reviewed, Malekula had the greatest growth (a 35.3% change between 2009-2016, with 4.4% annualized) while Efate was slightly lower at 26% change between 2009-2016 (and 3.4% annualized). Interviewees on Malekula, Efate, Erromango and Tanna cited population growth as a main underlying driver, related to displacement of people into forest frontiers in search of arable land.

An increasing population places increasing demands on land resources, especially for staple crops. While the majority of Ni-Vanuatu live in rural areas and are reliant on local systems of food production, growing numbers of rural smallholders are leaving their farms to urban centers such as Port Vila, Luganville and Lenakel looking for employment and better access to markets and services.

6.2.2 Economic

The move towards semi-commercial agriculture by smallholders is impacting forest resources. Smallholders are seeking to generate cash crops, adopting semi-commercial agriculture, especially for domestic and international markets for beef, kava, coffee and cocoa. It is anticipated that due to population increases and interest in cash crops, that these patterns will continue in the future. Beef and copra are key commercial agricultural crops on Malekula, Efate and Santo islands. The Government of Vanuatu set a target of 1 million new coconut trees and 500,000 new head of cattle, and efforts are underway to implement the goals. It is unclear what impact this will have on the economics of pressures on forests. Interviews conducted at island-levels indicates that the planning for how to accommodate this growth on the land base has not been completed.

A key factor that spurs families to produce cash crops is to pay for school fees. The social baseline assessment for the Loru community found that school fees are the single greatest financial burden for local communities (Nelson et al. 2015). Greater investments in public education could relieve the pressure on smallholders to degrade and clear forest to generate income.

6.2.3 Technological

Agricultural production in Vanuatu is based on the use of rudimentary hand tools. While the use of animal assisted and mechanised implements increased in root crop production.[27]

Declines in agricultural production are related to factors such as lack of improved farming skills, extreme weather events, soil fertility stress, and technology. This could influence the expansion of agriculture into forests, in search of improved yields.

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[26]VNSO (Vanuatu National Statistics Office). 2016. Post-TC Pam National Mini Census. https://vnso.gov.vu/index.php/mini-census-2016. Vanuatu National Statistics Office, Ministry of Finance and Economic Management. Port Vila, Vanuatu
[27] Mackenzie-Reur, V. L. and K. Kulakit Galgal, 2018. Building the Evidence Base on the
Agriculture Nutrition Nexus: Vanuatu. Technical Centre for Agricultural and Rural Cooperation (CTA) Working Paper 18/04, March 2018: https://cgspace.cgiar.org/bitstream/handle/10568/96917/2029_PDF.pdf

There have been investments in technology in some cash crops such as in the coffee production on Tanna island and cocoa on Malekula island. The profitability and potential market demand could increase pressures on the adjacent forests, as farmers expand production. The provision of saw mills and chainsaws to islands such as Tanna after Cyclone Pam are examples where technology has negatively impacted forest resources.[28]

6.2.4 Governance: Competing mandates & coordination

The Vanuatu Forest Policy identifies a number of constraints affecting the forest sector, including a lack of land use plans and forest zoning, lack of implementation of comprehensive forest management plans, out of date legislation, weak institutions, and inadequate funding and management.[29] In addition, lack of cross-sector coordination, weak enforcement, corruption, and the challenge of engaging rural communities are other constraints.

Policy incoherence was identified in interviews as being an underlying cause, and this relates to different signals landowners would receive from each sector. For instance, the current targets for 1 million new coconuts[30] and 500,000 new head of cattle[31] could have a large impact on forest resources if implemented in an unsustainable way.

Poor law enforcement is a function of the remoteness and isolation of many islands, where Government presence is hindered by the high costs of travel. The Government does not generate the revenue to be able to have a presence in all areas. Some Provinces do not have adequate DOF representation, let alone individual islands. Nevertheless, poor law enforcement is a notable underlying driver, and designing a growing role for communities and custom governance systems to increase their role in stewardship and enforcement (particularly of localized zoning and land use plans) is proposed in the strategy element section as a means to address this. Further, recent efforts to address corruption through the judicial system and including more citizen participation in governance accountability through the *Decentralization Act*,[32] are a basis to build upon.

6.2.5 Market Influences

For most rural households, copra, cocoa, kava and cattle are the source of income. Farmers shift their labour from subsistence food production to cash cropping to benefit from the high commodity prices.[33] Island-level interviewees confirmed that farmers clear forest for cash crops.

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[28] *Analytical studies*, 2017.

[29] Government of Vanuatu, 2011. Vanuatu Forest Policy 2013 – 2030. Department of Forests.

[30] Government of Vanuatu, 2016. National Coconut Strategy, available at:
https://pafpnet.spc.int/attachments/article/651/Vanuatu%20National%20Coconut%20Strategy%202016-2025.pdf

[31] Government of Vanuatu, 2015. National Livestock Policy 2015-2030, available at: http://www.investvanuatu.org/wp-content/uploads/2020/04/National-Livestock-Policy_Dec2015-27_01_16.pdf

[32] Transparency International, 2021. https://www.transparency.org/en/blog/cpi-2020-vanuatu-corruption-worsening-the-impacts-of-covid-19-natural-disasters

[33] Mackenzie-Reur, V. L. and K. Kulakit Galgal, 2018. Building the Evidence Base on the Agriculture Nutrition Nexus: Vanuatu. Technical Centre for Agricultural and Rural Cooperation (CTA) Working Paper 18/04, March 2018: https://cgspace.cgiar.org/bitstream/handle/10568/96917/2029_PDF.pdf

Production to kava has increased in response to price rise and export markets (particularly Fiji) are expanding. Varieties of kava can either be shade-grown or full-sun, but the preferred variety has been the full sun type, contributing to forest loss. Beef production has driven lease acquisitions and forest clearing. Timber has relatively limited local markets at present and international markets are faced with high transport costs.

Another market influence that puts pressure on customary landowners to shift into forest areas is the land lease market. Agricultural leases accounted for 82% of leased land by 2012. Much of the land held under existing agricultural leases is environmentally degraded due to overgrazing or the planting of long-term coconut plantations. Over the last fifteen years Vanuatu has experienced a dramatic land rush with over 10% of all customary land leased as of 2012.[34] On Efate Island, 44% of land previously held under customary tenure is now leased, and many of those are on the coastline. Fifty six percent of the coastline of Efate Island is leased as of 2012, which limits ni-Vanuatu access to arable and coastal land.

6.2.6 Social/cultural

Some custom traditions create pressures to clear more land. On Tanna island, a child can receive land as gift from family. The Forest Policy 2013-2023 identifies that if landowners do not protect the forest values for themselves and their descendants, the existing system of customary land ownership may drive the clearing of forest to plant subsistence crops and to develop new settlements.

Staple crops cherished in daily diet and production extend into forest areas. Yam is the most valuable crop for traditional ceremonies. Yam requires full sun and highly fertile soils, planting immediately following slash and burn of forest. Thus, forest areas are often cleared for yam gardens.

Table 5: Perceptions of underlying drivers on five islands, based on interviews in early 2020

Island	Underlying drivers perceived
Santo	• Govt promoting more cattle, coconut, kava crops. Govt not working with farmers to improve rangelands, so farmers are expanding into dark bush. • Lack of land use planning (cross-sector conflicts) • Low government capacity • Preference for sun-growing crops • Differences in gender-based decision-making power • Increasingly visible climate change impacts (e.g. sea level rise at Sarakata River) • Rural labour shortages due to Recognised Seasonal Employers (RSE) scheme
Malekula	• Population growth, there is no title in rural areas, decisions made by local chiefs and landowners. Areas close to roads get developed. • Pasture requirements for livestock expansion would be in thousands of ha • Cocoa harvestable year-round, due to climate change, though yields are low • Lack of water catchment protection
Efate	• Population pressures, land leasing and high value of coastal and productive land (loss of customary land which displaces people to other areas), relocation of people from volcano-devastated areas, relocation after Cyclone Pam

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[34] Scott, S.; Stefanova, M.; Naupa, A.; Vurobaravu, K., 2012. Vanuatu National Leasing Profile : A Preliminary Analysis. Justice for the Poor Briefing Note; Volume 7, Issue No. 1. World Bank, Washington, DC.

	• Cross-sector conflicts (example: water/livestock/farming around Taka Bay)
Erromango	• Population growth, need to pay school fees, harvests in 1980's degraded forest • Strong interest in Council of Chiefs leading more in island-level planning to prepare for pressures they see on other islands
Tanna	• Population growth. Land ownership and development come at the expense of forest—average farm size getting smaller. Future risks (such as lack of arable land, climate change, water risk) increasing. Loosing species special for kastom. • Lack of integrated, cross-sector and land use planning

6.3 Prioritization and ranking of drivers

In summary, the activity data analysis using remote sensing imagery shows that cropland expansion accounted for three quarters of forest loss between 2008-2017, while grazing was 11%, settlement expansion 9% and other activities were 5% (refer to Table 7). As for forest degradation, when deciphering between anthropogenic (60% of degradation) and natural (40% of degradation) factors, both agriculture and cyclones have large impacts in terms of percentages in each category. Though agricultural degradation occurred on most islands, cyclone impacts were more localised.

Table 6: Summary of findings: Deforestation and forest degradation, national level (2008 – 2017)

Summary of drivers of deforestation	
• Cropland expansion (75%)	
• Grazing expansion (11%)	
• Settlement expansion (9%)	
• Other (5%)	
Summary of drivers of forest degradation at the national level	
Anthropogenic (60% of degradation impact), of which:	Natural (40% of degradation impact), of which:
• Agriculture (77%)	• Cyclone (74%)
• Infrastructure (11%)	• Invasive species (12%)
• Grazing (7%)	• Fire (7%)
• Forest harvest/logging (5%)	• Erosion (7%)

6.4 Evolution of Drivers

While important to examine the direct and underlying driver patterns that have occurred in the past, it is also important to consider the evolution of future drivers so that the strategy considers interventions that can respond to evolving drivers of forest loss and degradation.

Three criteria were used to assess the evolution of drivers: a) Anthropogenic risk b) road access to forest and its potential clearing, and c) stakeholder perceptions.

6.4.1 Anthropogenic risk

Ranking islands according to anthropogenic impacts on forests allows one to prioritize those which have high human disturbance, over those that do not have as high human disturbance.

These would be 'hot spot' islands, where it anticipated that based on previous population and human land-use dynamics, one could classify these islands as having high potential for similar patterns in the future.

The two indices considered in this assessment are a) Dense vs Open Forest, as Open Forest is more often affected by humans, such as through agriculture, fallows, grasslands, etc.; and b) Dense Forest vs core anthropogenic land uses, such as annual cropland, coconut plantations, settlements and grasslands. These indices provide a basis of ranking the relative influence of drivers of deforestation on islands.[35]

Island	Ratio: Dense Forest/Open Forest	Island	Ratio: Dense Forest/Core anthropogenic land use
Vanua Lava	42.3	Erromango	37.7
Ambrym	18.7	Aneityum	27.0
Aneityum	13.5	Vanua Lava	18.1
Tanna	11.6	Espiritu Santo	5.4
Malekula	9.9	Maewo	4.3
Espiritu Santo	8.2	Gaua	4.0
Ambae (aoba)	8.2	Ambrym	3.9
Vanuatu mean	6.3	Vanuatu mean	3.6
Erromango	5.7	Malekula	3.2
Gaua	4.5	Epi	2.0
Pentecost	2.5	Ambae(aoba)	1.9
Maewo	2.3	Tanna	1.9
Epi	2.1	Pentecost	1.2
Efate	**1.7**	**Efate**	**1.1**

Table 7: Anthropogenic risk ratios

High numbers represent less anthropogenically affected islands, while low ratios represent highly anthropogenically affected islands. When considering anthropogenic influences on the forest, Efate and Pentecost, Tanna, Epi and Malekula are the islands most affected by anthropogenic influence. Thus, it is advised that Strategy activities be developed on these islands specifically to address these likely future dynamics. In the second ratio, Erromango may have too high a rating, as Erromango has large areas of bare land, and thus the second ratio is misleading for this island in particular.

6.4.2 Roads as an indicator of risk

The presence of roads is an indicator of anthropogenic disturbance to forests, as road access allows for vehicular access and wood hauling. Some islands are undergoing full- or partial-ring road development, thus it is expected that increased access to forests. An example is on Malekula, which currently has 267 km of roads, but a new ring road being constructed will expand the roaded area and will link the two isolated roads at the southern end. Thus, there

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[35] Islands with high volcanic activity should be considered separately as they contain large amounts of bare land, due to volcanic eruptions or ashfall (Ambae, Ambrym, Tanna). Erromango also has a high amount of bare land.

would be immediate impact of forest clearing for the road, and in addition, the buffer area will see increased degradation.

6.4.3 Stakeholder perceptions

Stakeholder feedback was considered in the deliberation of REDD+ strategy elements, and drew upon the SESA consultations[36] and REDD+ Strategy consultations.[37] Interviews on islands highlighted population and associated resource utilization pressures, including logging, gardens and agricultural techniques, bushfires, pastoralism/overgrazing and infrastructure and development. Stakeholders also highlighted evolving risks such as lack of arable land on some islands, climate change, and water scarcity. These are anticipated to be stronger underlying causes in the future, which would affect multiple sectors.

Climate change impacts are notable direct and underlying drivers, and community-level consultations identified future pressures of concern including sea level rise, dry season intensification and increased frequency and intensity of droughts, changing weather patterns, coastal and soil erosion, increased frequency and intensity of cyclones and lengthening of the cyclone season, and noticeable changes in crop production.

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[36] Community-based workshops by SESA team were carried out in 8 locations, on 5 islands, across 4 provinces: Nakere Village and Luganville on Espiritu Santo Island; Lakatoro and Lamap on Malekula Island; Whitesands and Lenakel on Tanna Islands; Port Vila on Efate Island; and Dillon's Bay on Erromango Island. The interview with the key informants from the private sector were organised by the REDD+ Unit in these same locations where these key informants were available for interviews.

[37] Kissinger, G., 2020. Field Visits: Report on Key Findings from visits to 5 REDD+ islands. (Efate, Santo, Erromango, Malekula, Tanna).

7. REDD+ Strategy

The basis for shifting pressure on forests is the extent to which drivers of deforestation and forest degradation can be addressed through policy, market and economic or behavioural changes. The UNFCCC Conference of the Parties decisions encourage developing countries to identify the drivers of deforestation and forest degradation (Decision 4/CP.15) and address them in their national strategies or action plans (Decision 1/CP:16), and ensure that the responses to drivers are adapted to national circumstances (Decision 15/CP.19).

Vanuatu's national REDD+ Strategy is intended to be complementary and consistent with existing national law, national policies and programs, and the Constitution, such as upholding customary land rights. The strategy envisions financial support to advance activities that brings livelihood benefits. The strategy also helps to support and advance other international conventions, agreements, and programmes that Vanuatu has committed to, as are applicable in this context.

Defining what actions can best affect driver behaviour at the most appropriate scale is an important consideration by policy and decision-makers. Figure 2 below provides a conceptual framework for how REDD+ driver interventions and actors relate at different scales. Enabling factors such as effective information systems to guide decisions, policies, institutional capacity, transparency and accountability, political will, and consultation with stakeholders underpin a strategy to affect drivers. For REDD+ to be successful, incentives, disincentives and enabling measures need to influence the actors responsible for addressing the drivers of deforestation and forest degradation for shifting land use.

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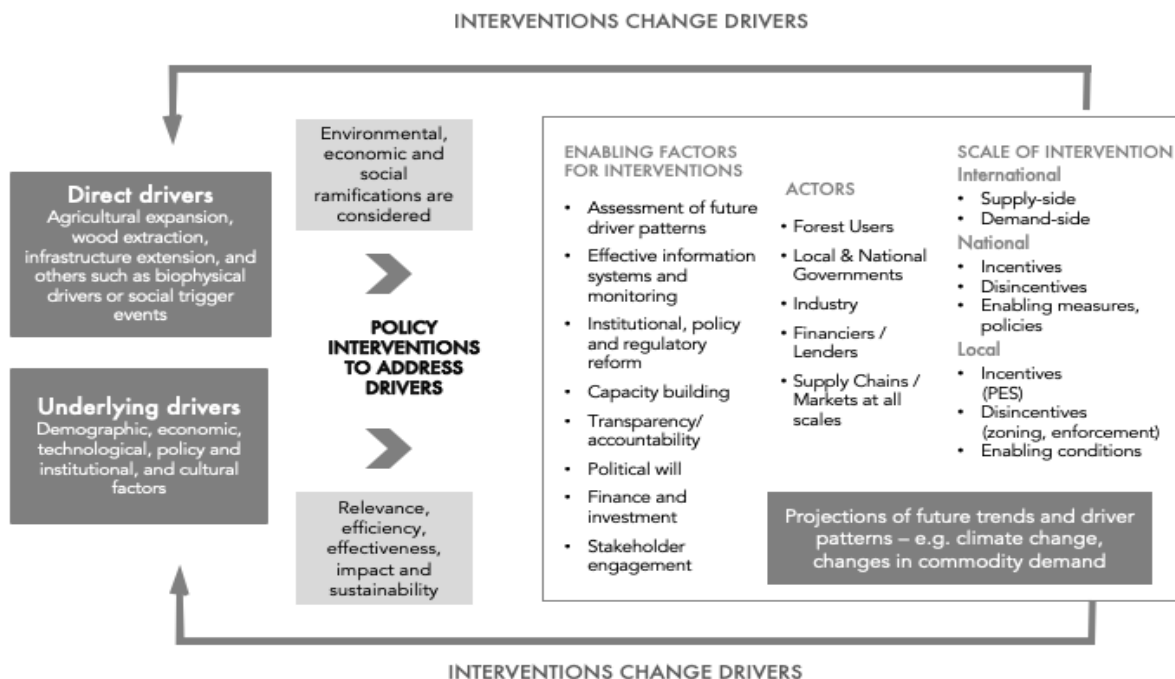
Figure 13: Drivers of land use change, interventions, actors and scales framework[38]

The elements of the strategy are identified based on the analysis of the policy framework, assessment of drivers and underlying causes of deforestation and forest degradation, experience of implementing REDD+ readiness, stakeholder inputs, and expert consultations and interviews.

The strategy elements are intended to be implemented as a package of activities, with enabling interventions occurring programmatically at the national level, and specific actions relevant at various scales. The process for further refining where actions are to be implemented should be made through a top-down/bottom-up process, whereby some areas are prioritized due to anthropogenic driver hot spots, whereas in other areas input from local communities and Area Councils of Chiefs will identify priorities and preferences they can opt-in to. All actors engaging in this holistic programme should commit to the principle of increasing agricultural yields and livelihoods in a way that does not come at the expense of forests.

For each of the Strategy elements described below, details are provided on the overall approach, which REDD+ activity is addressed through the action (e.g. deforestation, forest degradation, sustainable forest management and improvement of forest carbon stocks). Detail is given on how the action seeks to address direct and underlying drivers, how the action fulfills the criteria for selection, what actors are to be reached through the activity, the geographic scale for implementation, the modality of implementation, financing arrangements necessary for implementation, which government agency is anticipated to take the lead, co-lead, and which partners (e.g. public and private sector, CSOs, Council of Chiefs, communities) will implement the activities.

The sections below begin with the enabling interventions, followed by the strategy actions, as per the figure below:

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[38] Source: Kissinger, G., 2020. Policy responses to direct and underlying drivers of deforestation: examining rubber and coffee in the Central Highlands of Vietnam. Forests 2020, 11(7), 733; https://doi.org/10.3390/f11070733

Figure 14: Overview of REDD+ Strategy elements

7.1 Enabling interventions

7.1.1. Land Use Planning

Land use planning allows people in Vanuatu to make sound and sustainable decisions on how land is to be used, as part of the social, cultural, economic and environmental development of the country. The Physical Planning Act 1986 forms the basis for land-use planning in Vanuatu. It allows local councils to designate 'physical planning areas' and formulate plans specifying process required for development in those areas with focus on local planning. The last National Land Use Plan was completed in 2006.[39] While some provinces have planning and zoning strategies, there is more rigour required to respond to climate impacts, cross-sector trade-offs, natural resource production and conservation priorities.[40]

The Vanuatu Forest Policy 2013-2023 identifies that in the absence of comprehensive and updated national and regional land use plans, there is no clear process for identifying conservation and timber production areas or for enforcing any form of land use planning.[41] The Policy anticipates the combined impacts of climate change, population growth and soil fertility declines will exert a growing and cumulative pressure on the remaining lowland forests of Vanuatu to be converted to agricultural land.[42] To deal with these conflicting demands on land, there is an urgent need to operationalize Vanuatu's Land Use Policy[43], emphasizing balance and

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[41] Government of Vanuatu (2011). Vanuatu Forest Policy 2013 – 2030. Department of Forests.
[42] Ibid.
[43] See: https://www.nab.vu/sites/default/files/nab/documents/04/05/2015%20-%2016%3A19/vanuatu_national_land_use_planning_policy_endorsed_2013_lores.pdf

trade-offs among different land-use options, and enabling close collaboration and coordination among the different Government authorities responsible for land, agriculture, livestock, forestry, climate change adaptation, provincial governments, customary chiefs and land owners. The Land Use Policy has not been reviewed since 2017 when it ended. Stakeholders view it as a useful policy and needs to be reviewed and updated.

The key activity is anticipated to be a land use plan, including a spatial plan, to overcome sectoral conflicts to promote cross-sector synergies with Department of Local Authorities (for rural areas) and their new Department of Urban Affairs and Planning (municipalities), and the Department of Lands leading the implementation with support from other department and agencies. The land use plan needs to respond to the GoV priorities of 1 million new coconuts and 500,000 new head of cattle set by the Government in 2017 as these will impact forest and other land use. Spatial plans of this expansion and potential impacts on arable land, conversion of natural forest, impacts on water resources require analysis. The land use plans need to response to evolving priorities, population growth, arable land, food production, urban development, tourism, other economic activities Land use plans need to involve diverse stakeholders such as Councils of Chiefs, sector planners and communities to align provincial, island and community plans.

Land use planning should also take into consideration recent activities and technical capacity building. The development of the National Forest Monitoring System and National Forest Inventory should be viewed as a crucial capacity investment by REDD+ readiness for remote sensing and geospatial planning to support integrated land use planning. These tools are intended to update and replace the Vanuatu Resource Information System (VanRIS). The Department of Forestry leads the NFMS implementation, and will share this information with all other governments and also non-governmental agencies. There are opportunities to build other components onto the NFI and NFMS, such as environmental protection hotspot areas that have been identified at Provincial levels, and declared physical planning areas, and also in relation to climate mitigation and adaptation planning.

Enabling intervention 1: Land Use Planning	
REDD+ activity area: Cross-cutting, informs all REDD+ activity areas	
Effect on direct drivers:	**Effect on underlying drivers:**
Provides a basis to plan for future agricultural expansion, to reduce pressure on forests	• Improved governance to overcome cross-sector conflicts • Involves actors from community to national levels, assist to respond to underlying causes
Significance:	Allows for stakeholder consultation on forest and land management. Contributes to broad government priorities, such as Vision 2030 and rural development
Actors to be reached:	All islands
Geographic scale	National
Implementation:	National and island-level planning processes, details to be determined
Financing:	Domestic and donor finance
Lead agency:	Department of Lands and Department of Local Authorities
Partners:	Provincial Planning Departments, Malvatumauri – National Council of Chiefs, Area Councils of Chiefs (who have expressed interest to lead at

the island-level), DEPC, Departments of Livestock, Agriculture, Water, Tourism, Industry and Trade, and relevant counterparts at island level

Table 8: Enabling intervention 1: Land Use Planning

7.1.2. Enforce minimum standards for a % tree cover on cattle plantations

Trees provide climate adaptation benefits, help diversity farmer incomes, provide food, improve soils—and all these benefits can occur without impacting yields on farms and pastures. This would have greatest impact on the large lease-holdings that are underperforming and could help restore degraded areas.

There exists a minimum tree/pasture ratio for large scale cattle plantations, but these are not enforced, and should also be reviewed and updated. Enforcing minimum standards for tree cover on leased cattle plantations can ensure that adequate cover occurs, and with species that provide carbon and pasture benefits. The Department of Local Authorities identifies a need for % tree coverage in urban areas, as well. The effort should be implemented with a coordinated programme to provide technical advice and support, seedlings, and farmer-to-farmer support networks to help with the planting and maintenance. Different species can be promoted for different land uses.

Department of Livestock currently advises 30-40% canopy for shade for all cattle, especially during times of drought, which was established in the Pasture Improvement Programme under cattle stocking project on Efate, Epi, Malekula, Santo, and Erromango grazing areas. DOF can assist to develop guidelines on forest/bush clearing in the pasture land, as this is not yet provided for under the Livestock Management Act. Thus, an amendment to the Act could be one pathway to further explore. The Department of Local Authorities also advised there may be opportunities to include this under the Physical Planning Act (currently under revision), as a schedule.

On livestock grazing/pastureland, the Department of Livestock should provide technical support to pasture management and shade for livestock and Department of Agriculture can support agroforestry systems on agriculture lands by providing seedlings and technical assistance.

Enabling intervention 2: Enforcing minimum standards for a % tree cover on cattle plantations	
REDD+ activity area: Forest degradation	
Effect on direct drivers: Agriculture is the largest driver of deforestation and forest degradation, but grazing expansion accounts for 11%.	**Effect on underlying drivers:** • Establishes this as a cross-sector priority • Provides a stronger means to value trees in pasture (multiple benefits beyond climate)
Significance:	Increases tree cover on all lands, especially degraded lease lands
Actors to be reached:	Lease lands for cattle production
Geographic scale:	National, based on biome types (e.g. natural tree stocking rates)
Implementation:	Revise guidelines, boost enforcement, plus island-level commitments
Finance:	Modest cost, would require additional capacity for enforcement
Lead agency:	MALFFB Depts of Forestry, Agriculture and Livestock
Partners:	Dept of Lands

Table 9: Enabling intervention 2: Enforcing minimum standards for a % tree cover on cattle plantations

7.1.3. Policy coherence across the land use sectors

Coherence of forest and environmental laws is needed to avoid inconsistencies and was identified by many interviewees as important as it serves a broader purpose than just REDD+. Department of Local Authorities identifies the harmonisation of the Foreshore Development Act and Physical Planning Act as one step towards achieving policy coherence that could be pursued as a first step. This is particularly timely as the Physical Planning Act is under amendment to incorporate climate change issues. Promoting policy coherence has also the added benefit of strengthening the environmental impact assessment (EIA), which depends on existing environmental laws.

In addition to harmonizing laws and practice, there is also the challenge of implementation and enforcement of existing laws. The examples of challenges to enforcement relates to set back requirements from riparian zones. The Department of Forestry operational rules for logging mandate 100 meters of riparian set-back requirements on rivers. However, cattle grazers, agricultural producers, and infrastructure developers are not held to the same standard. Some rivers such as the Sarakata River in Santo, and Taka River on Efate, suffer clearings right to the river edge, and resultant damage to the waterway and downstream users.

Capacity for compliance and enforcement with existing laws is a priority. Some Acts do allow for authorised officers to be appointed for enforcement purposes (compliance officers). The Department of Local Authorities network could be utilized for enforcement (e.g. Area Administrators and Secretaries). The training and establishment of a pool of environmental prosecutors would also be of value to address compliance with existing laws.

Coordination across agencies responsible for land governance is a necessary precondition for a successful REDD+ strategy, or any sustainable land management, in Vanuatu. Mechanisms that require coordination across agencies (e.g., requiring awarded licenses to provide harvesting plans with clear spatial information, and having the DEPC review the licenses before they are awarded) are an important step for mitigating future conflicts in competing land uses.

Policy coherence within the forestry sector should ensure all regulations are consistent with the Forestry Act of 2019. Further, a new Forestry Policy will be drafted from 2023, so it is recommended that REDD+ priorities be integrated into the Forest Policy. REDD+ priorities should also inform and be reflected in the National Adaptation Plan (NAP), developed by DoCC, funded through Green Climate Fund Readiness funding, with support from UN Environment Programme. REDD+ priorities should also inform and be reflected in the Long-Term, Low-Emission Development Strategy (LT-LEDS), developed by Department of Energy, funded by the Government of New Zealand, with support from GGGI.

As a first step, an assessment of the priorities for increased coherence should be carried out with MALFFB and the Vanuatu Law Reform Commission.

Enabling intervention 3: Policy coherence across land use sectors	
REDD+ activity area: All	
Effect on direct drivers:	Effect on underlying drivers:

	Improved governance – cross-sectoral alignment, regulatory clarity and improved enforcement of laws	Improved governance – cross-sectoral alignment, regulatory clarity and improved enforcement of laws
Significance:	Helps achieve broader government priorities, such as Vision 2030, and rural development.	
Actors to be reached:	All land users	
Geographic scales:	National	
Implementation:	• First requires a comprehensive assessment • Review and amend existing laws to improve consistency, and improved implementation and enforcement • Investigate how to achieve the objectives through the amendment to the Physical Planning Act, currently underway • Define how to train and establish a pool of environmental prosecutors	
Financing:	TDB – likely domestic finance	
Lead agency:	MALFFB – Department of Forestry, with support from Vanuatu Law Reform Commission	
Partners:	DEPC, NAB, DoCC, Dept of Local Authorities, Dept of Lands, Dept of Water	

Table 10: Enabling intervention 3: Policy coherence across land use sectors

7.1.4. Institutional strengthening

The institutional and capacity strengthening of the Department of Forestry, as lead agency for REDD+ development and implementation, is an important enabling element of this Strategy. DoF has already received readiness support for development of the NFMS and NFI, which forms the basis for the REDD+ MRV systems. Now that the Strategy is complete, there is a need to assess the institutional capacity necessary within DoF to implement it. This includes various policy, coordination and management roles, among others, to lead the effective implementation of the Strategy, and to further refine strategic actions for policy and legislative strengthening. These should align with priorities identified in the Vanuatu Forest Policy of 2013 – 2030 such as updated legislation, capacity for improved comprehensive forest management plans, institutional strengthening, and adequate funding and management.

The first step is to review the existing organisational structures, roles, responsibilities and mandates within DoF, MALFFB, DoCC, DEPC, DLA, DoWR, and consider options for institutional and inter-sectoral arrangements to achieve REDD+. That will form a basis for the development of recommendations to strengthen institutional structures, mechanisms and operational inter-sectoral arrangements for the Strategy and in relation to Vanuatu climate change programming and financing, and can inform fundraising activities. It will also be important to establish a legal mandate within the existing legislative framework for the REDD+ Technical Committee, to enable their role in facilitating the cross-sector collaboration that will be required for REDD+ implementation.

Enabling intervention 4: Institutional strengthening	
REDD+ activity area: All	
Effect on direct drivers:	**Effect on underlying drivers:**
Capacity necessary for improved governance	Improved governance of the forest sector and other sectors impacting forests, by Dept of Forestry

Significance:	Defines institutional capacity necessary for successful implementation, but also in relation to other priority programmes.
Actors to be reached:	DoF, MALFFB and partner agencies and stakeholders
Geographic scales:	National
Implementation:	• Scoping assessment and review of institutional capacity requirements for REDD+ implementation, with recommendations for improvements • Consultations with partner agencies • Findings inform fundraising strategy
Financing:	Donor supported and current budget
Lead agency:	Department of Forestry
Partners:	MALFFB, DoCC, DEPC, DLA, DoWR, DoLands

Table 11: Enabling intervention 4: Institutional strengthening

7.2 Strategy actions

The REDD+ Strategy actions were identified based on *Analytical study* report, feedback from stakeholders of SESA workshops, interviews conducted between January and February 2020, consultations with key stakeholders, Ministries and Departments held between January and June 2021.

The strategy actions have been identified based on detailed analysis of drivers and underlying causes. The feasibility and implementation of actions to provincial and islands contexts shall be further assessed in discussions with island governance councils, including Council of Chiefs, also Provincial Secretary General's and Departments. This is especially important on Efate, Pentecost, Tanna, Epi and Malekula, which have highest anthropogenic impacts. The communities can opt in based on local circumstances, and preferences of communities, and local government.

The strategic actions are grouped into: (i) Reducing deforestation risk and increasing economic value derived from forests; (ii) Enhancing tree cover on degraded lands, (iii) Agroforestry, (iv) Ecosystem conservation and watershed management.

7.2.1. Reducing deforestation risk and increasing economic value derived from forests

Actions to conserve and restore forests seek to reduce deforestation risk, and improve density of open forests. If people derive more value from the forests around them they would be less likely to clear forest for agriculture, which is the main cause of deforestation and forest degradation.

7.2.1.1 Priorities for avoided deforestation

Reducing the risk of forest loss is a key strategy in REDD+, especially dense forests with the highest conservation values. Avoiding deforestation in key dense forest areas is a high-impact mitigation activity. The activity data, based on the sample-based approach, identifies that islands vary considerably in the dense forest areas that remain. On some islands, such as Efate, dense forest has been lost at a more rapid rate than on islands with less development and

population pressure. Reducing the risk of deforestation of dense forest areas can be achieved in coordination with Area Councils of Chiefs and local land users/owners around dense forests to restrict expansion into dense forest. These areas could also be prioritized for CCA and CFCA conservation, and also for voluntary and compliance forest carbon market projects. This can maintain the biodiversity in dense forest areas, and should relate to NBSAP priorities.

According to the 2018 satellite data, there is 529,000 ha of dense forest that is in forest blocks greater than 5 ha. Though more detailed information will be useful after the NFI is complete, this figure represents a potential target for avoided deforestation. Espirito Santo has the highest amount (174,000 ha) but it is also the largest island, and anthropogenic risk may be lower in some areas. The Anthropogenic Risk Ratio defined in Section 6.4.1 could provide a basis for prioritizing those islands that face greatest threats due to population and land use change pressure as avoided forestation priorities, such as Tanna and Pentecost. Also, Vanua Lava, Ambrym, and Aneityum rank low for the presence of open forest, and therefore could be prioritized to safeguard their existing dense forest. Erromango has a low amount of anthropogenic disturbance on the forest, so avoided deforestation goals may be easier to achieve.

Another key priority for avoided deforestation is safeguarding the small patches of mangrove forest, especially the 585 ha on Malekula and the 138 ha on Efate. Espirito Santo and Vanua Lava also have small patches.

Table 12: Priorities for avoided deforestation

Action	Issues	Priorities
Refine priority actions in the 529,000 ha of dense forest in forest blocks greater than 5 ha	• Ambae, Efate and Espirito Santo had most agricultural clearing coming from dense forest (between 2008 – 2018). • Anthropogenic risk (see future driver section) should be considered to prioritize areas to affect driver pressures + areas where there is low anthropogenic disturbance (implementation may be easier)	• Spatially define priorities, and then consult with Area Council of Chiefs, planners and local communities to define their interests to safeguard forests (e.g. CCA and CFCA areas, watershed catchment protection, designate tabu areas) • The 65,000 ha of dense forest in the coastal zone and mangrove areas are prioritized • Consult with and promote NGO voluntary carbon market projects in these dense forest areas
Refine priority areas when NFI is complete	• More information will be available on ecologically significant forest areas	• Information sharing and consultations with Area Council of Chiefs, planners and local communities

7.2.1.2 Promoting Non-timber forest products

Significant livelihood and market benefits are attributed to non-timber forest products such as Nangai[44] and Natapoa, pandanus for handicrafts, and natangura palm for building materials.[45] The development of NTFP value-chains differs depending on the product type, and whether it is destined for domestic or export markets. Tamanu and Nangai are often harvested from wild trees, making it possible for collectors to see income immediately, if demand can be grown for these products, and investments in the supply chain to support efficiency in processing and access to markets.

The Vanuatu Forest Policy 2013 – 2023 identifies the need to create an environment for timber and NTFP products and services to be marketable, with value addition at competitive prices in global markets (section under Forest Industries). At the national level, most rules and legislation for the harvest, use and trade of NTFPs is covered by the *Forestry Act of 2019* and the Forestry Act No. 26 of 2001.

Certification can provide the export marketplace with production and quality assurance for NTFPs. For many products grown and processed in Vanuatu, they are already organic, yet lack the certified label to demonstrate that. Products can receive the manufacturing certificate endorsed by Biosecurity in Port Vila.[46] However, this does not meet the USDA or other thresholds buyers seek. There are policy and legal considerations that the National REDD+ Strategy can promote to support market access, product and processing quality, and enable smallholder producers to spread costs so as to reduce market barriers. Finally, south-south exchange and cooperation to promote knowledge sharing and south-north exchange to promote market access should be pursued.

Table 13: Non-timber forest products

Action	Issues	Priorities
Canarium (Nangai) and Indian Almond (Natapoa)	• Timber, conservation, adaptation, livelihood value • Farmer income: Nangai nuts (250-300 VT/kg). Cracking nangai nuts at village level yields 1,500 to 1,800 VT/person/day. Prices of processed nuts have high value.	• Identify communities willing to plant nangai and natapoa, and utilize accessible wild trees • Work with Department of Trade and Vanuatu Bureau of Standards on product standards for canarium and tamanu oils
Pandanus for handicraft and women's income generation	• Women gain income from leaf production - weaving handicrafts and leaves for sale • Up to 90% of tourist souvenirs are imported. If 20% of the current imported products could be substituted with local items, it generate approximately 200 million vatu/year.	• Emphasis on leaf quality • Producers need assistance to target town markets and exports that have high prices • Address customs and quarantine requirements to enable tourist to purchase handicrafts.
Palms for building materials	• Income from natangura palm (*Metroxyon warburgii*) thatch roof panels is high, but orders irregular	• Facilitate natangura plantings • Facilitate inter-island trade

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[44] https://www.sciencedirect.com/science/article/pii/S0016718516300124#f0010
[45] Bourne, W., 2019. Vanuatu NTFP Value Chain Study Findings: Final Report and Vanuatu Sandalwood Value Chain Case Study
[46] Bruce Hannet, Nutsnoils Vanuatu, interview January 2020.

	• No formal market outlets in urban areas • No extension/training material exists in DoF for palm production. • Provincial DoF offices unaware of the business and market structure	• DoF offices to keep records of plantations, producers to help them link with buyers.

7.2.2 Enhancing tree cover on degraded lands

The actions to enhance tree cover on degraded lands include: (i) Trees on pasture lands (ii) Trees on degraded lands with invasive species (iii) Trees for coastal stabilization

7.2.2.1 Trees on pasture lands:

Most of the emissions increase in the agriculture sector in Vanuatu between 2007-2015 is due to the increase in livestock farming.[47] The Government of Vanuatu Vision 2030 target of 500,000 head of cattle is being implemented by Department of Livestock, but more work is needed to increase productivity of pastures to avoid clearance of forestland for pastures. Trees can play a role in silvopastoral systems that integrates trees onto pastures for shade, improved pasture, and soil management. Santo and Malekula are priority islands, given the large coconut plantations with low tree stocking and diversity. Coordination with the Department of Livestock on integrating the tree species, such as *Canarium indicum*, Moringa oleifera, and *Samanea saman* (raintree) is a priority for improving pastures. The Department of Livestock is reaching out to lease cattle farmers on improved drought resistant grasses in 2021, so adding a tree component could enhance this activity.

Table 14: Trees in pasture areas

Action	Observations	Intervention priorities
Trees on pasture lands	• Pasture management is greatly improved with shade and nutrients from trees • Cattle benefit from increased shading, especially in hot temperatures • Tress with aromatic grasses of economic value such as vetiver (*Chrysopogon zizanioides*)	• Dept of Livestock plans to coordinate with farmers. • Coordination of Dept of Forestry and Dept of Livestock to provide technical support and seedlings to support tree planting and pasture management

7.2.2.2 Trees on degraded lands with invasive species

Degraded lands with invasive species such as Big lif, *Merremia Peltata* vine could be restored through tree planting. It is presumed that the Vanuatu Forest Landscape Restoration Strategy shall prioritize interventions targeting areas infested with *Merremia*, given the scale of this invasive species across Vanuatu and its role in degrading the forest. REDD+ can promote

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[47] Government of Vanuatu, 2020. Third National Communication – National GHG Inventory of 2019 (draft).

restoration of *Merremia* areas based on the experience of the Nakau Programme in the Loru Forest Project, which involved the local community to eradicate *Merremia* in 1 ha blocks, and then planted nut, timber and fruit trees, intercropped with cash crops such as taro and yam, and food for local households. Carbon payments resulting from regeneration of forests benefited communities. The pilot could provide a basis for designing larger-scale interventions in *Merremia*-infested areas as part of REDD+ strategy, by partnering with NGOs such as Nakau Programme, who can lead the implementation, with technical support and seedlings coming from DoF, and financing to local communities facilitated by the NGO.

7.2.2.3 Trees for coastal stabilization and resilience

The SESA workshops[48] identified that island stakeholders are very concerned about sea level rise, followed by intensifying droughts and changing weather patterns with increase in temperature and cyclone risk. The coastal zone is the hub of economic activities in Vanuatu—about 64% of the population lives within one km of the coast, while 94% of the population is within 5 km of the coastline.[49] The climate adaptation benefits in coastal areas with trees is particularly important, especially trees such as tamanu contribute to improving resilience while also providing economic returns through nut oils. The afforestation and reforestation activities increase tree cover, promote costal stabilization and resilience and improve biodiversity.

To estimate potentials for coastal activities, 2018 satellite data was used to create a buffer analysis based on areas within 1 km of the coastline, across all islands. There exists 65,000 ha of dense forest and 718 ha of mangroves[50] in these coastal areas which could be prioritized for protection. Another 45,000 ha of low dense forest exists in these area, which could be priority areas for planting trees for coastal stabilization, but more information is necessary to identify those areas with windward exposure. Priorities for afforestation would be shrub, bare land and grasslands in coastal areas. Almost 9,000 ha of shrub and 4,300 ha of bare land exists in these coastal areas which could be prioritized for afforestation. The almost 10,000 ha of grassland in coastal areas could be prioritized for tree planting for erosion reduction. There is also 34,000 ha of coconut plantations in coastal areas which could also be prioritized for increased tree cover and multi-use such as agroforestry and NTFPs. In terms of anthropogenic risk in coastal areas, Efate, Pentecost, Ambae, Malekula, and Espiritu Santo have highest risks, so these islands should be prioritized for such activities. A portion of these areas would also be high priorities for CCA and CFCA establishment.

Table 15: Trees for coastal stabilization and resilience

Action	Issues	Priorities
Trees for coastal stabilization and resilience	• Timber, conservation, adaptation, livelihood value • Scope for export markets • Supply is abundantly available	• Based on spatial priorities, identify coastal communities to plant tamanu, and tree stewardship plans especially in windward areas and subject to cyclone impacts + CCAs and CFCAs

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[48] Climate Law and Policy, 2019. SESA Workshops Report: Preliminary identification of social and environmental risks associated with the proposed REDD+ activities

[49] Andrew NL, Bright P, de la Rua L, Teoh SJ, Vickers M., 2019. Coastal proximity of populations in 22 Pacific Island Countries and Territories. PLoS ONE 14(9): e0223249. https://doi.org/10.1371/journal.pone.0223249

[50] This includes Crab Bay on Malekula which is already under protection.

• Farmer income: tamanu (30 VT/kg) and nangai nuts (250-300 VT/kg). Cracking nangai nuts at village level yields 1,500 to 1,800 VT/person/day.	• Priority islands based on anthropogenic and cyclone risk: Efate, Pentecost, Aoba, Malekula, and Espiritu Santo • Work with Department of Trade and Vanuatu Bureau of Standards on product standards for canarium and tamanu oils

7.2.2.4 Tree plantations for timber and firewood

Tree plantations for timber and sandalwood

Vanuatu could increase its exports of wood products, if the value chain development could be supported. Whitewood (*Endospermum medullosum*), is a native species prioritised for plantation development due to its fast growth, resistance to wind damage, pests and diseases, and market value. This native timber has been replaced by imported pine from New Zealand and Fiji, and processed wood products including rubberwood furniture from Asia.[51] Whitewood is a priority for afforestation on degraded or already-cleared lands. Other species include mahogany and terminalia, among others. Both Industrial Forest Plantations and Local Supply Plantations should be further developed or rehabilitated to boost tree production for timber for local markets, and international markets as appropriate. The Vanuatu Forest Policy also identifies the opportunity to utilize coconut palm stems for timber production and encourages development of coconut sawmilling and processing techniques.[52]

Sandalwood (*Santalum austrocaledonicum*) is a timber species harvested for its aromatic qualities, particularly the base of the tree and root bundle. Sandalwood plantations were established since 2000 onwards, however, cyclone Pam caused widespread damage on Tanna and Erromango islands in 2015 resulting in loss of 40 - 60% of trees. Harvest of young trees and the lack of foreign buyers resulted in price squeezes. Global prices for sandalwood and extracts have increased reflecting high demand from pharmaceutical and cosmetic companies. Focus on value-chain development with a network of sandalwood producer associations or cooperatives and link with export markets could benefit from higher prices.[53]

There is a need to improve sandalwood Licensee system to strengthen trade through open sale or through an auction system as farmers are not able to benefit from the export price that overseas buyers pay and instead get the farm gate price given by Licensees. The revenue from sandalwood licensees and export collected by the Department of Forests is placed in the general fund and not available for activities to support sandalwood value chain. Thus, the funds raised by the forestry sector and should be reinvested back into sandalwood industry directly.[54]

Table 16: Tree plantations for timber and sandalwood

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[51] Virannamanga, R., et al, 2014. The Whitewood (*Endospermum Medullosum*) Value Chain in Vanuatu and Impediments to Development of a Plantation-Based Industry. Small-scale Forestry
DOI 10.1007/s11842-014-9278-2
[52] Vanuatu Forest Policy 2013-2030.
[53] Bourne, W., 2019. Vanuatu Sandalwood Value Chain Case Study. REDD+ Department of Forestry.
[54] Ibid

Action	Issues	Priorities
Tree plantations for timber	• Timber for domestic use, such as homebuilding, can replace imported timber • Coconut palm stems are underutilized	• Degraded lands are priority areas for plantations, especially in areas where sawmilling and processing is accessible • Revive the Industrial Forest Plantations (Santo, Malekula, Erromango and Aneityum) and Local Supply Plantations – identify priority areas to replant in existing plantations • Identify priority coconut tree-sourcing areas based on lease-holder willingness and processing facility siting considerations
Tree planting for sandalwood products	• Low prices in Vanuatu: farmer price of 1,500 VT per kg and a Licensee price of 2,500 VT per kg for grade A quality, yet global market prices still strong at USD $41 (4,500 VT) per kg of heartwood of mixed grade. • Farmers need income while waiting for trees to mature	• Promote open trading in place of licensing. • Develop network of sandalwood producer associations/coops and link to overseas buyers to capture value • Provide Vanuatu Bureau of Standards with gas-chromatography testing for oil standards in heartwood logs as part of sales procedures • Royalties on sandalwood export duties to be reinvested in the sector

Tree plantations for fuelwood

Vanuatu's draft Third National Communication – National GHG Inventory of 2019[55] notes that biomass is a primary source of energy for most rural and some urban households. Ninety-one percent of the population of Vanuatu uses firewood as the primary source of cooking fuel.[56] Wood fuel removals is estimated at 91,000 m³/year between 2007-2015, which is 57% of all wood removals. Only 20% of the population has access to modern cooking fuels such as electricity, kerosene and propane. To meet the demand for biomass energy for cooking, the need for allocation of land for fuel wood plantations near urban areas assumes significance.

To estimate potentials for firewood activities, 2018 satellite data was used to create a buffer analysis based on low dense forest, shrubs and bareland within 2km of villages. Across all islands, there exists 137,000 ha on low dense forest and 36,000 ha of shrub, which would be priority areas to plant trees for firewood utilization and to manage firewood collection. Firewood plantations are prioritized on bareland, of which 16,000 ha exists. In terms of which islands to prioritize, it may be useful to consider the anthropogenic risk ratios, which identify Efate, Pentecost, and Ambrym as having greatest anthropogenic risk related to dense forests.

Table 17: Tree plantations for firewood

Action	Issues	Priorities

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[55] Government of Vanuatu, 2020. Third National Communication – National GHG Inventory of 2019 (draft).
[56] Vanuatu National Statistics Office, 2016. 2016 Post TC Pam mini-census report. Port Vila.

Tree plantations for firewood	• Demand is strong and could grow with growth of urban areas • Fuelwood could serve as transition fuel until incomes improve and new technologies are adopted and preference for clean fuels grow	• Promote firewood planting near urban areas, create 'urban based firewood plots' • Public- private-partnership to assess commercial potential for Renewable Natural Gas (RNG) from wood products

7.2.3 Agroforestry – Enhancing tree cover on agricultural lands

The land cover change between 2008-2017 found that 75% of deforestation is from cropland expansion, and 77% of anthropogenic forest degradation. Thus, supporting the increase of yields of agricultural lands, while restricting expansion into forests, is crucial. This strategy action calls for increasing is tree cover on agricultural lands following agroforestry practices.

As agroforestry crosscuts agriculture and forest domains, there is a need to consider what gaps exist and how the National REDD+ Strategy can support development of an enabling legal and policy framework for effective outcomes.

Promoting planting of trees on farms/gardens increases carbon storage, promotes climate adaptation and resilience, and provides diverse sources of income to farmers. Ni-Vanuatu agroforestry systems consist of intercropping a diversity of short-term crops with perennial multipurpose trees in shifting cultivation systems.[57] However, cash cropping is increasing with kava, cassava, and taro, along with willingness to sell land to expatriate leaseholders.[58] There are several options on customary land to promote agroforestry.

Vanuatu Forest Policy 2013–2023 identifies the Department of Forestry as the leading governmental organisation for developing sustainable agroforestry. However, promoting agroforestry in Vanuatu will require cooperation between various government departments. The Vanuatu Forest Policy 2013–2023 envisages there being coordination between the Forestry Department and the Departments of Land, Agriculture and Rural Development, and Environmental Protection and Conservation. In practice, coordination is not yet occurring, and implementation gaps will need careful attention.[59]

The Overarching Productive Sector Policy (PSP) (2012-2017) identifies the role of agricultural expansion as a driver of forest clearing, and also the imbalance in lease holdings for coconut and cattle production compared to land for food production to benefit Ni-Vanuatu.[60] Strategy 5.3 of the PSP seeks to promote agroforestry and organic farming. DARD is working to advance current priorities related to organic fertilizers, and created a Vanuatu Organic Policy 2018 − 2030, seeking to increase certified area from 2% to 100% by 2030, and implement a "Vanuatu Organic Standard."[61] This is an opportunity for the National REDD+ Strategy to

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[57] Addinsall, C., K Glencross, N Rihai, L Kalomor, G Palmer, D Nichols, G Smith, 2016. Enhancing agroforestry in Vanuatu: striking the balance between individual entrepreneurship and community development, Forests, Trees and Livelihoods, 25:1, 78-96.
[58] McMahon, T., 2012. The development of insecurity in Vanuatu and beyond: seeking new ways to evaluate land and livelihood, Doctor of Philosophy (PhD), Global, Urban and Social Studies, RMIT University.
[59] Karin et al, 2016.
[60] Vanuatu Overarching Productive Sector Policy 2012-2017.
[61] Antoine Ravo, Director, Dept of Agriculture and Rural Development. Interview, January 2020.

identify pathways to help fulfill DARD's goals on organics, in product areas that are also tied to safeguarding and restoring forests. The National Organic Policy could provide support to agroforestry systems through organic certification of key export products from agroforestry systems.

The Vanuatu Agriculture Sector Policy 2015–2030 expands upon the principles set out in the PSP, and encourages incorporating agroforestry as a sustainable farming practice (policy directive 8.2).[62] However, the policy does not clarify roles of different government departments, particularly cooperation between the Department of Agriculture and Rural Development and other relevant departments including livestock and forestry.[63]

The Nakau Programme piloted agroforestry in the Loru Forest Project on Espirito Santo, and worked with women to plant tree seedlings (*canarium/nangai*) around their food crops. The farmers received seedlings and technical support, and have been able to re-establish tree vegetation, while maintaining agroforestry with cash and subsistence crops. Another pilot developed by the Santo Department of Forestry developed planting options to enable income, while also establishing tree-crops.

The agroforestry action would seek to build on the experience of Nakau, ACTIV, Lapita Farms, and others. The Department of Agriculture is promoting agroforestry crops, certified products and value-addition. The Department of Agriculture also has extension services to smallholder farmers to support effective uptake of the agroforestry schemes. A priority first step for collaboration between the Department of Forestry and DARD is to develop an agroforestry standard or model that can respond to diverse local contexts, while promoting best practices and species mixes.

This action focuses on range of agroforestry systems suiting to islands and markets to increase value people derive from increased tree cover and value addition (food, building material, cash crops, fuel, handicrafts). The agroforestry systems targeted at smallholders can increase tree crop production on small plots by:

- Engaging women through collective activities or micro enterprise activities;
- Aggregating smallholders for extension services and bulk supplies to meet market demand;
- Strengthening linkages between the tourism and smallholders to build a long-term market with the support of Vanuatu Sustainable Tourism Strategy;

Table 18: Agroforestry

Action	Issues	Priorities
Fruit, rattan and bamboo production from agroforestry	• Forest fruits (e.g mangoes and tamarind), rattan and bamboo raw materials are underutilized • Lack of processing technologies	• Seedlings, technical advice landscape approaches to increasing tree cover • Market development • Technology and training, particularly building skills at local levels for value-

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[62] Vanuatu Agriculture Sector Policy 2015–2030. Ministry of Agriculture, Livestock, Forestry, Fisheries, and Biosecurity (MALFFB) and Department of Agriculture and Rural Development (DARD)
[63] Karin et al, 2016.

		added processing of rattan and bamboo for furniture
Agroforestry with commercial crops—vanilla, pepper, coffee, cocoa	• Some islands already producing and selling domestically and exporting	• Cocoa suited to Malekula, high quality production and supply chains beginning, • Seedlings, technical advice on landscape approaches to increasing tree cover
Agroforestry with timber species – whitewood, sandalwood, blue water (*Pterocarpus*) and others	• Limited markets • Sandalwood depleted by 2008, current stock is young and of poorer quality	• Start with producers, help them access markets directly, cultivate more foreign buyers • Reactivate sandalwood associations • Support sandalwood certification, open market sales and small scale oil processing

7.2.4. Ecosystem Conservation and watershed management

Ecosystem conservation through Community Conservation Areas (CCAs) and Custom Forest Conservation Area (CFCA) can be supported under Vanuatu law and customary practice, as a means for communities to define conservation within landscapes that have multiple uses (including protected forest zones, household garden, agroforestry and NTFP), and watershed protection as defined by the communities.

The CCA and CFCA envision communities to define multiple use landscapes (including protected forest zones, homestead gardens, agroforestry, woodlots and NTFP), with conservation and watershed protection depending on community priorities. They are suitable for all forest types.

CCAs would seek to promote livelihood investments that create value for local communities from the forest around them and receive assistance, targeted investments, technical capacity, and other types of support to realize

Mere-Sauwia Conservation and Management Area, Nguna Island Northern Efate

Zone 1: Tabu Area
Zone 2: Land Resource
   Protected Area
Zone 3: Marine Resource
   Protected Area
Zone 4: Ecotourism Area
Zone 5: Agroforestry Area
Zone 6(a)(b)(c): Forest
   Protected Area
Zone 7: Free Zone

Figure 15: CCA Example: Mere-Sauwia Conservation and Management Area, Nguna Island Northern Efate

economic opportunities. Payments and technical support can be time-bound to help farmers transition to creating viable financial opportunities from tree crops, thus supporting sustainable business models at community levels. Given forests are located on customary land tenure, the role of the government is to provide support to customary owners/users of ecosystem services. The success is contingent on the ability to generate support of the ni-Vanuatu involved in the management of CCAs.

Demand for CCAs already exists, but financial resources and capacity is lacking. As of May 2021, there are seven new applications, in addition to the existing registered CCAs, and not enough funding to complete the registration process of all of them. DEPC identifies that to

establish one CCA, the average cost is about 2.5 - 3million vatu (US$21,200 - $25,500) which includes all assessments. The CCAs and CCA management committees need support through all stages to be financially sustainable. A common problem in the past has been CCAs being registered under project funds, but then after the project funds run out, there is nothing to sustain it.

The Custom Forest Conservation Area (CFCA), which has been piloted on Pentecost, Tanna and Aneityum promotes the custom governance structures and custom 'tabu' areas to define the conservation objectives and on-going management. This utilizes the custom governance arrangements, rather than separate CCAs committees. The CFCAs do not require registration of the land boundaries with the government, which is useful when local communities fear that demarcation and registration may spark boundary and land right disputes and could be an alternative or 'bottom-up approach' of the CCA with strong community oversight and stewardship, based on custom governance structures and 'tabu' areas.

Community Conservation Areas are under provisions in the *Environmental Protection and Conservation Act [CAP 283]*. The EPC Act allows for the application for a CCA to not derive from the landowners themselves, in the context of a CCA deriving from a commitment by communities for collective management and stewardship.

Establishing CCAs and CFCAs helps achieve the targets for community protection of key biodiversity areas, as identified under Vanuatu's National Biodiversity Strategy and Action Plan (2018-2030) (NBSAP), and national targets under the National Sustainable Development Plan (NSDP) and the National Environment Policy and Implementation Plan (NEPIP). The latter call for conserving 15% of natural forest and 10% of wetland areas through community and government management measures by 2030.

A challenge thus far in CCA and CFCA implementation has been reliance on project-based funding, which is temporally limited. Thus communities often run out of funding for on-going monitoring and stewardship after just a few years. This Strategy seeks to remedy this by proposing that long-term financial support for stewardship be committed to by the Government of Vanuatu (this is further explored in the Finance section on domestic sources (See Section 11.2.3).

The National Tourism Strategy (2021-2025)[64] and Sustainable Tourism Strategy seeks to finance environmental conservation through tourism with links to CCA activities with those prioritized under the Tourism Strategy. Options exist to directly link REDD+ CCA and CFCA activities with those prioritized under the Tourism Strategies, and this would occur through jointly identifying priorities under Programme 9, Theme 2 of the National Tourism Strategy to identify areas in Ecological and Culturally Significant Area's (ECSA's). See the financing section below for further detail on how this could work.

Vanuatu is stepping up watershed and catchment planning and protection, and there are natural synergies with REDD+. The Sarakata Catchment Management Plan in Santo was the first, and it included tree planting and upstream protection of forest areas, for water quality

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[64] Department of Tourism, 5-Year Business Plan. Available at: https://tourism.gov.vu/images/DoT-Documents/Plans/BUSINESS_PLAN_2021.pdf

purposes. The *Water Resources Management Act* identifies a need for watershed projection zones, and the *Vision 2030 – the People's Plan* set a goal of establishing six of them by 2030 (Goal: Environment 4.2). REDD+ can help enable Vanuatu reaching this goal by overlaying forest protection and watershed management information to identify priority watersheds for protection, then work with local communities to establish management plans. These can be priority areas for defining payment for ecosystem service (PES) schemes, if the right conditions exist (such as an urban buyer).

Strategy action: Community Conservation Areas (CCAs), Custom Forest Conservation Areas (CFCAs) and Watershed Protection	
REDD+ activity area: All, depending on the context	
Affect on direct drivers:	**Affect on underlying drivers:**
Could target dense forest areas or hot spot areas of deforestation and forest degradation, and work with communities to build support for CCAs and CFCAs to address drivers	Supports livelihoods and derives value from the forest, if CCA/CFCA is combined with actions supporting agroforestry, forestry and NTFP activities
Significance:	This type of CCA or CFCA envisions all community land coming into a long-term plan for multiple uses with benefits to customary management and stewardship
Actors to be reached:	Local communities
Geographic scale:	National, hot spot areas, and based on community willingness
Implementation:	Bottom-up approaches, working with communities
Finance:	Domestic and donor support for development of programme, for CCA or CFCA planning and support to specific interventions such as enforcement training, agroforestry, etc.). Watershed protection should be supported through Department of Fisheries and additional donor support
Lead agency:	DEPC and Department of Forestry on CCAs Department of Forestry on CFCAs Department of Water and Department of Fisheries for watershed protection
Partners:	Councils of Chiefs, Nakau/Live and Learn, communities, Provincial Planners, Department of Tourism

Table 19: Strategy action: Strategy action: Community Conservation Areas (CCAs), Custom Forest Conservation Areas (CFCAs) and Watershed Protection

8. Forest Reference Level

Vanuatu is developing the Forest Reference Level (FRL) mainly to take stock of emissions and removals from the forest sector and report progress on implementation of policies and interventions to reduce emissions from forest loss and degradation and enhanced sequestration. The data collected from the National Forest Inventory and Sample Based Activity Data Approach in the past two years is also expected to provide overall guidance for planning and implementation of activities in forestry and other relevant sectors.

The FRL construction follows guidance and guidelines of FCPF Carbon Fund Methodological Framework, Version 3 and United Nations Framework Convention on Climate Change (UNFCCC) Decisions 4/CP.15, 1/CP.16, 12/CP.17 and 13/CP.19. The Reference level is

expressed as tonnes of CO_2 equivalents per year for the reference period $2008 - 2017$. Vanuatu's NFMS ensures a transparent FRL which allows to improve/ update periodically over time to also provide sub-national (jurisdictional) Reference Levels incorporating better data, improved methodologies and, where appropriate, additional carbon pools.

8.1 Vanuatu's main Elements for the FRL

Element	Description
Forest Definition	The forest definition applied defines forest as areas equal or above 0.5 ha with a canopy cover equal or above 10% and stocked with tree species that reach a height of 5m or more at maturity.
Reference Period	The reference period adopted for the Vanuatu FRL is 10 years from 1 January 2008 – 31 December 2017.
Approach for Constructing FRL	Simple historical average approach for deforestation and forest degradation
Scope (activity data)	For the FRL, activity data for the following forest and non-forest classes is used to establish land use transitions and emission factors: Level 1: Cropland, Forest, Grassland, Other Land, Settlements, Water Body, Wetlands Level 2: Bare soil, Cultivated, annual crops, fallow, Cultivated, coconut plantations, Dense Forest, Forest Plantations, Grassland, Mangrove, Open Forest, Scrubs, Settlements, Water Body, Wetlands For forest degradation, activity data for the following categories is used: Level 1: Anthropogenic - human induced; Natural Level 2: Agriculture, Cyclone, Erosion, Fire, Grazing, Harvest / logging, Infrastructure, Invasive species, Other Natural causes
Scope (Activities)	Vanuatu's FRL covers emissions and removals from three REDD+ activities (i) emissions from deforestation (ii) emissions from forest degradation and (iii) removals from enhancement of forest carbon stocks. Natural degradation is assessed given the importance and significance in Vanuatu, however, not considered for the FRL
Scope (carbon pools and emission sources)	National Forest Inventory included measurement of (1) aboveground and belowground tree biomass, (2) dead wood (standing as well as lying) and (3) litter carbon pools. Methane (CH_4) and Nitrous Oxide (N_2O) emissions associated with forest fires are not covered in the FRL due lack of activity data.
Scale	The first FRL submission is constructed as national FRL. Sub-national (for each of the main islands) will be developed along the improvement of the activity data.

Adjustment for national Circumstances	Along the improvement of the FRL activity data potential adjustments will be made, in particular in terms of better spatial understanding of drivers of DD as well as other potential impacts from population changes, development policies, etc.

8.2 Data and Methods

The Activity Data (AD) and Emission Factors (EF) are the major sources of data for estimation of the FRL. The AD refers to area changes within the reference period between the forest and non-forest classes listed above with regards to deforestation and reforestation and changes of degradation categories listed above within the forest classes dense and open forest to assess forest degradation and forest growth. The EF for these land use and forest transitions are based on the National Forest Inventory (NFI) implemented 2019-2021 complemented with IPCC and peer-reviewed default values for non-forest classes.

8.3.1 Activity Data

Several approaches were tested and implemented during 2019 and 2021 to generate activity data for the construction of the FRL. There are several factors that influence the decision on which method to use when generating AD and setting up a Monitoring System that would frequently update such data. Large part of the decision depends on data availability, such as satellite imagery with sufficient coverage of the country. Further factors that have an implication in this decision is for example, the availability of a data infrastructure where such a system can be implemented and the existing host-country experience and capacity with similar activities.

The initial approach that was suggested and implemented considered a manual delineation of the land cover classes in Vanuatu based on Landsat imagery. Given the relatively small land area of the country, such a procedure is efficient to implement and to train, having a smaller threshold of technical acceptance.

A specific standard operating procedure for this procedure is developed and the staff of the Department of Forests is trained in using this approach, including all steps of data acquisition, preparation and analysis.

During the implementation of the project, it came apparent that due to the lack of quality data for 2008 the full analysis of land cover change, deforestation and degradation would not be possible with a high level of accuracy.

Another approach that was tested is an automatized analysis using modern time series approach (using a tested algorithm CODED). It detects any disturbance and as a result provides a map presenting areas with forest, non-forest, deforestation and degradation. Using reference data for forest and non-forest gained from the National Forest Inventory a result was produced for the reference period. However, the produced results have been with much lower accuracy than expected. This is again due to the lack of imagery for the first part of the reference period.

Even though the approach did not give the expected accuracy, it still can be used as part of the final approach applied as it gives indication of where changes are to be expected.

To overcome the shortcomings of both approaches detailed above, a sample-based analysis was carried out. Similar analyses have been carried out in the region and have shown good results.

The sample-based approach is using a set of sample plots which are distributed throughout the country, and for which a set of attributes is assessed using high resolution imagery. This allows a statistical estimation of the land cover and all disturbances detected during the reference period. The implementation of the analysis is carried out with the tool Open Foris Collect Earth (CE)[65] that is created by the Open Foris Initiative of FAO. The tool is open source and builds up on the tool Collect Mobile that is being used for the data collection of the NFI.

The CE tool provides a customized form for attributing the sample plots and is linked directly with Google Earth. In this combination all freely available high-resolution images are useable and the operators can use the complete time series for the analysis.

Using the tool, a systematic grid of 1,5km was created over the country. For each sample plot a set of attributes was defined to analyze the land cover, deforestation and degradation. The land cover categories include IPCC land use classes (Level 1) and more country specific land use types for Vanuatu (Level 2). The distribution of the sample plots on a systematic grid offered the possibility of integrating both the AD and the NFI clusters. The data from the NFI could then be used to support the verification of the AD.

8.3.2 Emission Factors

The second national forest inventory (NFI) implemented during 2019-2021 on 13 major islands formed the basis for the development of emission factors and is a major milestone having been completed about 30 years after the first NFI organized in 1993. The NFI is based on implementation of Permanent Sample Plots (PSP) in the field and collection of a specific list of attributes. It provides a good baseline for the determination of the carbon stocks in the forests of Vanuatu, and also enables the establishment of a continuous forest monitoring system that will be able to track growth and changes of the forest conditions.

Due to the characteristics of the terrain, and the heterogeneity of forest on different islands, a cluster approach was applied with groups of sample plots, which are considered as one sampling unit. This approach allows a better coverage of the variance in the field, and it is a proven cost-effective approach. It uses a layout of a systematic grid for the distribution of the sample plots. The systematic grid of 3x3km provides a base of 1240 sample units, from which about 900 are located within forests.

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[65] http://www.openforis.org/tools/collect-earth.html
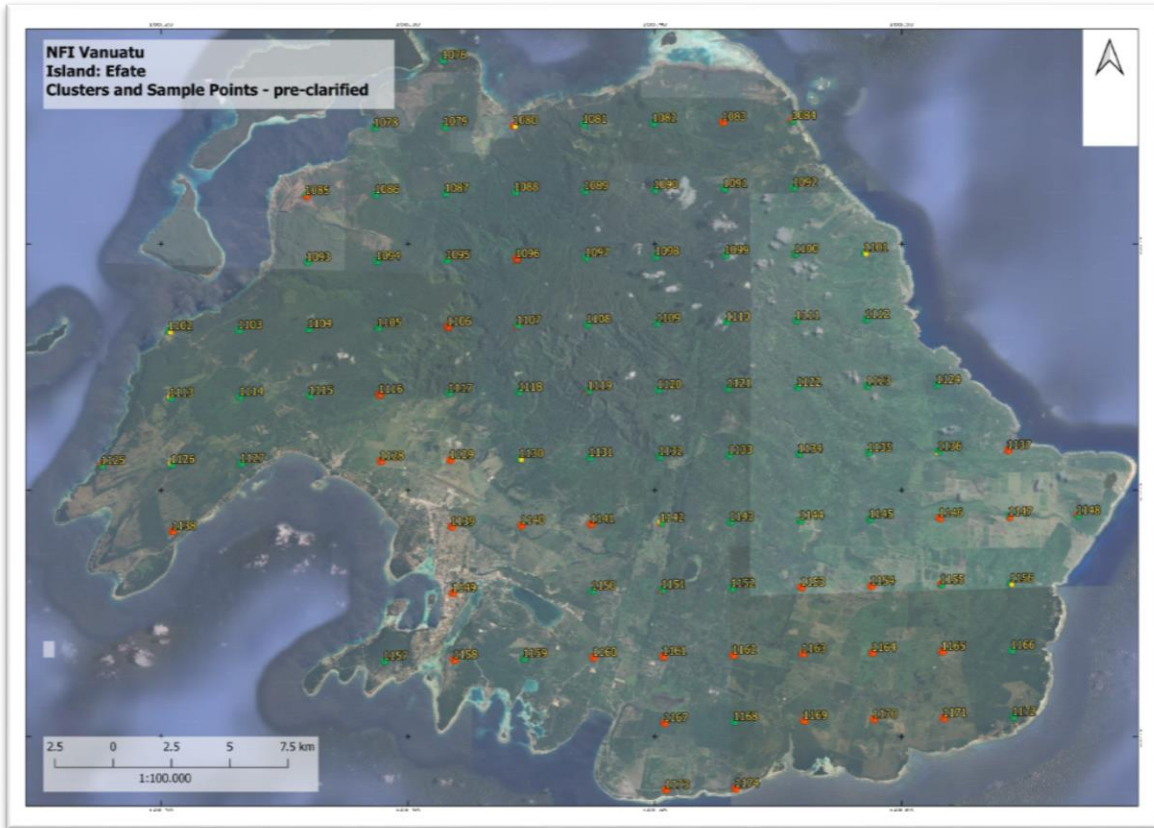
Figure 16 – example of the distribution of the plots in the country

Basic grid   Cluster design
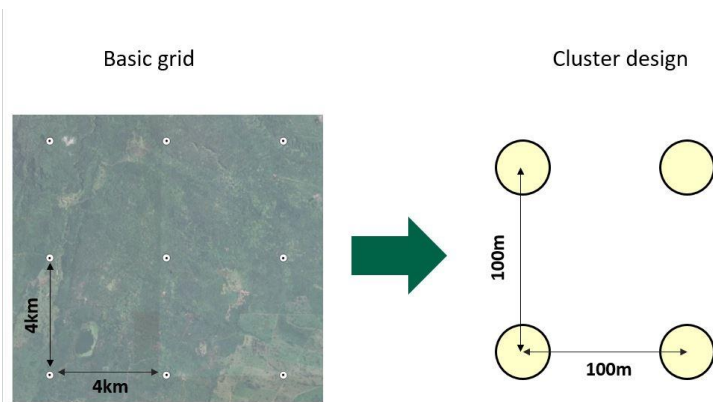
Figure 17 – distribution of the clusters on a systematic grid.

The sample plot design of the NFI is designed in a form of concentric circles. Each of the concentric circles in the sample plot has a specific radius and is connected to measurement of trees of a certain DBH range as well as other attributes.
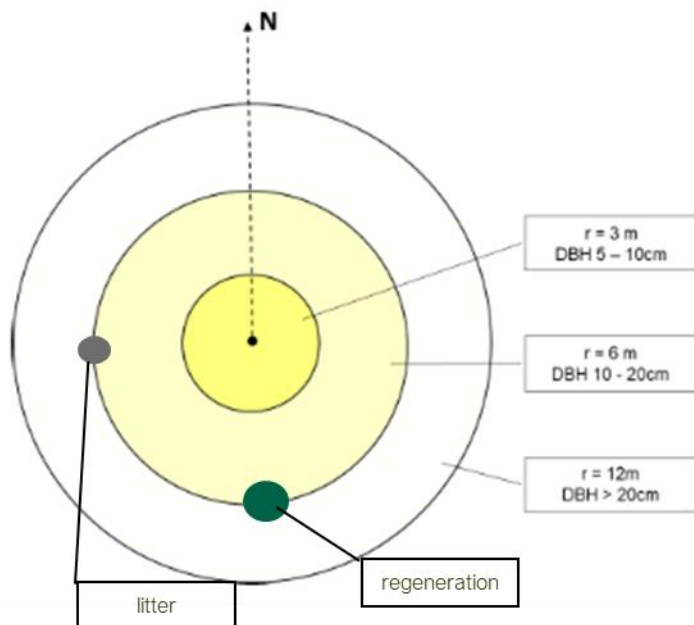
Figure 18 – illustration of the sample plot design

With regards to the development of emission factors for the FRL, the NFI results provided carbon stocks for the carbon pools mentioned above (aboveground standing biomass of trees, standing and lying deadwood, and litter) with high precision (below 90/10 precision levels) within the two main forest classes dense and open forests as well as mangroves. Carbon densities for non-forest classes are derived from IPCC and other default values or from a few NFI clusters which were measured outside the forests.

[INSERT FRL RESULTS]……The results of the FRL are important, as it provides the benchmark against which REDD+ countries measure their results from REDD+ implementation. Thus, a FRL is a crucial starting point for a National REDD+ Strategy.

9. National Forest Monitoring System

9.1 Rationale

The National Forest Monitoring System (NFMS) of Vanuatu has been designed in line with the decisions of the UNFCCC Warsaw Framework on REDD+ (Decision 11/CP.19), which outlines the modalities for developing a national forest monitoring system that is flexible and built on existing systems to enable monitoring and reporting on forest resources and be flexible to enable improvement. The NFMS enables data and information sharing in a transparent manner, consistent over time, suitable for measurement, reporting and verification of anthropogenic forest-related emissions and removals. The NFMS is a central building block for implementation of REDD+ readiness to demonstrate national capacity to monitor and report changes in forest resources and to receive result-based payments resulting from implementation of REDD+ initiatives. The figures below summarize the main functions and modalities in line with the this framework
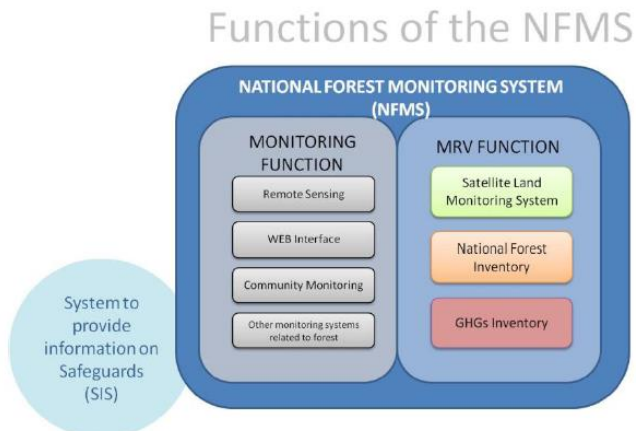
Figure 19: Functions of a national forest monitoring system
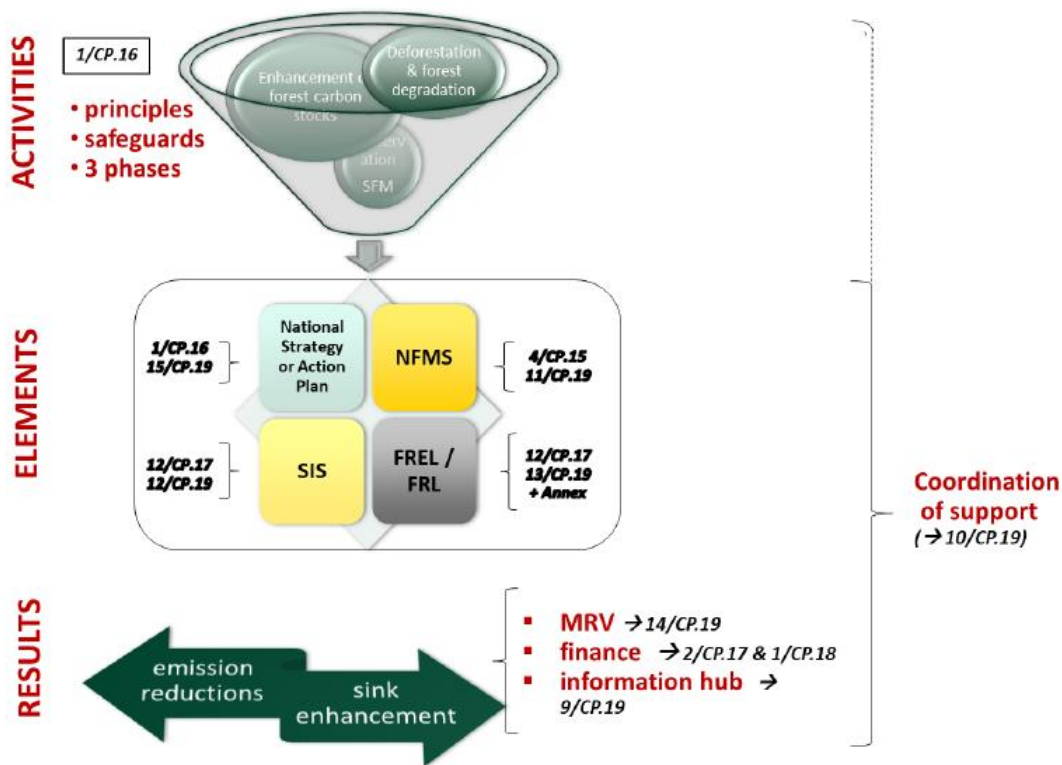
Figure 20: Modalities for the development of a NFMS

Apart from this normative guidance, the development of the NFMS in Vanuatu was guided by the following principles to reflect national circumstances:

- Significance to national and provincial land use planning, in addition monitoring and reporting on forest resources.
- Adoption of cost-effective methods and approaches to promote sustainability of the NFMS over the long-term.
- Use of existing national systems and capacities within the Department of Forestry as the NFMS lead agency in coordination with other government and non-governmental agencies.
- Phased approach for enhancing the NFMS capabilities beyond monitoring and reporting of forest resources.

9.2 Design of the NFMS in Vanuatu

Primarily, the NFMS design represents a wider Web Dashboard application which integrates a database with analytical functions and a Web-GIS system. The dashboard allows to monitor and report specific performance indicators such as carbon stocks of forests, land use changes etc. over time.

Collect

- Customized data collection software for field data
- Integrated module for navigation, using offline satellite images
- Automatic GPS tracking
- Direct synchronization of the data to the server
- Plausibility checks in the field
- Data management of different teams
- Re-measurement of plots

Analyze

- Open Source Database – Postgresql for storage and management of collected data
- Implementation of SQL, R and Python scripts for automatized processing of data
- Plausibility and error checks
- Creation of reports and tables
- Land Cover Assessment on National level
- Use of satellite imagery – Sentinel2
- Automated processing of the imagery using customized Python scripts
- Linking the field inventory with satellite image analysis

Monitor & Report

- Visualized progress reports on a Web-Dashboard
- Management of work packages from the Web-Dashboard
- Web GIS module displaying thematic maps of the results
- Integration of inventory results and the Land Cover Assessment
- Customized reports that display results on Regions, Strata, Teams
- Detailed reports on standing volume, biomass, tree species, forest area and status

Figure 21: Digital Solution of the Vanuatu NFMS

It is primarily designed for colleting, analysing , monitoring and reporting of REDD+ specific indicators, however it could also be used as a wider land use planning, implementation and monitoring tool to be used by multiple sectors and institutions.
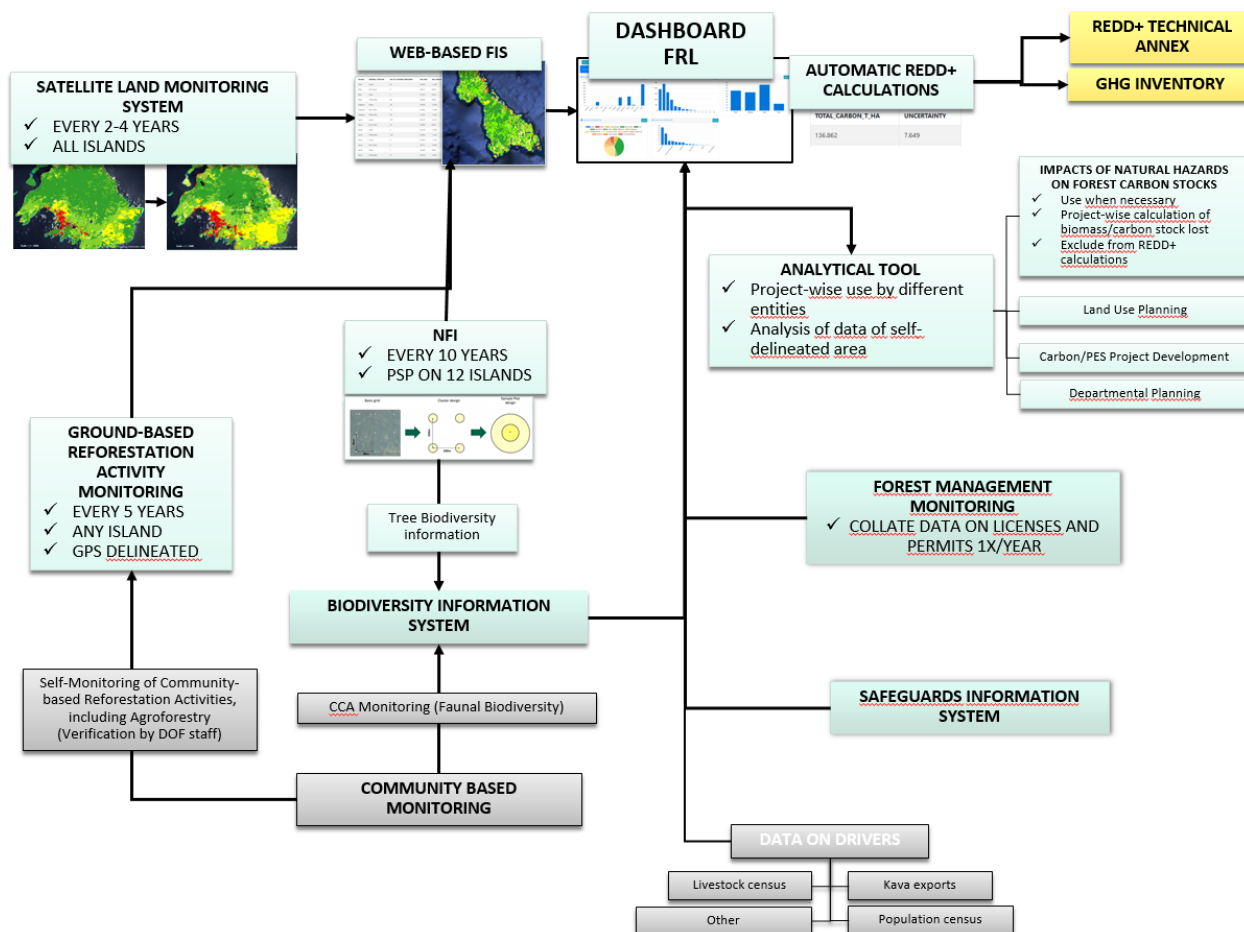
Figure 22: Planned building blocks of the Vanuatu NFMS

9.3 Functions of NFMS

During consultations with Department of Forests as well as other institutions in Vanuatu a wide range of functions were identified. It is envisaged that through a continuous improvement process the NFMS will include advanced monitoring functions in order to bring other departments and institutions on board. Over clearly formulated Memoranda of Understanding with the DoF the necessary interdepartmental data reporting shall be regulated. Existing data in the DoF is centrally collected, saved and archived within the NFMS. Specific NFMS functions identified which are or could be included in the future include, among others:

- **REDD+ & Forest MRV** (already implemented within the NFMS): The MRV function supports satellite land monitoring system, National Forest Inventory analysis and reporting dashboard including biodiversity information system, forest carbon stock and stock change monitoring and the FRL on national level as well as on sub-national level along a step-wise improvement strategy.
- **Timber tracking**: timber permits and timber licensing information could be integrated to link to the forest MRV system.
- **Information on national or sub-national drivers and underlying causes of land use and land use change**: Monitoring concrete indicators on drivers and underlying causes

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can build a valuable information base for decisions regarding the REDD+ strategy and the focal points of action. Based on the driver study (2017) indicators for monitoring semi-commercial agriculture with crops such as Kava; subsistence agriculture (strongly linked with population growth) and commercial agriculture, in particular cattle ranching and coconut plantations could be identified and integrated in to the NFMS

- **Community based forest monitoring**: The political structure in Vanuatu as well as the distribution of property rights, make community-based monitoring an important feature for the NFMS. This function could include the monitoring of community conservation areas (CCAs) as well as reforestation/agroforestry initiatives
- **Impact monitoring of natural hazards**: The NFMS already includes the monitoring of natural hazards such cyclones during the FRL reference period.
- **Land use planning**: Current land use planning in Vanuatu is done via discussions between Provincial Technical Advisory Committee (PTAC) and the Provincial land use planners. So far these discussions have been missing a good basis in the form of maps.The maps as provided in the NFMS are a leap forward in land use planning for Vanuatu.
- **Nesting and monitoring of voluntary carbon programs**: The NFMS could a useful tool in the future for project proponents of voluntary carbon projects. With its information base and functionalities, the NFMS provides a cost-efficient tool for project proponents to certify projects in Vanuatu, thus attracting private carbon finance for nature-based solutions in Vanuatu. At the same time, it ensures nesting of sub-national projects consistently into the national REDD+ program.
- **International reporting**: The data from various components of NFMS are used for estimation of the results and for presentation on the dashboard. The outputs of NFMS are used for national and international reporting purposes such as the technical annex to the Biennial Update Reports (BURs) submitted to UNFCCC.

9.4 Institutional Arrangements for Operation of NFMS

The National Forest Management System will be managed by the Department of Forests (DOF) which means the DOF will be the central agency where all organizational and institutional arrangements come together. The DOF is responsible for developing the Terms of Reference for the NFMS Section clearly specifying the organizations and agencies involved in the implementation of the NFMS. Among other responsibilities, the following should be clearly mentioned:

1. MRV of REDD+ activities
2. Forest Reference Level (FRL)
3. Safeguard Information System (SIS)
4. Biodiversity Information System providing data for reporting to the UN Convention on Biological Diversity (CBD) and other processes
5. Data relevant for forest management
6. Data and information on driver of deforestation and forest degradation and underlying causes of land use and land use change
7. Impact of natural and anthropogenic hazards
8. Sustainable logging following the Vanuatu Forestry Harvesting Code of Practice
9. National reforestation activities

10. Information on Non-Timber Forest Products (NTFP)

The schematic institutional diagram of the NFMS of Vanuatu is shown in the following diagram
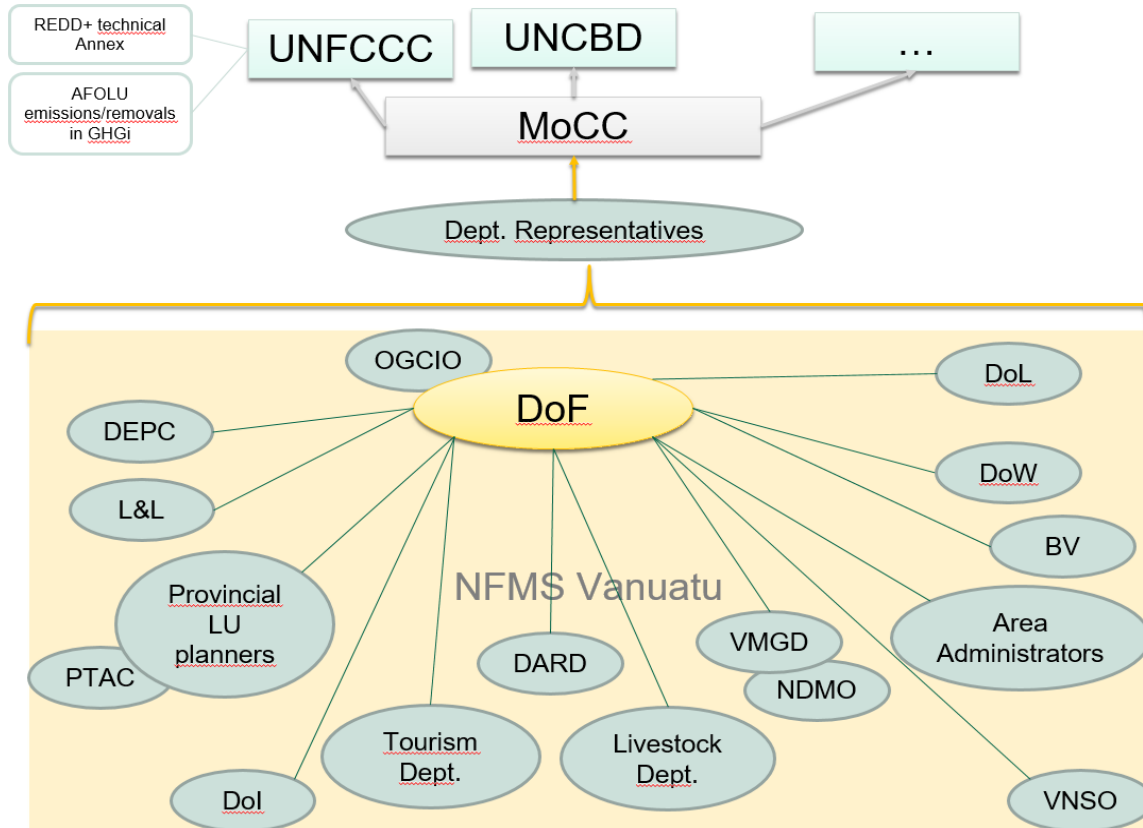
Figure 23: Institutional structure of the NFMS

9.5 Data storage and Record keeping

The NFMS is to be hosted by the Department of Forests servers. The DOF will act as the technical provider of forestry data to national and international institutions. Additionally, all reports are to be stored on DOF server. The data stored at DOF is backed up at other remote locations of national information system. All ministries and departments will have access to the NFMS, based on the data sharing protocol developed by the Government of Vanuatu.

10. Safeguards

The implementation of strategy elements may lead to a range of environmental and social impacts, some of which will be negative and others which will be positive. The role of the safeguards system is to identify these, avoid or mitigate negative impacts to the degree possible, and establish systems for the on-going monitoring of environmental and social impacts through the implementation phase. It should be noted that the safeguards assessment was based on strategy elements identified by October 2020, so it does not reflect all the strategy elements presented in this National REDD+ Strategy. This section describes the key findings from the SESA and ESMF completed as part of Vanuatu's REDD+ readiness in 2020. Once the REDD+ Strategy is finalised and intervention actions and types are more certain, the ESMF may be reviewed and, if necessary, updated to specifically address a wider range of risks and relevant risk management tools for future emission reduction activities.

10.1 Strategic Environmental and Social Assessment findings

The SESA stems from environmental assessment (EA) requirements of the World Bank.[66] It is intended to be an inclusive process whereby the REDD+ country, with the participation of all potentially affected stakeholders, seeks to "identify likely impacts and risks, as well as opportunities," among different strategic REDD+ options. During the SESA process these impacts, risks and opportunities are assessed and weighed by the various stakeholders.

The strategy elements may incur negative impacts which are differentiated between the enabling interventions and the strategy elements themselves. The key findings in the SESA are summarized below, according to activity category.

10.1.1 Positive impacts of enabling interventions

Enabling interventions hold potential to bring benefits related to improved environmental management due to land use planning, promoting policy coherence across the land use sector, innovative finance mechanisms for land and forest stewardship. Land use planning, if adequately designed, has the potential to reduce economic and social vulnerabilities to climate change and to allow for more strategic economic growth. Land use planning, if adequately designed, will be able to determine the best uses for the land and also identify cross-sector trade-offs and how to overcome them. Legislating a % tree cover on farms and lease-holdings can contribute to the preservation of natural forests and ecosystem services, and also support reforestation for positive ecosystem services outcomes.

10.1.2 Negative impacts of enabling interventions

With regards to the enabling interventions, land-use planning, including spatial planning, if not appropriately designed and formally linked with promoting tenure security and respect for *kastom* tradition and practice, carries the risk of exacerbating potential land tenure conflicts. These are characterized as of moderate- to low-risk, and mitigation measures proposed include ensuring adequate participatory processes, limiting political interference, and utilizing social assessments in relation to design and implementation. The enabling interventions seek to

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[66] See OP 4.01 – Environmental Assessment, para. 7; and Annex A, para. 10.

promote the cultural connectedness that ni-Vanuatu traditionally have held with the land and the territory through their kinship ties and heritage. There may still be negative consequences associated to multiple customary owners with overlapping claims to the land, which may not be easy to identify during the design of the interventions. Risks of exacerbating gender inequalities are identified as a moderate- to low-risk, and should be mitigated with adequate participatory processes and mechanisms to engage women. If the conservation of biodiversity and ecosystems is not prioritized in land use planning, there is an increased risk of loss of wildlife if more intensive management practices are pursued.[67]

10.1.3 Positive impacts of strategy elements

The positive impacts of strategy elements include a range of carbon and non-carbon benefits for various stakeholders. Regarding the agroforestry strategy actions, it is anticipated that the benefits of increased tree cover will result in increased value for people derived from trees (food, building material, cash crops, fuel, handicrafts). Supporting smallholder farmers, which comprise 2/3rds of rural households, can provide households with the tools for improved efficiency in use of crop lands and diversifying income sources through improved agricultural production, forestry (wood, timber, etc), as well as enhanced production and use of traditional medicines and other non-timber forest products. This leads to economic diversification, a boost in rural employment, and increased food security at the community level. Environmental benefits as enhanced provision of environmental services and improved wildlife habitat (e.g. by providing shelter and CCAs/CFCAs hold the potential to increase access to products and services from forests, including traditional medicine and firewood, as well as increased food security. In the past, ni Vanuatu livelihoods have depended entirely upon these plants and animals for their food, medicine, energy, transport and many other uses. If the diversity of ecosystems and habitats is conserved through CCAs or CFCAs, while also providing increased livelihood and food security options, this is a benefit. CCAs/CFCAs can also contribute towards the achievement of Vanuatu National Biodiversity Strategy and Action Plan (NSAP)'s goals.[68]

10.1.4 Negative impacts of strategy elements

The agroforestry strategy element may exacerbate inequalities among customary landowners and persons with poor land use rights or those who are marginalized and may benefit those with greater access to knowledge and technical capacity, resulting in increased conflicts. This is despite the fact that the strategy action provides the opportunity to opt-in. Unequal benefit sharing is also possible within the clans, families or communities engaged in activities. Persons with access to land or land usage, especially through informal arrangements, may have rights overridden by members of land-owning groups that aim to profit from economic opportunities arising from this strategy action. Exclusion of women in the design of the intervention, as well as not streamlining gender-sensitive considerations in the design process, may not ensure women's rights, particularly were they do not have formal rights to land ownership, use or decision-making. Accordingly, the absence of gender-sensitive considerations in the design of the intervention, as well as the failure to conduct a gender-inclusive design process, may in turn result in loss of income for women due to changes in access to land use or ownership.

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[67] Climate Law and Policy, 2020. Final report: Strategic environmental and social assessment of REDD+ activities in Vanuatu.
[68] Climate Law and Policy, 2020. Final report: Strategic environmental and social assessment of REDD+ activities in Vanuatu.

Mitigation measures include identifying vulnerable groups/populations and engaging them in the consultation process during the development of the schemes, ensuring participatory approaches and gender equity, and considering specific instruments such as special credit lines and government support to allow for access, quality control and increased support from Vanuatu Bureau of Standards. Introduction or facilitation of pests and diseases should be considered, as well as preference for market-oriented species rather than native species. This can be mitigated in the design and implementation phase.[69]

The Community Conservation Areas would similarly be pursued on an opt-in basis, with communities choosing to take part, and defining their management plans and approaches at the community level, thus community consent is a key basis for this strategy action. This intervention is already being implemented under Vanuatu's *Environmental Protection and Conservation Act* (EPC Act). While the Constitution recognises that custom rules apply to customary land dealings, the lack of formal rules has led to ongoing disputes and a lack of certainty and security over ownership, boundaries and use of the land. CCAs could exacerbate land tenure disputes which are common in ni-Vanuatu communities and villages and have caused the failure of CCAs in the past. Care must be taken to consider tenure and broad community support in the design and implementation phases. As women are significantly more marginalized from the decision-making processes involving land than other land-owners/users, this risk should be mitigated by ensuring not to marginalize women in CCA and CFCA establishment and management. Consideration should also be given to minimize the use of exotic species in agroforestry activities to mitigate potential risks of ecosystem modification, degradation and/or loss of biodiversity.[70]

These are the range of risks and benefits identified with the SOs as proposed in late 2020, and does not reflect the full suite of strategy actions in this Strategy. Before REDD+ Strategy implementation, the SESA and ESMF should be updated to reflect the final suite of strategy actions for future REDD+ activities.

10.2 Environmental and social management framework (ESMF) for REDD+

The main objective of the ESMF, developed as part of REDD+ readiness, is to provide a framework for Vanuatu to address environmental and social issues in the implementation of the National REDD+ Strategy. In particular, to ensure that any REDD+ activities to be financed by the World Bank will not create adverse impacts on the local environment and local communities and the residual and/or unavoidable impacts will be adequately mitigated in line with the World Bank's Safeguards Policies.[71]

The ESMF was prepared through mixed methods, comprised of in-depth analyses and consultations with stakeholders.[72]

This National REDD+ Strategy seeks to advance a set of national policies and measures aimed at addressing direct drivers and their related indirect drivers. These are comprised of *enabling*

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[69] Climate Law and Policy, 2020. Final report: Strategic environmental and social assessment of REDD+ activities in Vanuatu.

[70] Climate Law and Policy, 2020. Final report: Strategic environmental and social assessment of REDD+ activities in Vanuatu.

[71] World Bank webpage http://www.worldbank.org/en/projects-operations/environmental-and-social-policies (accessed August 2018)

[72] Climate Law and Policy, 2020. Environmental and Social Management Framework for REDD+ in Vanuatu.

interventions and *direct interventions.* The enabling intervention of designing forestry/land sector laws/codes and the strategy elements of agroforestry and CCAs/CFCAs are recommended to require application of SESA procedures to identify potential impacts, prepare a mitigation plan and monitor activities.[73] The ESMF provides procedures for the social and environmental assessments of the enabling interventions and SOs.

As a basis to assess risks and impacts during implementation, the ESMF summarizes SESA findings of potential social and environmental risks that may arise from the implementation of the National Strategy. Applicable World Bank safeguard operational policies (OPs) are described, along with Vanuatu's specific policy, legal and institutional framework. Gaps between Bank policies and existing country systems are elaborated. The ESMF then provides the procedures of the ESMF for the screening and assessment of the enabling interventions and strategy actions. Before the implementation of the ESMF it should be updated to reflect the final suite of enabling interventions and strategy actions contained in this Strategy. The institutional arrangements for the ESMF are provided. The ESMF presents available and relevant Grievance Redress Mechanisms (GRMs) that may be used to deal with potential grievances on REDD+, monitoring and reporting arrangements for the ESMF, and a proposed design for the Safeguard Information System. An implementation plan for the ESMF is provided, including a schedule and budget.

The ESMF includes two annexes that outline the processes for involuntary resettlement and restriction of access to natural resources. The Resettlement Policy Framework (RPF) outlines the screening processes, identification of project-affected people, entitlements and planning requirements for any activities that could result in the involuntary resettlement of people, including any loss of livelihood or access to assets. While involuntary resettlement or land acquisition is very unlikely for the REDD+ Strategy, because of the strong focus of participatory design of interventions, strong emphasis on engagement of land owners and communities and the 'opt-in' nature of interventions, there may be the rare case where mitigation and compensation may be required under the RPF. The Process Framework outlines the screening processes, identification of project-affected people, entitlements and planning requirements for any activities that could result in people being restricted from accessing forests for livelihoods or subsistence purposes. Similar to the RPF, the Process Framework is a safeguard instrument to manage residual risk, which is highly unlikely to be required due to the participatory and 'opt-in' approaches to interventions.

10.3 Safeguard Information System (SIS)

Although there are no official guidelines on how countries are supposed to set up a system for providing information on how safeguards are addressed and respected, Parties to the UNFCCC have agreed on some broad guidance on the characteristics of a SIS.[74] Namely, it should:
- Provide transparent and consistent information that is accessible by all relevant stakeholders and updated on a regular basis;
- Be transparent and flexible to allow for improvements over time;
- Provide information on how all the safeguards referred to in appendix I to decision 1/CP.16 are being addressed and respected;

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[73] Climate Law and Policy, 2020. Environmental and Social Management Framework for REDD+ in Vanuatu.
[74] UNFCCC Decision 12/CP.17 paragraph 2

- Be country-driven and implemented at the national level; and
- Build upon existing systems, as appropriate.

The SIS should be designed and developed according to each country's national circumstances and be built upon existing national information systems and sources. The SIS does not necessarily require the establishment of novel and tailored information systems, but rather requires decisions to be made on how to utilise existing information systems and sources. While a SIS was not completed for Vanuatu's National REDD+ Strategy, the ESMF provides guidance for consideration on the objectives, indicators and functions and institutional arrangements of the SIS, for future consideration. Figure 16 provides an overview of the functions and institutional arrangements of the SIS. A key next step would be development of SIS indicators that are measurable.

Figure 24:Overview of the functions and institutional arrangements of the SIS
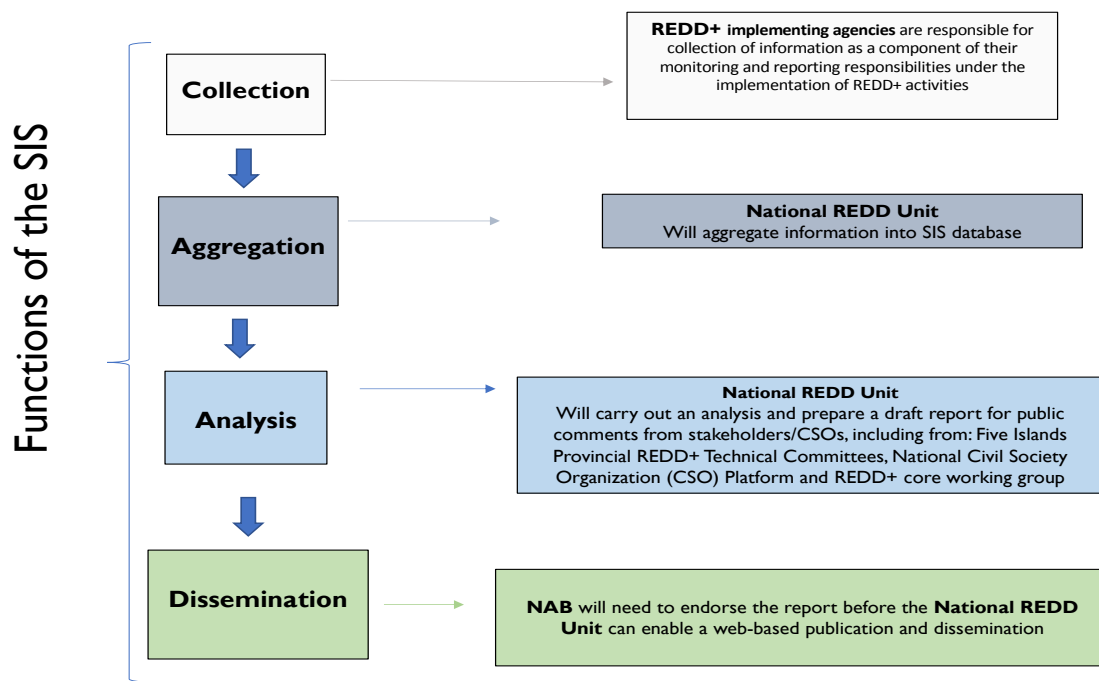
10.4 Feedback and grievance redress mechanism

A dedicated REDD+ Feedback Grievance Redress Mechanism (FGRM) has been designed to be used to deal with REDD+ generated disputes.[75] Figure 2 outlines the FGRM procedure. The purpose of the FGRM is to provide an accessible, rapid, and effective response to concerned stakeholders, especially to vulnerable groups who often lack access to the formal legal system. In

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[75] Climate Law and Policy, 2020. Environmental and Social Management Framework for REDD+ in Vanuatu.

Vanuatu, grievances are generally dealt with in a customary manner, and this is especially the case with land disputes.

The National REDD+ Unit will be responsible for ensuring that affected stakeholders are aware of and understand what the FGRM is for, the different options that they have for communicating a grievance and where they can get help and advice about whether and how to communicate a grievance.

Aggrieved stakeholders ("complainants") should be able to communicate grievances by a variety of methods (e.g. phone, SMS, letter, email, website, meeting, etc.). Vulnerable persons, women and youth should be encouraged to use the CSO Platform to air or raise grievances since the CSO Platform will be composed of representatives from those groups and will be established in the community.

Figure 25: REDD+ FGRM procedure
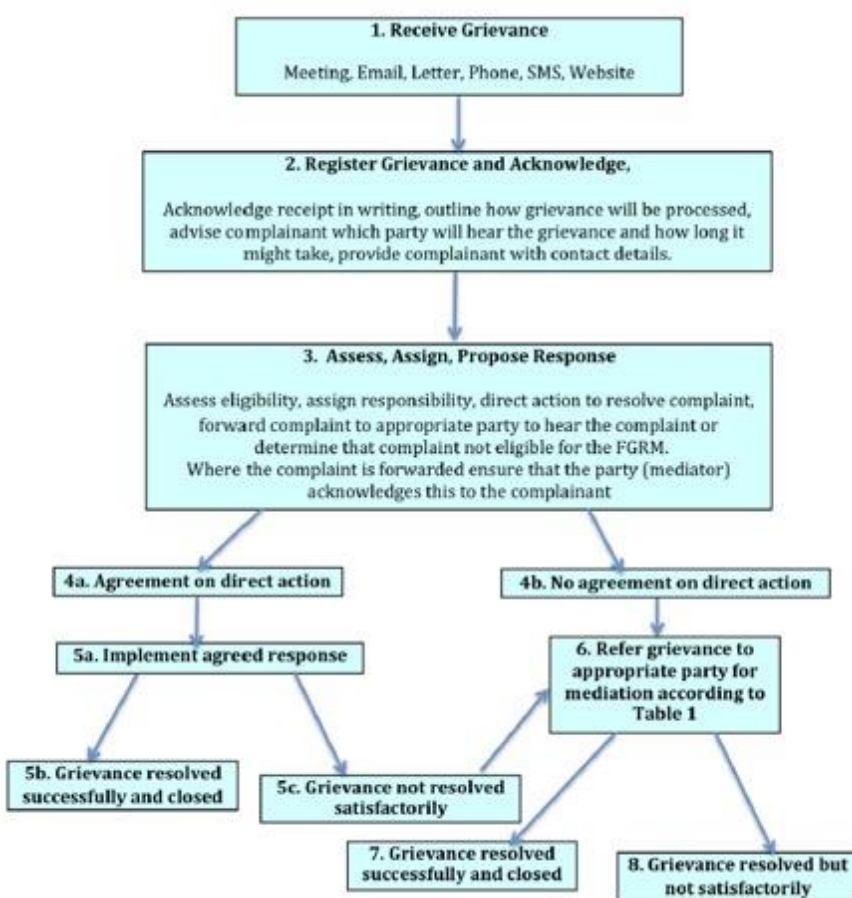
11. Action Plan for the National REDD+ Strategy

11.1 Institutional arrangements

The National REDD+ Strategy proposes multisectoral, multilevel and multi-stakeholder effort for its implementation. Though originating from the Department of Forestry, successful implementation of the enabling and strategy elements will necessarily involve multiple ministries and departments, Provinces, Councils of Chiefs, and communities across many islands. REDD+ implementation in Vanuatu is underpinned by the country's National Sustainable Development Plan (NSDP, Vision 2030 The Peoples Plan, 2016-2030) and its Nationally Determined Contribution (NDC), as the umbrella policy instruments establishing the country's climate priorities with an emphasis on increased climate adaptation capacity and livelihoods. In such a context, a complex multisectoral and multilevel institutional framework will be required for its implementation.

A first step envisions reviewing of the institutional and capacity needs of DoF, to ensure that the DoF is adequately structured and resourced to lead the implementation of the Strategy by the DoF, and to define strategic actions for policy and legislative strengthening. Such strategic actions should also be informed by the governance aspects identified in the Vanuatu Forest Policy of 2013 – 2030 such as updated legislation, capacity for improved comprehensive forest management plans, institutional strengthening, and adequate funding and management.

The role of key institutions is detailed below, and detailed in Figure 23:

Department of Forestry and National REDD+ Unit: The DoF National REDD+ Unit will lead the implementation of the National REDD+ Strategy, in collaboration with the REDD+ Technical Committee and the National Advisory Board, and the Provincial Technical Advisory Committees. DoF's legislative mandate falls under the Forests Act, and is the origination- and lead-agency within MALFFB for REDD+. DoF hosts the National REDD+ Unit, staffed with a REDD+ Coordinator and a REDD+ CSO Coordinator. The National REDD+ Unit is currently in operation supported by FCPF funding, yet it is envisioned to continue to operate during the operationalization of the REDD+ strategy with additional funding leveraged for the implementation of Vanuatu's National REDD+ Strategy. It is envisioned the DoF will expand its staff capacity to enable leadership and implementation of key REDD+ activities, including in relation to cross-sectoral coordination, future forest monitoring and NDC reporting responsibilities and environmental and social safeguards management, FGRM and stakeholder engagement.

A new Forestry Policy will be drafted from 2023, which provides an important opportunity to integrate REDD+ priorities (including climate change mitigation and adaptation, livelihoods, and coordination with other sectors) into the Forest Policy. As the review of the National Sustainable Development Plan will occur in the near future, the National REDD+ Unit will be in a good position to integrate REDD+ objectives into the NSDP.

A key recommendation is to establish a legal mandate for the REDD+ Technical Committee, to enable their role in facilitating the cross-sector collaboration that will be required for REDD+ implementation. This may be accomplished through small changes to the existing legislative framework.

MALFFB Programme Management Unit (PMU): The Programme Management Unit (PMU) established in the Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity (MALFFB) will be responsible for the fiduciary aspects of the implementation of the REDD+ strategy. The role of the PMU is to manage all the projects under MALFFB. The PMU can support the REDD+ Unit in the cross-sectoral coordination that will be necessary for successful implementation of this strategy. The capacity of the PMU is being built, and can further be supported through REDD+ operational funding. The PMU Manager would be the primary focal point for the National REDD+ Strategy. Further details of how the PMU will function is elaborated in the figure below.

Also of note, MALFBB has a new initiative under the *Primary Producers Authority Act*, passed by Parliament in 2018, intended to establish a network of primary producers represented through associated forums, by area, and can also register their primary product groups with the Authority. This would be a useful institutional linkage to private sector producers and associations for the implementation of REDD+ strategy actions. The Authority was established in early 2020 and is yet to implement the creation of the networks.

National Advisory Board (NAB) on Climate Change and Disaster Risk Reduction was mandated by the Council of Ministers in 2012 as Vanuatu´s highest level *´policy making and advisory body for all climate change and disaster risk reduction programs, projects, initiatives and activities'.*[76] The NAB assembles high-level representatives of key Vanuatu Government departments and agencies. The NAB is chaired by the Director General of the Ministry of Climate Change, who is also Vanuatu's National Designated Authorities (NDA) to the Green Climate Fund. The Department of Forestry has been added to the NAB recently, which will enable bringing REDD+ priorities to the attention of the NAB, which is essential for validation of the Strategy, coordination on financing aspects for implementation, and for providing an oversight role for the REDD+ Technical Committee.

REDD+ Technical Committee (TC) is governed by the NAB and chaired by the DoF, under MALFFB. The TC should comprise the key implementation actors at the technical level (while the NAB is at the political level). The TC will constitute the main inter-institutional coordination platform representatives from key departments in MALFFB, other government departments, CSOs that have a role in implementation (e.g. Nakau Programme) and private sector representatives (e.g. cooperatives). The TC will fulfil an oversight, coordination and implementation role during for Vanuatu's National REDD+ Strategy. Thus, the TC needs to be authorized through Vanuatu legislation, both to enable the mandate and functions of the TC. Further assessment will be required to see how to do this, so that the TC does not continue to operate in the ad hoc capacity that it does currently, and also so that it does not conflict with current legislation that recommends different institutional arrangements for REDD+.[77]

NAB Secretariat: is the Secretariate to the NAB, reports on key projects to the Council of Ministers on behalf of the NAB,[78] reports on projects through the government reporting

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[76] Vanuatu Readiness Preparation Proposal (R-PP), October 2013. Forest Carbon Partnership Facility.

[77] The *Meteorology, Geological Hazards and Climate Change Act No. 25 of 2016* indicates that a function and power of the Director of Climate Change is to support REDD+. This infers the Director would have leadership over REDD+. This Strategy is recognizing the crucial role DoCC must play in effectively implementing REDD+, with the NAB and TC being the core venues for that collaboration, but that origination and responsibility of REDD+ be with MALFFB and DoF.

[78] Who is also the co-chair of the National Task Force for Disaster Risk Reduction and Disaster Risk Management.
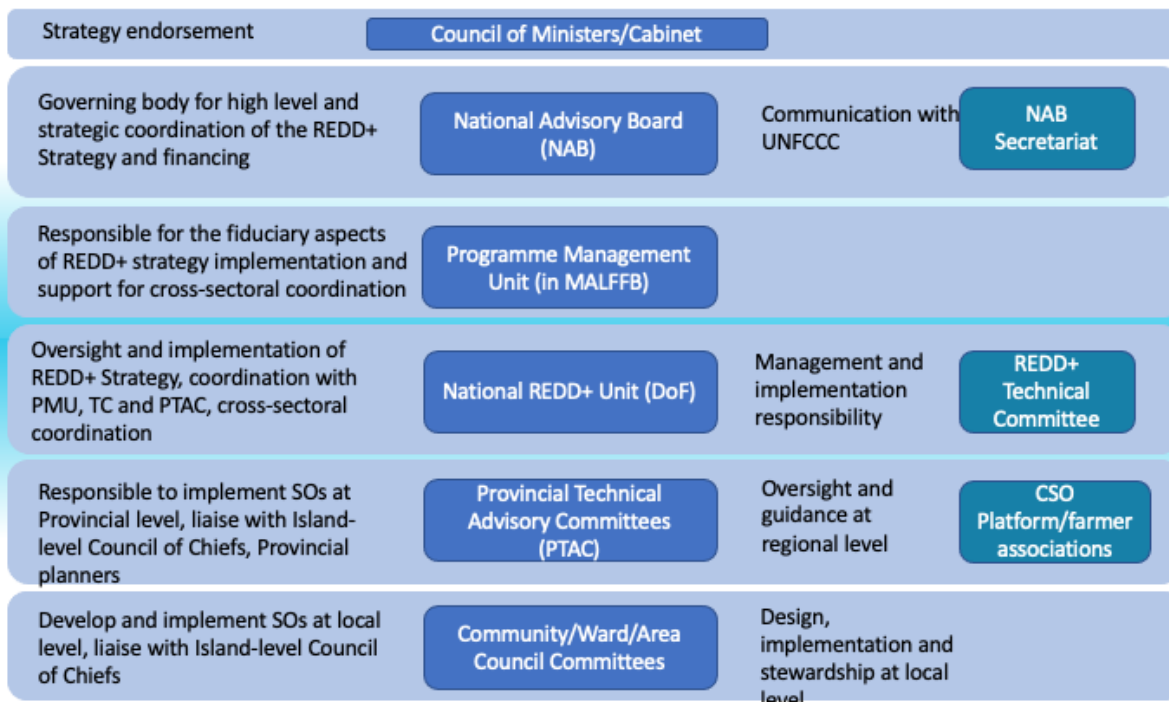
system, and is the lead for all official communications to the UNFCCC. Therefore, updates on the progress of implementing the National REDD+ Strategy should be coordinated with the NAB Secretariat, and via the NAB itself. The NAB Secretariat also plays a strategic policy and coordination role, which should be considered given the cross-sectoral goals of the National REDD+ Strategy.

Civil Society Organization (CSO) Platform: Is constituted by the REDD+ Unit and CSO members from the TC and supported by the REDD+ CSO Coordinator under the REDD+ Unit. The CSO Platform serves as a networking and information dissemination platform at national level and is envisioned to play a role during the implementation of REDD+ activities once the national strategy starts its implementation.

Provincial Technical Advisory Committees (PTAC) are chaired by the respective Regional Forest Officer (RFO), representing the DoF, and are constituted by representatives of the Department of Agriculture, Horticulture, Fishery, Livestock, Provincial Administration, CSO, Youth and women groups and CSO Network at the provincial level. The PTAC is envisioned to have the overall responsibility for implementing the REDD+ Strategy Actions at the province level, including both decision-making on strategic and technical direction, with the guidance of the REDD+ PMU and CSO Platform. There should be close coordination with Councils of Chiefs, Provincial Planners, DoCC Provincial Climate Change Officers, and other agencies.

Malvatumauri National Council of Chiefs will be consulted at regular intervals. **Island Chiefs, Area Chiefs, and Community Chiefs** will have key roles, such as coordinating island-level planning among communities, ensure that decision-making is participatory and representative of all sectors in the community, including vulnerable groups, in all project activities.

Figure 26: Institutional arrangements for REDD+ implementation

Strategy endorsement — Council of Ministers/Cabinet

Governing body for high level and strategic coordination of the REDD+ Strategy and financing — National Advisory Board (NAB) — Communication with UNFCCC — NAB Secretariat

Responsible for the fiduciary aspects of REDD+ strategy implementation and support for cross-sectoral coordination — Programme Management Unit (in MALFFB)

Oversight and implementation of REDD+ Strategy, coordination with PMU, TC and PTAC, cross-sectoral coordination — National REDD+ Unit (DoF) — Management and implementation responsibility — REDD+ Technical Committee

Responsible to implement SOs at Provincial level, liaise with Island-level Council of Chiefs, Provincial planners — Provincial Technical Advisory Committees (PTAC) — Oversight and guidance at regional level — CSO Platform/farmer associations

Develop and implement SOs at local level, liaise with Island-level Council of Chiefs — Community/Ward/Area Council Committees — Design, implementation and stewardship at local level

11.2 National Guidelines on Nesting of REDD+ Initiatives

Text to be added

11.3 Finance to implement the National REDD+ Strategy

The financing sources that Vanuatu can access to implement the National REDD+ Strategy are varied, reflecting the blend of activities that comprises the Strategy, and the most suitable sources for each. The Strategy encompasses a mix of national-, provincial-, island- and project-level activities, with components being led by the REDD+ PMU in MALFFB and DoF, while others would be led by private sector and CSO partners, under the auspices of the Strategy. Thus, all activities at sub-national and project levels would nest into national-level performance reporting and monitoring. This is important for Vanuatu's reporting to the UNFCCC and national priorities under the National Sustainable Development Plan and sector policies in forestry, agriculture, livestock, and tourism.

Possible sources of funding are explored further below, based on existing possible sources, future possible sources, and private sector/CSO sources of finance and partnership. The World Bank FCPF Carbon Fund, which had been viewed as a source for implementation, has now closed.

A key recommendation is that the Department of Forestry annually convene a donor roundtable to review the financial support for the National REDD+ Strategy, including what portions are funded, how activities could be funded through other priority programmes, what gaps exist, and how partners can engage.

11.2.1 Existing sources of finance

There are already approved sources of development and climate assistance to Government of Vanuatu from international sources that could be assessed as options to fund REDD+ activities and government capacity necessary for implementation.

The 11th European Development Fund (EDF11), through the Vanuatu Value Chain Programme (VaVac), is providing a total of €20 million in budget support to the Vanuatu Government over five years. Though the VaVac Programme focuses on three value chains (beef, coconut, and fruits and vegetables), given the orientation towards sustainable agriculture management practices in Vanuatu, more assessment is required to identify how these funds could advance the land use planning enabling activity and REDD+ Strategy elements for agroforestry. The Industry Development Fund has recently opened a funding cycle, and could be well suited for NFTP and organic certification activities.

Both the Global Environmental Facility 5 (GEF5) - Integrated Sustainable Land and Coastal Management (Ridge to Reef) project, and the **GEF7 – Adaptation to Climate Change in the Coastal Zone of Vanuatu Phase II (VCAP II)** project have components that are aligned with the National REDD+ Strategy. At the national level, the development or strengthening of various sectoral policies in support of integrated and sustainable land and coastal management, within a ridge-to-reef vision, could be integrated with REDD+ (land use planning). The establishment of terrestrial CCAs and CFCAs could be complementary, however further efforts should define whether these would be community-driven, as per REDD+ priorities. Interviews suggested interest in identifying an opportunity for REDD+ financing under the land degradation focal area.

Sustainable finance for environmental conservation via through National Tourism Strategy[79]: Based on joint identification of priorities in Ecological and Culturally Significant Area's (ECSA's) and CCA's/CFCAs, under Programme 9, Theme 2 of the National Tourism Strategy, it is envisioned that the REDD+ Strategy could help fulfil key objectives. The Provincial Tourism Implementation Plans and Provincial Investment Policies guide decisions on identification of priority areas and financing. This would enable REDD+ implementers at Provincial levels to tap into financing through the New Zealand Ministry of Foreign Affairs and Trade (MFAT), renewed in June 2021, and is a key source of financing, along with budget allocations approved by Parliament. Though the Program Support through MFAT does not currently include clear linkage to REDD+, proposals for new program support were accepted in May 2021. Further discussion with Department of Tourism could identify next steps. Other national priority programmes may also be suitable sources of funding, in addition.

Table 20: Existing sources of possible financing for REDD+ Strategy

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[79] Department of Tourism, 5-Year Business Plan. Available at: https://tourism.gov.vu/images/DoT-Documents/Plans/BUSINESS_PLAN_2021.pdf

Project	Budget	Duration	Donor	Activities	Multi-lateral Agencies	National Executing Agencies	Target Areas
The 11th European Development Fund (EDF11) for agriculture sector	€ 20 million	To 2022?	EU	Vanuatu Value Chain Programme (VaVac) to promote three value chains: Beef, Coconut and Fruits and Vegetables.		MALFFB MTTICVBN MFEM	National
GEF5 - Integrated Sustainable Land and Coastal Management (Ridge to Reef)		2017-2021	GEF	Address threats to global environmental values via landscape wide "ridge to reef" approach; increase CCAs by 5,000 ha; support sustainable forest, land and coastal management in the watersheds linking these protected areas (100,000 ha)	FAO/ GEF		Aneityum, Tanna, Efate, South Pentecost and Gaua
GEF7 – Adaptation to Climate Change in the Coastal Zone of Vanuatu Phase II (VCAP II)	US$12.5 million	2020-2025	GEF	Biodiversity conservation, protected area/CCA estab., sustainable land management for ecosystem service protection, CC adaptation mainstreamed into Provincial and Integrated Area Council Development Plans, capacity development in key implementing agencies. Seeks to restore 2,000 ha of forest, and improved management of CCAs	UNDP	Ministry of CC	12 priority Area Councils
National Tourism Strategy (2021-2025) and Sustainable Tourism Strategy		2021-2025	MFAT (NZ Aid)	Sustainably finance environmental conservation through tourism, in key Ecological and Culturally Significant Area's (ECSA's) and CCA's		Dept of Tourism	Across provinces and in key ecologically significant and CCA areas.

11.2.2 New international sources

There are a number of sources of international climate finance that can provide multi-year support for Vanuatu's National REDD+ Strategy, including:

The Green Climate Fund is the primary financing mechanism under the UNFCCC to support countries mitigation and adaptation activities to achieve their NDCs, as well as results-based payments for emissions reductions. The co-financing ratio for SIDS is lower than for other countries, at 1:1.5[80]. Countries can access up to US$ 1 million per year under the Readiness Programme, and this could be a source of funding to further refine the implementation plans and modalities for REDD+ interventions. Vanuatu has already accessed GCF readiness funds that are of interest to the REDD+ Strategy, such as:[81]

- In December 2019, GGGI submitted a proposal as Vanuatu's delivery partner, to enhance Vanuatu's ability to seek accreditation and Direct Access to the GCF. This could increase Vanuatu's ability to apply directly, rather than working through other Accredited Entities. Vanuatu is establishing a National Climate Change Fund as a mechanism for pooling all climate change funds, so funds could be funnelled through this and then disbursed (NCCF not yet operational).

Vanuatu's Country Programme Update (of 1 March 2021) indicates placement of the National REDD+ Strategy in Pipeline A for GCF financing, with an initial estimate of US$ 10 million.[82] The GCF would also be a source of REDD+ results-based financing, though the Constitutional protections for customary land tenure and rights, and the lack of legal frameworks for forest

[80] FS-UNEP Collaborating Centre, 2020. Mobilizing public and private co-finance. GCF Monitor. http://fs-unep-centre.org/fileadmin/user_upload/GCFMonitor_edition_1.pdf
[81] See full list here: https://www.greenclimate.fund/countries/vanuatu
[82] https://www.greenclimate.fund/sites/default/files/document/vanuatu-country-programme.pdf

carbon rights to be exercised by the government on un-leased customary land, must be considered.

Article 6 of the Paris Climate Agreement may offer new opportunities to facilitate bi-lateral and private sector relationships and financial cooperation for climate action. Article 6 would finance three modalities of cooperation: two market-based ones and one non-market based:

- Bilateral or multilateral cooperative approaches where Parties transfer mitigation outcomes internationally to facilitate the achievement of their nationally determined contributions (NDCs) (Article 6.2). Guidance still must be adopted for these cooperative approaches to regulate the key principles of cooperation, reporting requirements, and accounting for the internationally transferred mitigation outcomes (ITMOs) through so-called "corresponding adjustments".

- A crediting mechanism under the auspices of the UNFCCC where emission reduction credits will be issued for activities authorised by Parties (Article 6.4). These emission reduction credits can then be acquired by other Parties. Rules, modalities, and procedures for this mechanism still to be determined.

- A framework to promote non-market approaches (Article 6.8). A work programme is being developed to operationalise this framework.[83]

Article 6 allows for Parties to authorise activities to be implemented in their country under the auspices of an UNFCCC-governed baseline and credit mechanism which would result in emission reduction credits (A6.4ERs) that can be acquired by other Parties, while promoting sustainable development (Article 6.4). The Article 6.4 mechanism is thus similar to earlier arrangements under the UNFCCC, such as the Clean Development Mechanism and Joint Implementation mechanism. Also, Parties can cooperate in mitigation and adaptation under a non-market approach (Article 6.8) that is not based on the transfer of mitigation outcomes.[84] Such bi-lateral agreements could be pursued with an emphasis on the sustainable development aspects, with adaptation, mitigation and livelihood benefits packaged together. For this reason, the non-market approach under Article 6.8 may provide a suitable means for Vanuatu to advance bi-lateral cooperation, particularly with parties that Vanuatu already has established relationships with, such as Australia, New Zealand and Japan.

Global Environmental Facility 8 is a potential source of funding, with expressions of need occurring at the present time, in anticipation of the 2022-2026 timeframe.

Bilateral and multilateral agreements can also be pursued, particularly with development partners including governments of Australia, Japan, New Zealand, the European Union, United Nations agencies and the World Bank.

The KIWA Initiative is a multi-donor initiative for biodiversity protection and climate change, supported through France's Agence Française de Developpement. The objectives are to strengthen the resilience of ecosystems, economies and communities in Oceania by supporting

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[83] Michaelowa, A., A. Espelage, B. Müller, 2019. Negotiating cooperation under Article 6 of the Paris Agreement. ECBI Policy Brief.
[84] *Ibid*

projects that promote nature-based solutions via grants and technical assistance. For Vanuatu to tap into this, it would require a multi-country application, for a maximum of 3 years of funding, and project cost between €1.5 - €5 million (split between countries).

Table 21: Sources of international climate and development finance, and priority aligned forestry programmes

Project	Budget	Duration	Donor	Activities	Multilateral Agencies	National Executing Agencies	Target Areas
Sources of international climate and development finance							
Green Climate Fund	TBD	To 2030	GCF	Readiness funds (up to US$1 million/yr) or Strategy implementation	Could be direct access	MALFFB	
Article 6 – Paris Climate Agreement	Unspeci fied	Not yet agreed	Bi-lateral	Non-market approach (Article 6.8) that is not based on the transfer of mitigation outcomes preferable (e.g. sustainable development, adaptation, mitigation and livelihoods)	Direct bi-lateral		TBD
KIWA Initiative, Agence Française de Developpement	Multi-country projects €1.5 - €5 million	Multi-year, but cannot exceed 3 yrs.	AFD	Seeks to strengthen the resilience of ecosystems, economies and communities in Oceania by supporting projects that promote nature-based solutions via grants and technical assistance			
Priority aligned programmes							
Vanuatu Forest and Landscape Restoration Strategy	Anticipa ted cost of US $10 million	2020-2030	TBD	Seeks forest restoration on 25,000 ha, of which 12,500 ha would be through plantations, 5,000 ha through agroforestry, 7,000 ha through assisted natural restoration outside and inside PAs, and 500 ha through mangrove restoration		DoF lead	National

11.2.3 Domestic sources of finance

There are opportunities via the REDD+ Strategy to secure long-term sources of finance from domestic sources, some of which are related to the international enjoyment of Vanuatu's environment by tourists. These include:

Payments for ecosystem services (PES)— including those deriving from water and carbon, can be further developed and operationalized, This source of finance is well suited to pay stewards/providers of environmental services. This has been discussed in areas where urban development and water use has put stress on upper water catchments with forested areas, such as Port Vila and Luganville. An example of this in Efate would be if the Vaturisu Council of Chiefs expanded upon their Efate Land Management Area (ELMA) concept include a PES scheme that would include a surcharge on water usage in Port Vila, to support land stewardship upstream. The DoF should lead this effort, partnering with Department of Water, Department of Lands and Department of Environmental Protection. Another priority is the Tagabe River catchment, upon which two water bottling companies depend. The PES could be relevant for watershed development activities and ecosystem conservation activities supported through community conservation areas (CCAs and CFCAs) to the implementation of management plans of customary landowners/users.

Ecosystem fees (on international tourism)—This expands on the concept identified in the Vanuatu Forest Policy to establish a Biodiversity Conservation Fund, identifying sources of revenue that could provide incentives to local people for their stewardship of ecosystem services.

a) The first source identified is based on international guest overnight stays (fee collected to help fund stewardship of the natural environment tourists come to enjoy). This could be implemented at municipal levels or as part of Vanuatu's Tourism Marketing Development Fund (TMDF) that already exists. The Vanuatu TMDF[85] is a joint, private sector initiative of several recognised tourism associations, whose members contribute 0.5% of tourism income to the Fund. The hotel industry in Vanuatu has implemented a 100 Vatu / AUD $1.10 / NZD $1.40 levy for each room night of accommodation to raise the funds for the Fund. This levy needs to be redesigned[86] to improve transparency and to address financial discrepancies reflected in independent audit.

b) The second source identified is an airline departure or arrival fee for international visitors for stewardship and conservation. Based on pre-covid tourist visits, such a fee of US$25 on each international air arrival could generate US$3.5 million per year if 140,000/yr., or $2.75 million if 110,000/yr. The disbursement of funds could be based on area under community stewardship, PES, and other ecosystem service protection activities. Guidelines for use of funds would need to be developed.

The Department of Tourism has expressed interest in reviewing inclusive options for revenue generation that better reflects current legislation. The Vanuatu Sustainable Tourism Policy (2018-2030) envisions, 'NGOs, rural and urban communities to be engaged in conservation actions, financed by the tourism sector, which in turn strengthens the sector and improves customer experience.' Thus, the National REDD+ Strategy seeks to catalyze a process to refine options, working closely with Department of Tourism and Ministry of Finance and Economic Management, for collaborative efforts.

Vanuatu could also consider property tax structures that would help motivate improved land use, and generate more income for the country (especially in relation to coastal resort and high-value ocean-front development).

11.2.4 Private sector

This REDD+ Strategy envisions an active role for the private sector and CSOs in developing sub-national or project-level initiatives to restore or maintain forest carbon that can nest into the National REDD+ Strategy, and be monitored and accounted for through Vanuatu's NFMS and reporting to the UNFCCC. These initiatives would not only support implementation, but also the financing of the Strategy. The Nakau Programme's Loru Project[87] is an example of how this could work, as a voluntary carbon market project on Espirito Santo island. Other

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[85] See: https://vtoasecretary.wixsite.com/vtoa/tmdf

[86] A portion of revenue from A$5-$8 per night fee could directed to support REDD+ and ecotourism priorities. For example, Iceland's Tourist Site Protection Fund raises US$4.7 million per year, 60% of which comes from accommodation taxes that support maintenance and protection of nature-based tourist attractions under public ownership or supervision.

[87] See: https://www.youtube.com/watch?v=jlV11WoWqWM

examples include a jurisdictional project addressing forest loss the island of Erromango; blue carbon projects in the voluntary carbon market operating on Epi, Malekula and other islands; and an agroforestry project on Malekula, operating in partnership with private sector and impact investors.[88]

The National REDD+ Strategy envisions supporting and coordinating strategic partnerships between Government, NGOs and the private sector to advance such initiatives. Private sector actors and NGOs can bring needed capacity and finance that complements what GoV can provide. The Nakau Programme has proposed a figure to envision how this project-level and nested jurisdictional approach could work in Vanuatu (See figure below).
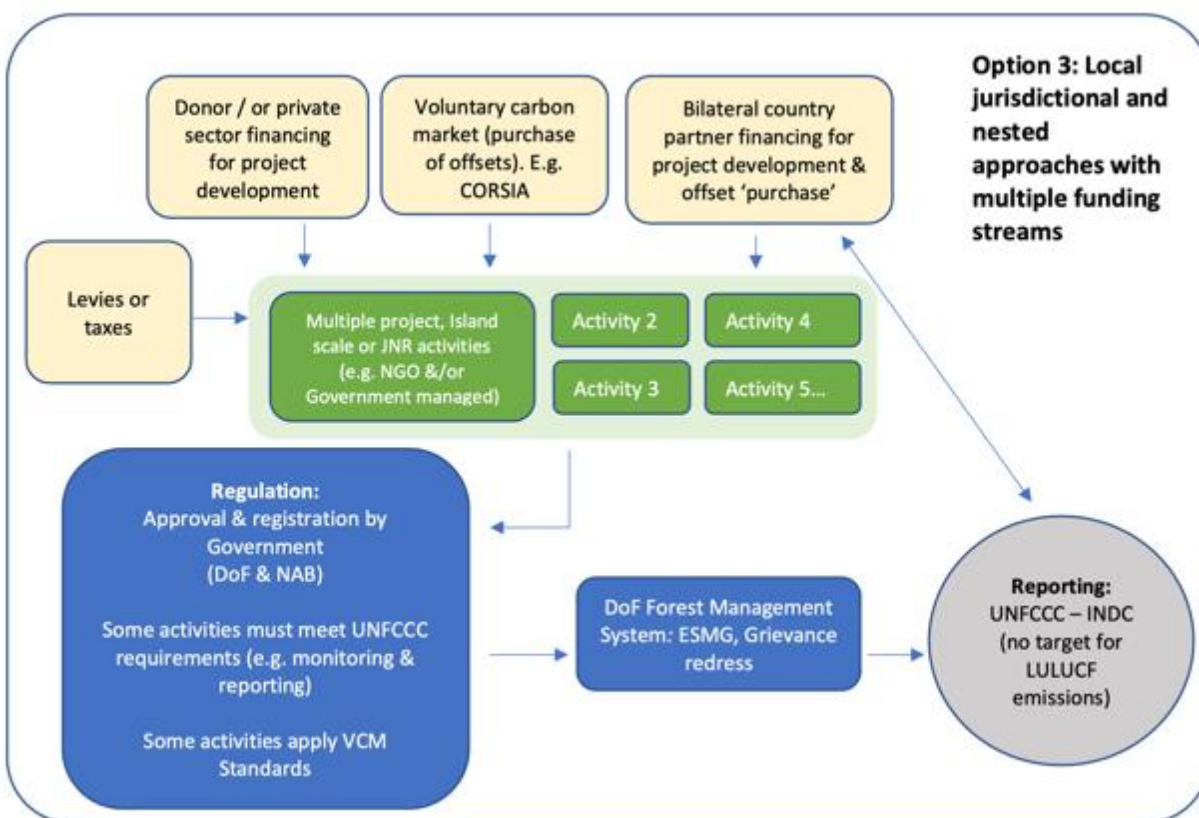

Figure 27: Private sector/NGO project, jurisdictional and nested approaches supporting REDD+

This approach allows voluntary carbon market projects to develop their MRV in line with voluntary carbon market standards and reporting. The transfer of emissions reductions would only occur through the VCM between landowning communities and private buyers. Government-led projects would support forest cover in Vanuatu and deliver a range of development benefits for the country (e.g. SDGs, climate adaptation, new NFTP markets) but would not be creating Internationally-Transferred Mitigation Options (ITMOs). All activities within the country could report changes in forest cover, biodiversity and safeguards

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[88] The Nakau Programme, 2020. Discussion Paper for Private Sector Engagement in REDD+ in Vanuatu.

monitoring outcomes to the NFMS at the Department of Forests to allow national level reporting on forests. Rules would be required for the nesting of projects however VCM rules already exist for this. For example, Verra's JNR approach allows for other projects, such as Plan Vivo projects, to nest within the jurisdiction.[89]

There is also a need to consider the **differentiation between intervention options and what possible sources would be suitable**. The Non-Timber Forest Product Reports[90] explore a range of opportunities for more commercial and market development of tree-based products (e.g. sandalwood and noni juice) that could access market-development finance (including IDF/EDF11) or benefit more directly from investment by key markets that may have a stake in the product. These would be important sources of private sector co-finance ultimately supporting the REDD+ Strategy, but being deployed and invested in supply chains directly.

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[89] Ibid.

[90] Bourne, W., 2019. Vanuatu NTFP Value Chain Study Findings: Final Report. REDD+ PMU and Department of Forestry.