



Food and Agriculture Organization
of the United Nations

Feasibility Study – Appendix 5:

Working Paper: Forest and Landscape Restoration – Fiji

*For the GCF-FAO Project “Forest Landscape Restoration for Climate
Benefits and Resilience (Fiji FLR)”*

Abbreviations and Acronyms

30MT15Y	30 Million Trees in 15 Years Initiative
APFC	Asia-Pacific Forestry Commission
CSO	Civil Society organization
ERP	Emission Reduction Programme
ERPA	Emission Reduction Programme Agreement
ESPRO	Ecosystem Services Procedure
FAO	Food and Agriculture Organization
FCPF	Forest Carbon Partnership Facility
FDB	Fiji Development Bank
FFHCOP	Fiji Forest Harvesting Code of Practice
FHCL	Fiji Hardwood Corporation Limited
FJ\$	Fijian dollar
FLR	Forest and Landscape Restoration
FLRM	Forest and Landscape Restoration Mechanism
FPL	Fiji Pine Limited
FSC	Forest Stewardship Council
GHG	Greenhouse Gas
GPFLR	Global Partnership on Forest and Landscape Restoration
HVCF	High Value Conservation Forests
IGA	Income Generating Activities
iTLTB	iTaukei Land Trust Board
INDC	Intended Nationally Determined Contributions
LoA	Letter of Agreement
MIDA	Mahogany Industry Development Amendment Act
MILBA	Mahogany Industry Licensing and Branding Act
MOF	Ministry of Forestry
NAMA	Nationally Appropriate Mitigation Action
NBS	Nature Based Solutions
NCCP	National Climate Change Policy
NDA	National Designated Authority
NDC	Nationally Determined Contributions
NFF	National Forest Fund
NFI	National Forest Inventory
NFMS	National Forest Monitoring System
NLTB	Native Land Trust Board
NTFP	Non-Timber Forest Product
PPP	Public Private Partnership
R2R	Ridge to Reef
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SDG	Sustainable Development Goals
SFM	Sustainable Forest Management
SPC	Secretariat for the Pacific Community
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nation Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change

Currency Equivalent

1 Fiji Dollar FJ\$ = 0.44444444776 United States Dollar USD (UN Rate December 2023)

Weights and Measurements

Standard metric system utilized

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Definitions and Glossary

Forest: Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use. (FAO, FRA 2020)

Other wooded land: Land not classified as Forest, spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these thresholds in situ; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.

Other land: All land that is not classified as Forest or Other wooded land.

Naturally regenerating forest: Forest predominantly composed of trees established through natural regeneration.

Planted forest: Forest predominantly composed of trees established through planting and/or deliberate seeding. Planted forests include forest plantations and the planted part of semi-natural forests

Plantation forest: Planted Forest that is intensively managed and meet ALL the following criteria at planting and stand maturity: one or two species, even age class, and regular spacing.

Other planted forest: Planted forest which is not classified as plantation forest.

Forest expansion: Expansion of forest on land that, until then, was under a different land use, implies a transformation of land use from non-forest to forest.

Afforestation (sub-category of forest expansion): Establishment of forest through planting and/or deliberate seeding on land that, until then, was under a different land use, implies a transformation of land use from non-forest to forest.

Natural expansion of forest (sub-category of forest expansion): Expansion of forest through natural succession on land that, until then, was under a different land use, implies a transformation of land use from non-forest to forest (e.g. forest succession on land previously used for agriculture).

Forest degradation: a reduction in the capacity of a forest to produce ecosystem services such as carbon storage and wood products as a result of anthropogenic and environmental changes.

Deforestation: The conversion of forest to other land use independently whether human-induced or not.

Reforestation: Re-establishment of forest through planting and/or deliberate seeding on land classified as forest.

1. Executive Summary

“If the economy collapses, then society can still survive. If society collapses, it will take the economy with it, but nature will survive. But if nature –ecosystems, climate, biodiversity- collapses then everything falls apart.” Tone Bjordam

Fiji is heavily forested but also has high rates of deforestation and land degradation. Abandoned degraded lands are often recolonized by invasive species. Fiji land area is relatively small. As a consequence, even short run departures from sustainable management forest regimes can have significant long run impacts on forests and coastal areas. Indeed, deforested land is often linked to run off in the islands’ lagoons having a very negative impact on coral and fishes. Land and forest degradation also leads to habitat loss for key biodiversity as Fiji and the Melanesia is one of the world's biodiversity hotspots, with unique species found from the world's largest and highest tropical island to isolated oceanic islands with outstanding proportions of unique species. The habitat of this biodiversity needs to be preserved from degradation and invasive species and restored with native species.

The South Pacific, where Fiji is located is the most vulnerable region in the world to the impending effects of climate change. Climate change accentuates the negative impacts of deforestation and land degradation changes and further diminishes the biodiversity and ecosystem services, thus making the local population highly vulnerable to loss of livelihoods and incomes. With the country heavily reliant on agriculture and fisheries, its indigenous culture, economy and livelihoods are increasingly threatened by climate change and its associated challenges such as rising sea levels, environmental migration, ocean acidification, coral bleaching, seawater intrusion and intensifying weather patterns.

The agriculture, forestry and land-use sectors account for about a quarter of all global greenhouse gas (GHG). As deforestation and forest degradation have such a significant impact on climate change, reducing forest loss and land degradation can have multiple benefits for ecosystems, biodiversity and people. Forests can contribute to climate change mitigation and adaptation by increasing the resilience of local communities, allowing them to better resist to the changes in climate in general and to exceptional natural events in particular.

Currently the country has ongoing restoration activities, but apart there is a need for a clear strategy, and further mobilization of resources allowing for the restoration to be sustainable. Indeed, forest and landscape restoration in order to be sustainable and deliver the expected results on biodiversity, climate and livelihoods, needs to be well planned, implemented and monitored. The human and financial resources are lacking.

The proposed project Fiji: Forest Landscape Restoration for Climate Benefits and Resilience (Fiji FLR) will run for 8 years.

The project objective is to restore the productive capacity and ecosystem quality of Fiji’s forest landscapes, improve climate resilience of vulnerable local communities and improve storage and carbon sequestration.

It will do so by addressing gaps in land use planning and creating the necessary regulatory frameworks to enable customary stewards of the land to implement Forest Landscape Restoration at scale, supported by innovative financial mechanisms.

The envisaged interventions will create employment opportunities for the rural poor, especially for rural women in the seedling production and planting activities of the project. By involving people from communities adjacent to sites of intervention in all forest restoration activities (e.g. site preparation including access, fencing, planting, maintenance), field level interventions do not only provide temporarily employment in the involved communities, but acquired technical capacities and gained experience will help them to find jobs in the forestry sector in the future.

The project will therefore focus on both, field level sustainable, climate adaptive forestry investments as well as the empowerment of relevant stakeholders; local authorities, community-based organizations, the private sector and civil society.

Working in partnership with the Fiji Development Bank, the GCF’s Fiji Coral Reef Resilience Project”, and Global Environment Facility (GEF) projects, the project will bring a paradigm shift in sustainable management of

forests, mangrove and coral reef - a key pillar of inclusive socio-economic development in Fiji's 20-Year Development Plan 2017-2036.

2. Fiji forest sector context

1. General situation concerning forests in Fiji

Overview of land use and forests

Fiji is a Small Island Developing State (SIDS) in the South-west Pacific, geographically located at 18°S 179°E, consisting of a total of 332 islands of which 110 are inhabited. It has a total land area of 18,725 square kilometers of which around 57.7¹ percent is under forest cover, 87 percent of which is located on the two main islands, Viti Levu and Vanua Levu. These forested areas can be grouped into three main classes, natural forests, planted forests and mangroves. The natural forests constitute about 82.3% of all forests, softwood plantations account for 7.4%, hardwood plantations account for 6.2%, and mangrove forests account for 4.1%².

The average forest area per capita is 1.3 ha, nearly three times the global average. Forest areas has increased in proportion to total land area, from 55.09% in 2000 to 57.7% in 2020.

Table 1: Fiji forest cover in 2020 (These figures include mangroves, plantation forests, and native forests.)
Source: MoF Annual report 2021-2022

Forest Type	Total Area	Percent
Lowland Forest	998,065.01	89.64%
Upland Forest	74,040.51	6.65%
Cloud Forest	41,338.01	3.71%
Total	1,113,443.53	100.00%

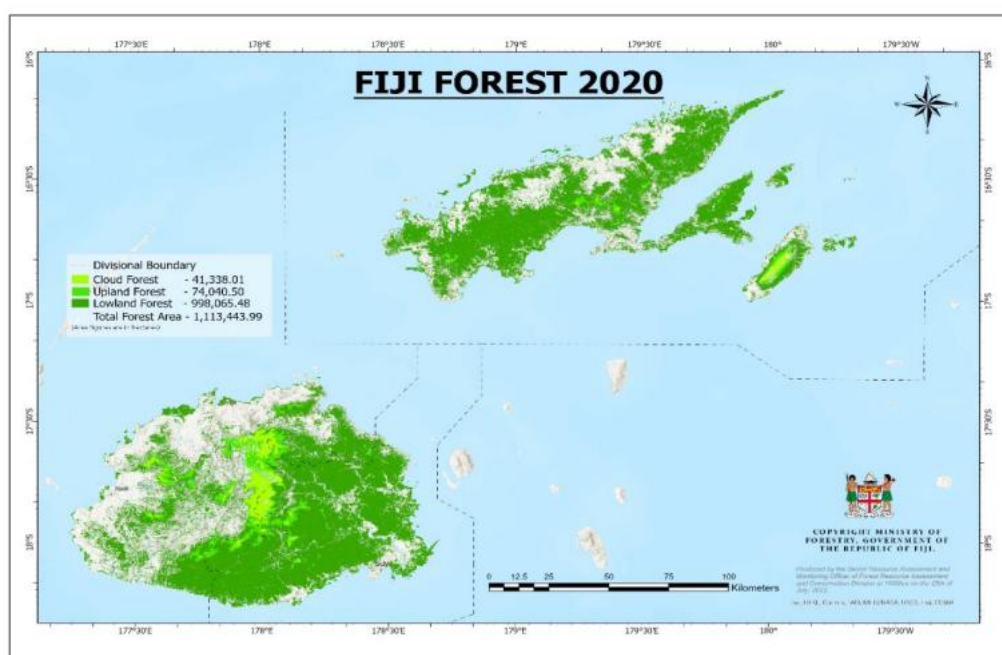


Figure 1: Fiji Forest cover map 2020 (Source: MoF Annual report 2021-2022)

1 Nair, C.T.S., Matta, R., Kumar, R., Lee, S. & Thomson, L. 2023. Pacific Forest Sector Outlook Study 2023. Apia, FAO.
<https://doi.org/10.4060/cc6201en>

2 MoF Annual report 2021-2022

<https://forestry.gov.fj/docs/ar/Min%20Of%20Forestry%20Annual%20Report%20Final%2001.09.23.pdf>

Historically, forest governance in Fiji has exploited the native forest. Unregulated timber extraction and a limited enforcement of and compliance with national forest policy has resulted in degradation, soil erosion and reduced productivity. Timber production leases on customary lands have historically resulted in uncontrolled cycles of short-term income and degradation. The role of the natural forests in log production sawn timber, veneer and plywood has steadily declined over the last decade.

Fiji's remaining native forest is now mainly confined to areas of high rainfall (> 2,500 mm), high elevation (> 500 m) and steep slopes (> 15%), with much of the accessible lowland forest cleared by loggers and later converted into plantations, agriculture or settlements.

The natural forest cover consists of 57.6% closed forests and 52.5 % of open forests (including secondary forests). During recent years there has been a decrease in closed forests and an increase in open forests, mostly attributed to cyclone disturbance and forest degradation due to logging. The increase in open forest is partly attributed to opening closed forests.

Fiji's native forests are increasingly being used for protection and conservation: the production of timber from native forests is gradually becoming less important as these forests are located in more difficult terrain. Instead, plantation forest is now dominating wood supply. The growing concern for the protection of the environment with increasing appreciation on the relationship between climate change and forests and the need for protecting forests is slowly getting traction within the thinking of the iTaukei landowners who own almost all of Fiji's native forest resources. The Prime Minister of Fiji declared at the UNFCCC COP 26 meeting in Glasgow that logging in Fiji's natural forests will be completely banned by 2030.

Much of Fiji's forest biodiversity is unique, there are 1,769 recorded native vascular plant species in Fiji of which 50% are endemic. Current best estimates suggest that Fijian flora consists of 310 pteridophytes (ferns and their allies) and at least 2,225 seed plants (monocotyledons and dicotyledons). Over 90 percent of some insect groups, such as cicadas and marine insects, are endemic. Out of a total of 27 reptile species, 12 are endemic³. Protecting its forests is thus crucial for global biodiversity and about 5% of Fiji's forested area is under long term conservation. Under the Fiji National Development Plan, Fiji targets to protect 16 percent⁴ of its native forests by 2030. (MoF strategic development Plan 2017-2030). As of date, Fiji has 16 Forest Reserves (22,214 ha)⁵, 6 Nature Reserves (5,373 ha) and 15 Parks (16,912 ha). Forest conservation activities includes forest areas which are legislated and conserved under law and non-legislated conservation areas managed by other agencies such as the Sovi Basin which is co-managed by the National Trust of Fiji and Sovi Landowners Committee. Fiji National Environment Strategy (NES) provides a list of 140 Sites of National Significance with recommendations that a formal legislative process be established to afford them greater protection.

Planted forest industry

The planted forest industry in Fiji has resulted in the development of two significant plantation resources based on pine and mahogany, making up 2.8 and 7.1 percent of the total forest area, respectively⁶.

Large scale pine (*Pinus caribaea*) and mahogany (*Swietenia macrophylla*) plantations were established during the mid to late 1900's. Pine plantations were mostly over dry grassland hills in the Western Division, while mahogany plantations established in logged over native forests mainly on the eastern and central parts of the larger islands. By 1975, the then Fiji Pine Scheme had a total pine estate of around 77,500 ha⁷ of which around 21,000 ha are stocked with pine, and by 2020 its total estate had increased to 83,367 ha with 29,749 ha stocked with pine. As for mahogany, high-value timber plantations of mahogany began in the 1960s, gathering momentum in the 1970-80s, by 2006 FHCL had a total area of 43,068 ha planted with mahogany, and by 2020 it has a total leased area of 75,277 ha of which 41,426 ha are stocked with mahogany, the balance consists of mixed hardwood species, and nature reserves. Current harvesting of mahogany requires a licence and ability to process and export to the international market. This is challenging given the significant reduction in hardwood timber mills. The small size of domestic markets, the high cost of processing and the absence of conducive policy environments constrain investment in wood processing.

Coconut planting is focused on communally owned land mostly in outer islands and in coastal regions of the main islands mostly in the southern coasts of Vanua Levu. Fiji still has around 10 million coconut trees

3 MoF, 2019a

4 MoF, 2019b

5 MoF, 2019a

6 Pacific Forest Outlook 2023, FAO

7 Ratubalavu, U., 2021

scattered over 65,000 ha of land mostly owned by small-holder farmers, almost 70% of these are in the Northern Division⁸.

The development of sugarcane farms has a long history dating to the late 1800's, land area cultivated under sugarcane increased from 56,000 ha in 1964 to 94,000 ha in 1987⁹, it then declined to 65,000 ha in 1999, and further declined to 39,300 ha in 2015¹⁰.

Fiji's major forest commodities include mahogany, pine and woodchips, sandalwood and teak. There has been an observed trend in the reduction of the total plantation areas. Due to the increasing demand from buyers for certified forest products, FPL and FHCL continued to strengthen their forest certification compliance, mostly for the pine chip market into Japan, and the mahogany sawn timber market into the USA, respectively.

In recent times the role of Fiji's forests has evolved from timber production more towards sustainable forest management, environmental protection, provision of forest ecosystem services, forest conservation, carbon sequestration, supporting livelihoods, and ensuring food security. These changes are associated with declining log production from natural forests, increasing global commitments of Fiji related to the ecosystem services of natural forests, and together with rising affluence and changing attitudes in the Fijian community.

Agricultural sector

Fiji has a relatively large subsistence and agriculture sector with a total land area of 194,768 hectares under agriculture, of which over 54% are operated under traditional ownership. Forest use and traditional subsistence farming dominated Fiji's landscapes for centuries and were main drivers of deforestation and forest degradation. The traditional practices of shifting cultivation have gradually been replaced by commercial agriculture and the significant expansion in commercial farmers of yaqona (kava), ginger, dalo, and cassava, has added significant pressure to surrounding forests and landscapes. Altogether, a total of 92.2 percent of agricultural land is managed by 63,113 households, mostly small holder farmers, on land parcels smaller than five hectares¹¹.

Amongst the key challenges in the rural sector including agriculture, is the non renewal of expiring agriculture land leases especially in the sugarcane areas, which has posed significant social challenges to communities that reside in leased agricultural areas. The decline in the agriculture sector is also due to other factors such as declining production in the sugar industry, and a declining interest amongst younger generations to take up farming.

Drivers of forest change

Land use in Fiji is influenced by a multitude of drivers operating at both local and national levels, with external factors exerting significant social, economic, environmental, and political impacts. Five key factors expected to drive land use change in Fiji during the next 10 years are:

- Impact of global events: The COVID-19 pandemic is an example of a global event disrupting both international and national value chains, profoundly affecting Fiji's economy through sectors like tourism and trade of forest products. This disruption has heightened the pressure on land resources, crucial for sustaining livelihoods and ensuring food security for the population.
- Environmental Challenges: Climate change is another driver, and result, of land use change. In addition to its direct negative impacts on people's lives and livelihoods, climate change is undermining the country's ability to invest in and sustain sustainable management of natural resources. The combined negative implications of man-made land use changes (such as deforestation, gravel extraction from rivers, mining, construction of dams and alike) and climate change-induced disasters such as droughts, flooding and cyclones already have severe impacts on natural resources, people, and livelihoods. Fiji is a relatively small emitter of GHG, but as a small island developing state amongst the most vulnerable against climate change (UN, 2024). For example, in 2016 the tropical cyclone Winston, the most devastating recent cyclone to strike Fiji and the strongest recorded cyclone to make landfall in the Southern Hemisphere, killed 44 people, adversely impacted 350 000, displaced 40% of the total number of relocations recorded in Fiji during the decade and damaged 32 000 houses. Similarly, floods

⁸ The Fijian Government, 2019

⁹ Raheed, A. Ali & Narayan, Jai. P., 1989

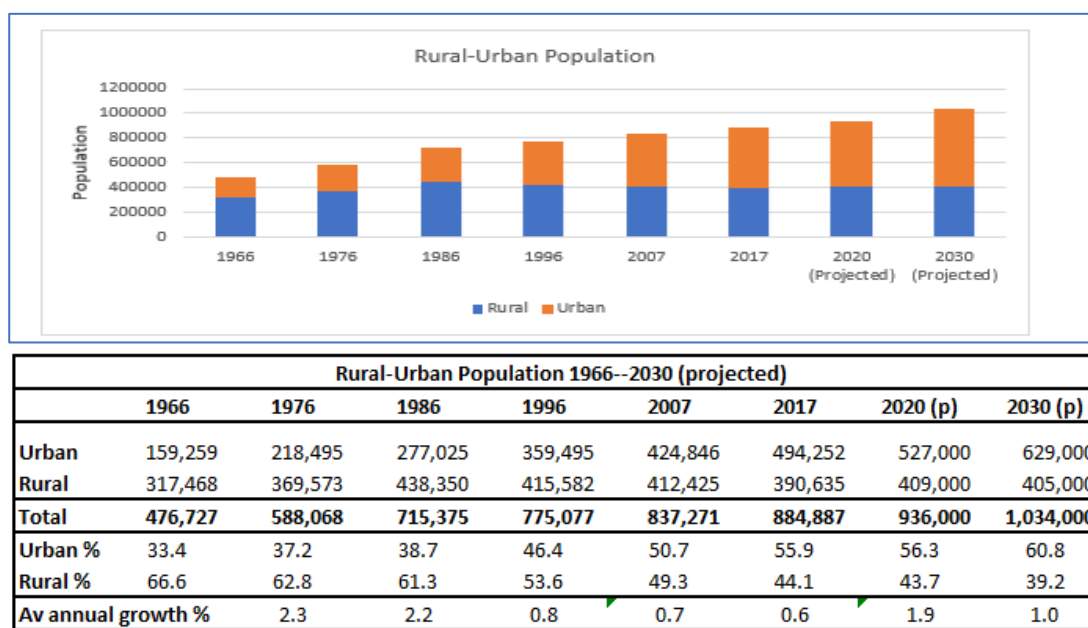
¹⁰ Sigh, A., 2020

¹¹ Fiji Agriculture Census, 2020

and landslides have during recent years continuously claim lives, harm property and infrastructure, impact businesses and livelihoods, and obliterate years of development progress.

- Demographic Dynamics: Population growth, urbanization, and a burgeoning youth population are pivotal demographic drivers shaping land use patterns. With a projected population increase from 889 953 in 2020 to just over 1 million by 2035 (UN, 2024a; and as seen in Figure 2), and 65% of the population expected to live in urban areas by 2050¹², these trends are anticipated to intensify pressure on land and forests. The population growth, urbanization and young population will exert pressure on Fiji's lands and forests to generate employment, improve living standards and expand infrastructure. For example, commercial monoculture systems, many with non-native species such as *Pinus spp*, are increasing whilst traditional farming systems for subsistence agriculture are declining across the country (Shah et al. 2018).

Figure 2: Population 1966 to 2017 and Projections for 2020 and 2030



Source: FBOS 2017

- Economic Imperatives: Economic conditions and development initiatives profoundly influence land use dynamics. Economic growth, infrastructure enhancements, digital connectivity, and Fiji's young demographic contribute to the nation's economic trajectory. Notably, sectors like agriculture and forestry play significant roles for Fiji's economic development, with forestry serving as a hub for Pacific re-exports and tourism contributing substantially to its GDP. Income growth has been relatively low in the last two decades, suggesting that the strategy of drawing down natural capital to boost economic development has not been fully effective. The success of any government will largely depend on its ability to enhance economic development, improve the standard of living for its population and its ability to address relevant sustainability issues.
- Policy and Legislation: Government policies and legislative frameworks exert substantial influence on land use planning and management. The government of Fiji has committed to more sustainable natural resource management as part of the SDG, UNFCCC, Paris Agreement, CBD and UNCCD. This also includes efforts made by NGOs, communities, private sector, and individuals. Relevant documents describing these commitments and efforts are:
 - National Green Growth Framework 2014
 - Fiji Forest Bill 2016
 - 5- & 20-Years National Development Plan 2017-2036
 - Forestry SDP 2017-2030
 - National Climate Change Policy 2018 – 2030
 - Low Emissions Development Strategy 2018-2050
 - Nationally Determined Contribution 2020

12 Source: <https://population.un.org/wup/publications/files/wup2014-highlights.pdf>

- Emission Reduction Program (REDD+) 2020--2024
- Climate Change Act 2021
- Fiji Emissions Reduction Programme
- Revised REDD+ Policy

Above drivers collectively shape the trajectory of land use and the forestry sector in Fiji. Addressing and building on these drivers requires integrated approaches that balance economic development with environmental sustainability and resilience-building initiatives.

Land tenure

The iTaukei Land Trust Board was established in 1940 (as NLTB) for the purpose of managing all iTaukei land. Prior to 2002, 83% of the land in Fiji was owned by iTaukei native land owners; 10% by the state; and 7% freehold. The 10% state land includes: 4% State land Schedule A, which is land reverted to the state after extinction of the *mataqali*¹³ that owns the land; and State Land Schedule B, which no iTaukei had ownership claims over. State Land Schedule A was converted to native land through a Bill passed in parliament in 2002. The new composition of land ownership after 2002 are: 87%, 6%, and 7% Native land, State land, and Freehold land respectively¹⁴ (See table 2 below). The Fiji Native Lands Commission (NLC) holds and manages the register for all native lands in Fiji.

Table 2: Categories of land ownership in Fiji, 2006

Types of ownership	% of Total Area Prior 2002	% of Total Area After 2002
Native Land (owned by iTaukei community)	83	87
State Land	10	6
Freehold land (owned by individuals of all races)	7	7
Total	100	100

Source: B.C Prasad, 2006

Natural forests are mainly on communally owned land which are managed by the iTaukei Land Trust Board; mangrove forests are on state land, the intertidal zone, managed under the Ministry of Lands and Mineral Resources; the pine and mahogany plantations are on leased land from iTaukei land owners managed by the two-state owned private entities, the Fiji Pine Limited (FPL), and Fiji Hardwood Corporation Limited (FHCL) respectively.

The iTaukei communities are responsible for making decisions on the utilisation of their forest resources. Any formal activity such as logging, or forest conservation undertaken on communally owned land requires the consent of the landowning community, and needs to be approved by the iTLTB after consultation with the Ministry of Forestry (who makes its decisions based on the Fiji Forest Policy). If it is a logging operation, then the MoF will issue a logging license under the Forest Act 1992 with a delineated boundary. The license condition will be in force on that piece of land until the logging operation is completed and the license expires after which the enforcement power of the MoF ceases on that area of forest, and it returns to the land owners whom often further convert it to agriculture.

FPL leases a total of 83,367 hectares for establishment of pine plantation of which 29,749 hectares (35.7%) are stocked with pine (*Pinus caribaea*). FPL currently has an annual planting target of 4,200 hectares with 20-30 years rotation period. Around 0.5million metric tons of pine logs are harvested annually consisting of 80% pulp logs; 12% sawlogs; 5% posts; and 3% fuel wood. Since 2013 FPL has embarked on its forest certification programme. Instead of increasing plantation size to 100,000 hectares as reported in the 2020 FSOS, FPL is planning to reduce total estate size down to 65,000 hectares by removing all commercially non-viable and unsuitable areas and to increase the stocked area to 45,000 hectares within the next 10 years.

FHCL leases a total of 75,277 hectares for the establishment of mahogany plantation mostly consisting of iTaukei Land of which 44,670 hectares (55.0%) are stocked with Mahogany while the rest are mostly stocked with other hardwood species, including unstocked areas. The current mahogany stocked area is a significant reduction from the company target to increase plantation area from 43,068 hectares to 50,000 hectares

¹³ iTaukei Land Owning Unit

¹⁴ B.C.Prasad, 2006

between 2008 and 2013, against the prediction in the FSOS 2020 of plantation expansion to 100,000 hectares by 2020. FHCL only manages the plantation, fell the trees and sells the mahogany logs to local processors through a tender and quota process. FHCL sets its sustainable yield at 80,000 cubic meters annually, which is far less than the calculated amount of 120,000 to 150,000 cubic meters annually.

Around 56.2 percent of Fiji's agricultural land are not under any form of, nor easy to put them under any form of land use agreement such as a formal lease; these consists of agriculture land which are "traditionally owned land"¹⁵ (54.1%), and "land occupied under informal arrangement" (2.1%)¹⁶.

The iTaukei Land Trust Board (iTLTB) is responsible for the management and administration of all iTaukei Land leases. Land is leased under two main Acts: Agriculture lands are leased under the Agricultural Landlord and Tenants Act (ALTA), non-agricultural leases are leased under the Native Lands Trust Act (NLTA).

Table 3: National land classes in Fiji, 2023

National Classes (1000ha.)	Freehold	Native	State	Total
Closed	31,958	523,938	27,737	583,631
Open	23,172	182,664	12,756	218,59
Plantation	10,531	100,813	16,51	127,853
Coconut	4,537	8,517	0,228	13,281
Non Forest	108,684	489,362	43,582	641,627
Inland Water	0	0	0	0
Total	178,882	1,305.293	100,814	1,584.988

Forest management and administration

Three entities are responsible for the management of Fiji's forest resources: the Ministry of Forests, Fiji Pine Limited, and Fiji Hardwood Corporation. Natural forests are managed by the Ministry of Forestry for its multiple uses including its economic, social and environmental functions. Plantation forests are managed by FPL and FHCL mainly for the production of pine and mahogany timbers, respectively.

Up until 1972 the Department of Forests (under the then Ministry of Primary Industries-MPI) was responsible for all matters relating to forest management and development for Fiji's natural forests, including the plantation development program mostly of pine and mahogany. In 1972, immediately two years after independence, Fiji hived-off the management of its pine plantation resource to be managed as a separate entity under the Fiji Pine Commission, which was fully corporatized in 1990. Similarly, Fiji's mahogany plantation was separated from the Department of Forests in 1999 when the mahogany was ready for harvest in order to manage its own development affairs and came under the Ministry of Public Enterprises.

During 2000, Forestry and Fisheries were separated from Agriculture and became the Ministry of Fisheries and Forests, with a separate Minister and a Permanent secretary to look after the affairs of the two departments, this move was key to a lot of development initiated in both the Forestry and Fisheries sectors within the last two decades.

By 2017, Forestry was again separated from Fisheries and became a Ministry on its own, with its own Minister and Permanent Secretary. With the ability to focus full attention on the forest sector, the Minister, Permanent Secretary, and Conservator during this time prepared the new strategic direction under the Forestry Strategic Development Plan 2017 to 2030, and focused on completing the new Forest Bill to help enforce the new direction.

The Ministry of Forestry is responsible for the issuance of licenses and enforcement of forest related laws for logging in natural forests, pine plantations, and mahogany plantations outside of the Fiji Hardwood Corporation

¹⁵ aka "vakavanua lease"

¹⁶ Pacific Forest Outlook 2023, FAO

plantation lease. The logging operations within the FHCL leased areas are licensed and monitored under the Fiji Mahogany Council.

The Ministry of Forestry is responsible for the development and implementation of the national forest policy: under the forest policy, Fiji Pine Limited and Fiji Hardwood Corporation are required to provide forest management plans to the Ministry of Forestry. Although the Conservator of Forests (CF) who is the head of the Department of Forests and is legally responsible for advising the Permanent Secretary and the Minister responsible for forests on all forestry matters, the position does not have much influence on how both the Fiji Pine Limited and Fiji Hardwood Corporation manage their plantation operations. The CF is a member and attends the Fiji Pine Ltd Annual General Meetings; and provides advice to the Permanent Secretary for Forestry who is a member of the Fiji Mahogany Council, which is responsible for the development of Fiji mahogany resource.

2. FLR in Fiji

The land area of Fiji is relatively small. As a consequence, even short run departures from sustainable management forest regimes can have significant long run impacts on forests and coastal areas increasing forest fragmentation and habitat loss. Deforested land is also often linked to run off in the islands' lagoons having a very negative impact on coral and fishes. This is linked to loss of habitat for key biodiversity.

Abandoned degraded lands are often either recolonized by vegetal invasive species, such as *Spathodea campanulata* (African tulip) preventing biodiversity and land productivity to return. Invasive species form a major pressure on Fiji's environment competing with indigenous species and habitats with little or no natural predation. In addition, invasives can impact society and the economy through loss of food production, as well as export restrictions from other countries, infrastructural and other agricultural losses.

Table 4: Predicted deforestation rate 2017-2047

(Source: *Drivers of Deforestation and Forest Degradation* - <https://fijireddplus.org/resources/>)

	Years	2017-2022	2017-2027	2017-2032	2017-2037	2017-2042	2017-2047
Rate of Deforestation	Viti Levu	6.67%	12.8%	18.4%	23.5%	28.2%	32.5%
	Vanua Levu/Taveuni	4.48%	8.53%	12.2%	15.5%	18.5%	21.2%
YEAR=>		2022	2027	2032	2037	2042	2047
Forest Area	Viti Levu	557,735	529,290	503,168	479,279	457,387	437,199
	Vanua Levu/Taveuni	401,292	395,317	389,967	385,126	380,740	376,775

As deforestation and forest degradation have such a significant impact on climate change, reducing forest loss and land degradation can have multiple benefits for ecosystems, biodiversity and people. Improved forest and landscape management can contribute to climate change mitigation and adaptation by increasing the resilience of local communities, allowing them to better resist to the changes in climate in general and to exceptional natural events in particular.

Forest and Landscape Restoration improves resilience, productivity and socio-economic value of land and forests for the benefit of human well-being, local livelihoods and the environment. It seeks a balance between restoring ecosystem services (e.g. carbon sink, biodiversity, soil and water conservation, etc.) and productive functions of land for agriculture and other uses that provide food, energy and other products and services for sustainable livelihoods. IUCN estimates that the restoration of 150 million hectares of degraded and deforested lands in biomes around the world would create approximately USD 84 billion per year in net benefits that could bring direct additional income opportunities to rural communities (e.g. access to markets and trade, jobs

creation, carbon sequestration). To this, should be added non-market benefits (e.g. resilience, biodiversity, water quality and recreation) as well as the whole potential of underdeveloped landscape value chains.

FLR is a comprehensive approach that contributes to climate change adaptation, mitigation and to the conservation of biodiversity. FLR puts a brake on deforestation drivers, enhances carbon sequestration in biomass and soils and contributes to climate change adaptation through increased resilience, safety nets and diversification of income.

By providing multiple ecosystem services and buffering communities from extreme climatic events, FLR plays an important role in the adaptive capacity of all local communities and the broader society.

Ten principles¹⁷ have been adopted in the framework of the UN Decade on Ecosystem restoration to share a common vision of ecosystem restoration. These principles detail the essential tenets of ecosystem restoration that should be followed to maximize net gain for native biodiversity, ecosystem health and integrity, and human health and well-being, across all biomes, sectors and regions.

Forest and landscape restoration is considered economically viable, when it includes sustainability measures that enable a direct, positive economic impact at household and community level (e.g. through livelihood and income diversification and strengthening). The combination of technical assistance and ecological restoration is expected to create positive economic impacts, increasing the productivity, resilience and economic viability of agricultural systems. There are diverse sustainable financing mechanisms developed through FLR. For example, the development of alternative livelihood opportunities (sustainable harvesting of timber and NTFPs), the establishment of community forest management funds, which have the function of collecting and redistributing income generated by forest products harvested from forest user groups, and the establishment of Payment for Ecosystems Services schemes (PES) as a reward for the implementation of restorative climate adaptive land management practices.

Sustainable Forest Management (SFM) as one of the core interventions of FLR is underpinned by robust data and information on climate variability and climate change and improves the adaptation of livelihoods to projected climate impacts. Indicative SFM measures includes the improvement of the forest sector efficiency through financial measures (including the forest ecosystem levy), the simplification of management rules and regulations, promotion of reduced-impact logging, and the promotion of certification. Adoption of SFM practices increases access to different parts of forests, reduces fire risks, and facilitates the protection of threatened populations and infrastructure. Additional SFM benefits include increased forest density and size, which extend the benefits of soil stabilization and thus reduce the risks posed by cyclones, heavy rainfall events, floods, and landslides. Improved management of forest biodiversity, including through protected areas, will help maintain and restore forests' natural resources and contribute to a positive feedback loop of increasing sustainability.

¹⁷ FAO, IUCN CEM and SER. 2021. Principles for ecosystem restoration to guide the United Nations Decade 2021–2030. Rome, FAO.








Land Use	Land sub-type	General category of FLR option	Description
Forest land Land where forest is, or is planned to become the dominant land use → Suitable for wide-scale restoration	If the land is without trees, there are two options:	1. Planted forests and woodlots 	Planting of trees on formerly forested land. Native species or exotics and for various purposes, fuelwood, timber, building, poles, fruit production, etc.
		2. Natural regeneration 	Natural regeneration of formerly forested land. Often the site is highly degraded and no longer able to fulfill its past function – e.g. agriculture. If the site is heavily degraded and no longer has seed sources, some planting will probably be required.
	If the land is degraded forests:	3. Silviculture 	Enhancement of existing forests and woodlands of diminished quality and stocking, e.g., by reducing fire and grazing and by liberation thinning, enrichment planting, etc.
Agricultural land Land which is being managed to produce food → Suitable for mosaic restoration	If the land is under permanent management:	4. Agroforestry 	Establishment and management of trees on active agricultural land (under shifting agriculture), either through planting or regeneration, to improve crop productivity, provide dry season fodder, increase soil fertility, enhance water retention, etc.
	If it is under intermittent management:	5. Improved fallow 	Establishment and management of trees on fallow agricultural land to improve productivity, e.g. through fire control, extending the fallow period, etc., with the knowledge and intention that eventually this land will revert back to active agriculture.
Protective land and buffers Land that is vulnerable to, or critical in safeguarding against, catastrophic events → Suitable for mangrove restoration, watershed protection and erosion control	If degraded mangrove:	6. Mangrove restoration 	Establishment or enhancement of mangroves along coastal areas and in estuaries.
	If other protective land or buffer:	7. Watershed protection and erosion control 	Establishment and enhancement of forests on very steep sloping land, along water courses, in areas that naturally flood and around critical water bodies.

Figure 3: FLR options framework¹⁸

3. FLR Participatory approaches

Successful FLR processes supported by FAO are highly participatory from the regional to the national and the local levels. They are not only respectful of local communities but strive to empower them as key actors and decision makers in FLR planning, implementation and monitoring. This FLR approach help improve livelihoods through enhanced ecosystem services delivery and provision of sustainable economic alternatives. Without strong commitment from local communities, linked to benefits they receive from FLR and the development of new economic opportunities, FLR can't be successful.

FLR is an integrated approach that relies on people's participation to balance trade-offs between conservation and production objectives, and seeks that balance at multiple scales. Due to its wide encompassing objectives, it supports cross sectorial and inter-institutional approaches. By ensuring broad participatory approach for planning, monitoring and implementing FLR, FLR process empowers stakeholders and enables them to reconcile their potentially divergent objectives, thus opening up new ways towards a sustainable, fair and inclusive development. These aspects are a priority focus of FLR process and a key ingredient of success.

Activities such as Ecosystems Based Management (EBM), Ridge to Reef projects, Integrated Coastal Management (ICM) are community-based activities that brings communities, social groups, and individuals together under a range of initiatives and interests, at the national, and local level to promote land use planning and management, and identify solutions towards the cumulative negative impacts of poorly planned and inappropriate land use related activities on their surrounding ecosystems. This results in various forms of community driven land use plans, EBM Plans, ICM Plans, Ridge to Reef plans, Participatory Community based Land use plans which are coordinated by various action groups at the village, district and provincial levels. Such

¹⁸ IUCN and WRI (2014). A guide to the Restoration Opportunities Assessment Methodology (ROAM): Assessing Forest landscape restoration opportunities at the national or sub-national level. Working Paper (Road-test edition). Gland, Switzerland: IUCN. 125pp

plans also build elements of climate change adaptation, and disaster risk reduction into their planning processes¹⁹.

Amongst the few things that the iTaukei people of Fiji hold so dear to their hearts is their “land” including its natural resources. Each village, districts, and province have various levels of the natural resources management committees operating in them. Lands, including forests and trees, form an intrinsic component of the iTaukei community and its cultural identity.

4. Ridge to Reef approach

Definition

The Ridge to Ridge (R2R) approach is an integrated ecosystem approach for managing environment and natural resources in Pacific island countries. It recognizes the high level of interconnectivity between land, surface or groundwater, coastal and marine resources and ecosystems (UNDP, 2013). For example, emphasizing how degraded landscapes may lead to heavy freshwater and contaminant flux at the coast (Carlson, Foo and Asner, 2019)

In Pacific Small Island Developing States (PSIDS) specifically, R2R refers to approaches integrating freshwater and coastal area management, and their interdependency of ecosystems in the upland or mountain ‘ridges’ of volcanic islands, via coastal watersheds and habitats, and across coastal lagoons to the fringing ‘reef’ marine environments associated with most PSIDS (Pacific R2R, 2013). By addressing environmental degradation in the ridge that negatively impacts coastal ecosystems, for example through sedimentation, floods, and droughts, the R2R approach aims for holistic interventions that protect and nurture the coastal area. It also aims to restore shorelines and protect the reef marine ecosystems and thus mitigating storms, coastal and inland flooding and increase people’s resilience and coping capability against these shocks. (Panorama, 2017).

Emphasizing the connectivity between different ecosystems and stakeholders from the uplands to the coast, the R2R approach requires cross-sectoral coordination and multi-stakeholder inclusion in the planning and management of the targeted ecosystems (Pacific R2R, 2013).

Relevance of R2R for Fiji

An R2R approach is particularly relevant for Fiji as connections between land and sea are extra strong on high volcanic islands, of which Fiji has several (Carson, Foo and Asner, 2019). This is partly due to islands containing erosive andesite soils and small, steep watersheds, where each unit of land-use change can heavily impact coastal water quality. Furthermore, marine species part of island ecosystems are extra sensitive to land-based change as more fish and invertebrate species are diadromous on islands compared to continental land and therefore, island biodiversity relies heavily on terrestrial habitats (Carson, Foo and Asner, 2019).

The complex and biodiversity rich interconnected landscape and seascape in Fiji makes it crucial to restore and manage its productive capacity and ecosystem quality (Fiji FLR concept note, 2023). A mapping of ecosystem services and functions from ridge to reef conducted by stakeholders in Taveuni, Fiji, identifies local communities’ dependency on various ecosystem services and functions from the ridge to reef (Heider, 2017). Similarly, a large part of Fiji’s economy depends on its natural resources (Government of Fiji and UNDP, 2014). The country’s five biggest export products in 2021 all depend on natural resources: mineral water, oil, gold, wood chips and sugar (WITS, 2021). Similarly, the tourism, agriculture, fishery and forestry sectors are large contributors to the economy (Britannica, 2023) - all of which depend on healthy ecosystems for their success. For example, more than 60% of Fiji’s commercially important fish and 83% of subsistence fish species depend on mangrove areas for some phase of their life cycle (Government of Fiji and UNDP, 2014).

Much of the country’s biodiversity is unique to Fiji and various species are not found anywhere else on the planet. 50% or more of the country’s plants and birds, all 24 palms, 72 of the 76 species of Psychotria, over 90% of some insect groups, and 12 out of a total of 27 reptile species are endemic (CBD, 2023). The country has the third largest area of mangrove within the Pacific Island region (517 sq km), ensuring a rich biodiversity and supporting commercial fisheries (CBD, 2023). However, economic development is putting pressure on Fiji’s biodiversity: 25% of bird species, 11.7% terrestrial mammals, 67% of amphibians, 67% of marine mammals and 11% of reptiles and plants are either threatened or endangered (CBD, 2023).

19 Nair, C.T.S., Matta, R., Kumar, R., Lee, S. & Thomson, L. 2023. Pacific Forest Sector Outlook Study 2023. Apia, FAO.

Climate change is predicted to affect Fiji negatively in multiple ways (PACCSAP, 2015). For example, sea level is predicted to rise 7–17 cm by 2030, and between 22–86 cm by 2090 (depending on the level of emission scenario). Meanwhile, annual mean temperatures and extremely high daily temperatures are projected to increase between 0.4–1.0°C by 2030, and between 0.3–4.0°C by 2090 (depending on the level of emission scenario). The wet season is predicted to have more and intense rainfall and cyclones are predicted to occur less frequently, but with increased intensity. (PACCSAP, 2015).

Degradation of the Fiji's ecosystems will, where not already, negatively affect its economic development and people's livelihoods. More sustainable management of natural resources and ecosystems across the country, from ridge to reef, is needed for the country to sustain its economic development, ensure people's livelihoods and strengthen the resilience towards climate change, extreme climatic events, and secure the country's rich and unique biodiversity. A R2R approach is also in line with the major indigenous people of Fiji, the iTaukei, and their concept of *vanua*, which connects the health of the land, the sea, and its human and non-human dwellers, at the same time stressing the importance of addressing land-sea processes (Fache and Pauwels, 2022).

Importance of upland forests in a R2R approach

As seen in Annex 1 (land use impacts on coral reef), forests affect ecosystems from ridge to reef in diverse ways. Restoring forests in upland areas of Fiji would strengthen not only these ecosystems and the wildlife and livelihoods depending on them, but also those of coastal, marine and coral reef ecosystems, and those in-between. As identified in the mapping of ecosystem services and functions from ridge to reef conducted by stakeholders in Taveuni, Fiji, the three vegetation "levels" closest to the ridge (inter valleys, deep forest and cloud forest) all provide ecosystem services and functions with local and downstream benefits (Heider, 2017). For example, by absorbing rainfall and reducing freshwater inputs to coastal areas and marine habitats, stabilizing soils and reducing erosions and landslides, and absorbing and fixing soil nutrients and heavy metal minerals in soils and groundwater (Carson, Foo, Asner, 2019).

Simplification of ecosystems, especially loss of keystone species, makes them more vulnerable to other forms of degradation, including the major cross-cutting threat of climate change (Government of Fiji and UNDP, 2014). For example, in Madagascar, simulated loss of 10–50% natural forest increased predictions of sedimentation to coral reefs by up to 64% (Maina et al., 2013). Or in Guam (Fouha Bay and Asan-Piti watershed coastline) where declines in coral cover, growth rates and richness were linked to timelines of forest loss by military activity in the Battle of Guam and forest burning by hunters (Prouty et al, 2014; Richmond et al., 2007). A third example of how forest cover relate with coral health is from the Solomon Islands, where extensive logging contributed to a loss of reef habitat from 3528 to 1941 ha, decreasing populations of inshore Acroporid corals and associated parrotfish species (Hamilton et al., 2017). Meanwhile, Delevaux et al. (2018) predicted through scenario-based modelling of Fiji that 573.8 ha of forest restoration across eight watersheds would decrease sediment delivery to the coast by 24.2 tons yr⁻¹, resulting in a 1.1% mean increase in coral cover across 577 ha of benthic habitat, and 13.9 kg ha⁻¹ increase in fish biomass.

Clearly, restoring upland forests and landscapes is crucial for strengthening Fiji's biodiversity, climate change mitigation, national economy as well as people's livelihoods from the ridge to reef.

5. Existing investments for forest and landscape restoration

It is evident that the range of landscapes, forest type and distribution, and management approaches influenced the type of investment and investors engaged with sustainable land and forest management. This is important to consider when looking at investment opportunities across the country and how they can support the diverse approaches to sustainable forest and land management. There is a diversity of financial mechanisms currently investing in sustainable land management across the Pacific region. While a range of factors drive these investments, they predominantly seek a return on investment (Kerin 2020).

Direct investments in sustainable land management were identified in Fiji. Investments in projects directly at flood management or climate change resilience often had co-benefits that also supported restoration, conservation and sustainable use of forests across the region. These include restoration, reduced net emissions, improved carbon stock, building climate resilience, growing alignment to SDGs, improved food security and livelihood diversity.

Investment in forestry and sustainable land management varied significantly in terms of investment mechanism, investor, investment objective and recipient. Returns on investments are unlikely to be linear and may also vary over time because of climate change impacts (Price and Toonen 2017). Mitigating and managing

investment risk with the uncertainty has a significant impact and influence on the type and size of investments needed to support sustainable land management.

In 2015, the Ministry of Forestry has developed targets for afforestation and reforestation in 365 500 ha of open forest on the three main islands. This aimed to use climate-adapted native species through assisted natural regeneration (ANR) in degraded forest areas buffering protected areas. The Fiji National Forest Harvesting Code of Practice has led to the issuance of Forest Harvesting Licenses by the Ministry of Forestry, in collaboration with the iTaukei Lands Trust Board. These have improved monitoring and evaluation of harvesting and reduced local conflict among users. Funds from these licenses are used to support reforestation. With each license covering an estimated 150 ha of native forest, however they often prove to be uneconomical to implement long-term investment on sustainable management.

Market-based mechanisms such as PES in Fiji illustrated how investments can be adapted to the context of local customary land tenure and have high community engagement.

Payments for forest conservation activities have been implemented in Kilaka Village, Fiji. With support from the Wildlife Conservation Society (WCS), traditional landowners brokered and secured a 99-year conservation lease through the government iTaukei Land Trust Board. Threatened by logging and mining development, the lease provides an alternative economic incentive to the community to retain and preserve 402 ha of pristine native forest in Vanua Levu (Mangubhai and Lumelume 2019). The PES scheme is part of a wider ecosystem co-management arrangement between WCS and the local community, the Kubulau District Ecosystem-based Management Plan. This has enabled the traditional landowning clan to lead the daily forest management, enforcement, monitoring, and evaluation. It has also protected forest biodiversity and water sources, critical for the community

3. Sector Performances

Fiji has a relatively small economy, and is classified as a middle-income country with per capita income of approximately USD 10,000²⁰ but with large income disparities, particularly across rural and urban areas. The national economy had grown at an average rate of above 3 percent for the last decade²¹, with significant economic contributions from the agriculture and forestry sectors²².

Around 46 percent of Fiji's population live in rural areas, and over 75 percent participate in farming, livestock production, forestry, or fishing²³, engaging around 66 percent of the total workforce. Agricultural sector contributed 6.8 percent to GDP in 2019. The forestry and logging industry contributed 34.1 million FJ\$ (0.4%) to Fiji's real GDP in 2021, a 28.2% increase compared to the 26.6 million FJ\$ (0.3%) contribution in 2020. The forestry and logging industry was one of only five industries that grew in a COVID-19 era coupled with tropical cyclones that affected the nation. However, it is essential to note that forestry work goes beyond the raising of seedlings, tree planting and harvesting of trees. The forestry sector, in totality, also contributes to the growth of many other industries, such as the manufacturing industry which includes sawmilling and planting of wood as well as the manufacture of wood products. The combined forest-related activities within the forestry sector contributed 162.5 million FJ\$ (1.9%) to the national GDP by the end of 2021. The significant contribution of 55.3 million FJ\$ was from the sawmilling and planning of wood activity, followed by the forestry and logging industry, which contributed 34.1 million FJ\$²⁴.

20 MoF, 2019b.

21 MoE, 2020.

22 Nair, C.T.S., Matta, R., Kumar, R., Lee, S. & Thomson, L. 2023. Pacific Forest Sector Outlook Study 2023. Apia, FAO.

23 UNCCD National Focal Point, 2007; GoF, 2015; Akram-Lodhi, 2016

24 MoF Annual report 2021—2022

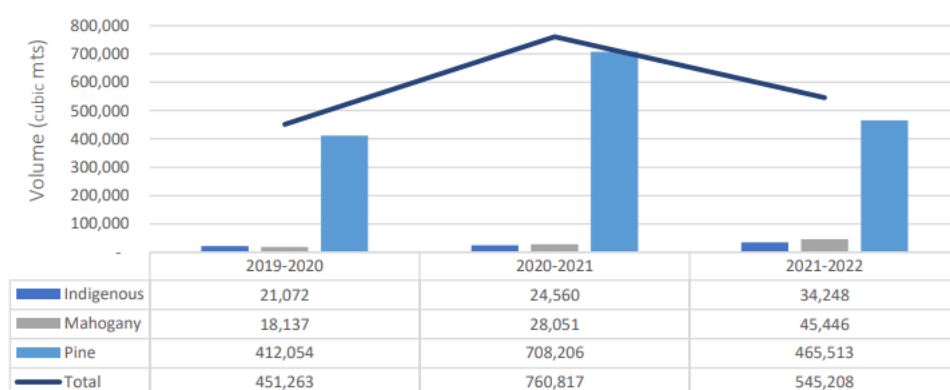
Table 5: Forestry Sector contribution (2019-2021)**Source: Fiji Bureau of statistics, 2022 Notes: re-revised, p: provisional**

Industry by economic activity	2019r		2020r		2021p	
	FJD [Millions]	% Contribution to Real GDP	FJD [Millions]	% Contribution to Real GDP	FJD [Millions]	% Contribution to Real GDP
Forestry and logging industry	24.7	0.2	26.6	0.3	34.1	0.4
Manufacturing industry						
Sawmilling and planning of wood	68.7	0.6	60.0	0.7	55.3	0.7
Manufacture of products of wood, cork, straw and plaiting material	18.4	0.2	22.1	0.2	21.5	0.3
Manufacture of pulp, paper and paperboard	2.4	0.0	2.3	0.0	2.2	0.0
Manufacture of corrugated paper and paperboard and containers of paper and paperboard	11.9	0.1	11.6	0.1	11.6	0.1
Manufacture of other articles of paper and paperboard	21.2	0.2	24.0	0.3	22.0	0.3
Manufacture of Furniture	6.8	0.1	6.4	0.1	6.2	0.1
Total	154.1	1.4	153.0	1.6	162.5	1.9

Average log production between 2014 and 2020 was 38,000 cubic meters from natural forests; 31,000 cubic meters of mahogany, and 385,000 cubic meters of pine (Figure 4). Pine output continues to dominate and dictate total volume of production and total value of exports. The dip in 2016 production was due to damage from the tropical cyclone Winston.

For the year 2021-2022, Fiji had a total of 43 licensed sawmills 106 sawmills consisting of comprising of 23 static and 20 portable sawmills and 19 timber treatment plants.

In the year 2021-2022, the national log production was 545 208 cubic meters, which is a decline of 215 609 cubic meters (28.3%) when compared to the previous financial year. Of this total volume of 545 208 cubic meters, Pine constitutes 85.4%, Mahogany 8.3% and indigenous species 6.3%

**Figure 4: National log production Aug 2019-Jul 2022 (Source: Fiji Bureau of statistics, 2022)**

In the year 2021-2022, the timber/wood product export amounts to 101.2 million FJ\$, an increase of 3.9 million FJ\$ (4.0%) from previous financial year, and the timber/wood product import 12 million FJ\$. Fiji's main timber related exports are woodchips followed by mahogany and other wood products. Pine chips contributed the most with a total value of 50.1 million FJ\$ (50%), followed by sawn timber at 36.2 million FJ\$ (36%), Slabs at 8.9 million FJ\$ (9%) and decking at 3.5 million FJ\$ (3%). Domestic exports of wood products accounted for 9.5% of total domestic exports²⁵.

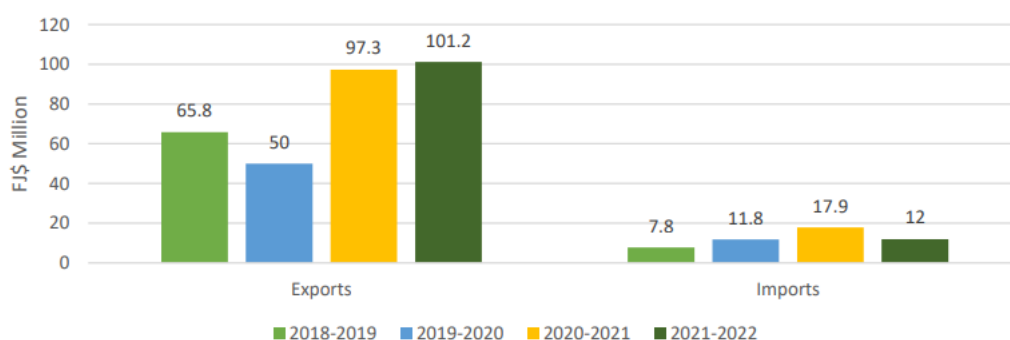


Figure 5: Exports and imports of wood products - Source: MoF Annual report 2021-2022

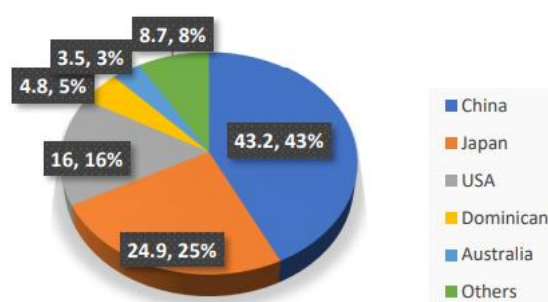


Figure 6: 2021-2022 exports by country of destination - Source: MoF Annual report 2021-2022

The major export destinations for 2021-2022FY are China with 43.2 million FJ\$, Japan 24.9 million FJ\$, the USA 16.0 million FJ\$, the Dominican Republic 4.8 million FJ\$, Australia 3.5 million FJ\$ and others totaling 8.7 million FJ\$.

For the 2021-2022 FY, the total import value was 12.0 million FJ\$, a decline of 5.9 million (33.0%) when compared to the previous period. Major imported products include plywood, particle board, hard board, laminated board and sawn timber.

Products/Commodities	Import Value
Plywood	3,175,330.08
Particle Board	2,699,940.68
Hardboard	1,600,827.10
Laminated Board	853,813.40
Sawn Timber	628,232.31
Others	3,048,543.59
Total	12,003,687.16

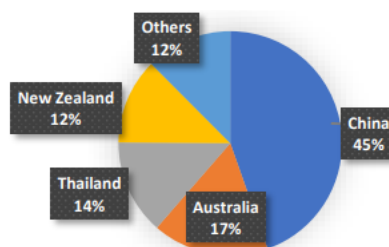


Figure 7: Imports by commodity and country of origin 2021-2022 - Source: MoF Annual report 2021-2022

The launch of the Export and Import Online licensing system in 2020 made trading much more efficient and effective for stakeholders, who can apply for a permit from any location without having to visit the MoF office.

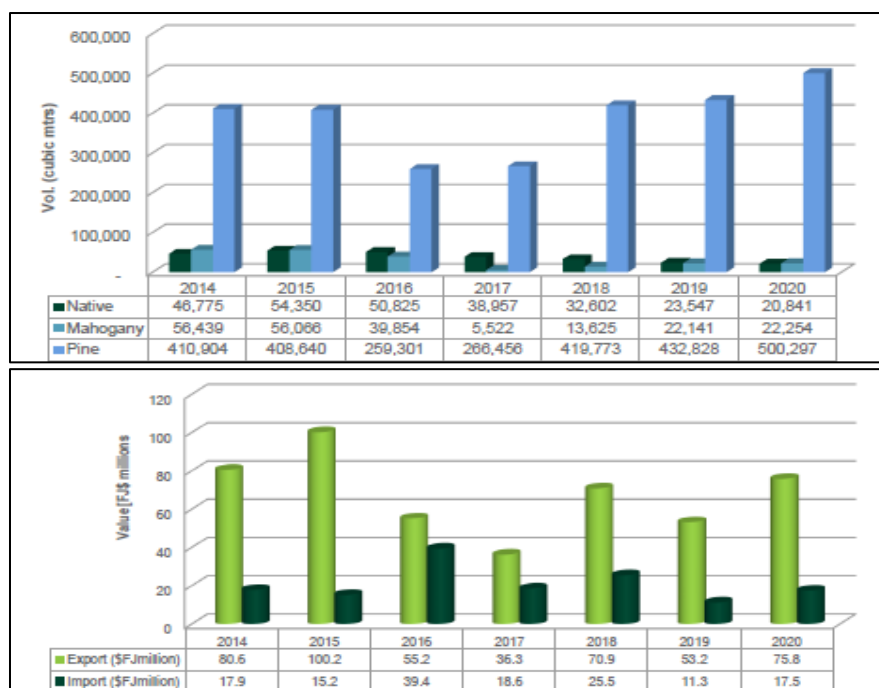


Figure 8: Log Production and Exports 2014 to 2020 - Source: Ministry of Forestry

Plantation development, logging, sawmilling, including other forest related activities are major sources of employment supporting social and economic development in both rural and urban areas. The formal employment number in forest-based operations recorded by Fiji Bureau of Statistics through its Annual Employment Survey stood at 918 in 2020. It's an increase of 6 per cent compared to the 2019 employment number of 865.

Table 6: Formal employment in forestry, 2020 - Source: Fiji Bureau of Statistics, 2022

No.	Main Economic Activity	Number of Employees		
		2018	2019	2020
1.	Nursery	14	25	44
2.	Tree cultivation & Conservation	444	397	414
3.	Logging	72	93	99
4.	Log processing & Sawmill	210	197	211
5.	Government ¹	140	153	150
	Total	880	865	918

Since 2013 Fiji Pine Limited paid over 25 million FJ\$ for various services and expenses including land lease payments of around 1million FJ\$ annually, and stumpage of 12% of net revenue from product sales, and other economic benefits to landowners. Similar arrangements exist for landowners of the mahogany plantations under FHCL. As pine and mahogany are planted on land leased from iTaukei landowners, government had set up two trusts to look after the affairs and interests of concerned landowners. The offices and activities of both trusts: the Fiji Pine Trust and the Fiji Mahogany Trust, are fully funded by government annual budgetary allocation. Both trusts are responsible for ensuring the meaningful economic participation of landowners and their integration into the forest sector.

Forests provide diverse subsistence products in Fiji, such as food, medicines, fuel, construction materials and cultural artifacts. They also provide essential services such as watershed protection, soil and biodiversity conservation, and spiritual and cultural services. Wood fuel is the most important source of energy for cooking and heating, although reliable data on production and consumption are unavailable. Recent efforts to move up the biomass energy value chain include wood-pellet production and power generation in dendrothermal plants.

4. Main Policy framework, strategy, laws

At global level

The restoration of forest and landscape is recognized by the major UN conventions as an instrument to protect biodiversity (UNCBD), mitigate and adapt to climate change (UNFCCC) and reduce land degradation (UNCCD). For example, forest and landscape restoration is key to achieve target 2 of the global biodiversity framework, and the Sustainable Development Goals 1, 2, 3, 10, 11, 13, 14 and 15.

As recognized in the Paris Agreement, forest-based options are key to achieve countries' Nationally Determined Contributions (NDCs) through joint mitigation and adaptation approaches (REDD+) providing both carbon and non-carbon-benefits.

The effective implementation of the Bonn Challenge²⁶ (restoring 350 million hectares by 2030), through several existing Forest and Landscape Restoration regional initiatives, represents an opportunity to scale up restoration impacts, thus contributing to achieving Nationally Determined Contributions.

The United Nations General Assembly has proclaimed the UN Decade on Ecosystem Restoration following a proposal for action by over 70 countries from all latitudes. The UN Decade runs from 2021 through 2030, which is also the deadline for the Sustainable Development Goals and the timeline scientists have identified as the last chance to prevent catastrophic climate change. The UN Decade on Ecosystem Restoration is a rallying call for the protection and revival of ecosystems all around the world, for the benefit of people and nature. It aims to halt the degradation of ecosystems, and restore them to achieve global goals. Only with healthy ecosystems can we enhance people's livelihoods, counteract climate change, and stop the collapse of biodiversity.

At regional level

In Asia-Pacific, a new regional FLR Strategy and Action Plan is in preparation with FAO support, based on the decisions taken on the occasion of the 26th session of the Asia-Pacific Forestry Commission (APFC) held in February 2016. This regional strategy, aligned with existing APEC members' commitments aimed at increasing forest cover by 20 million hectares by 2020 is promoting several strategic lines. It has been formally endorsed by APFC members on the occasion of its 27th session, in October 2017.

The strategy builds a common understanding of FLR approaches around the vision of restoring and sustainably managing landscapes across the region (including specific needs of Pacific Islands) by providing a sustainable balance of ecological, economic and social benefits of forests and trees within a broader pattern of land uses. Its three objectives are: (i) facilitate and mobilize efforts and funds for FLR, (ii) strengthen stakeholder involvement; scientific knowledge and ecological, social and economic sustainability of FLR efforts and (iii) enhance knowledge sharing and coordinated action across Asia-Pacific.

At national level

Forest related policies

The forest sector has played a crucial role in the economic development of Fiji since the sandalwood trades of the early 19th century. In 1913, the legislation for the protection of forests provided the machinery for the constitution of forest reserves and their protection. The Department of Forests was first established by the Government of Fiji in 1937.

The first Forest Policy for Fiji was developed in 1950, while Fiji's forest sector and related industries were first legislated under the Forest Act of 1953. The policy promotes sustainable forest management practicing tree marking during logging operations. This changed in the early 1970s as demands for economic development increases resulting in heavy logging in the natural forests of a selected number of species, and restocking with mahogany while poisoning the larger trees to make way for the planted species; the Fiji forest policy was also responsible for the establishment of pine plantations and numerous forest and nature reserves throughout Fiji, often sanctioned through ministerial proclamations. The fact that a number of nature and forest reserves were established even prior to 1950 reflects the pro-conservation thinking that was prevailing during that time. Fiji's early forest policy was forward thinking and already taking into account the importance of forest protection for soil conservation, conservation of biodiversity, and even stressing the importance of ensuring ecosystem services. Compared to the number of discussions and consultations that are needed today in order to secure

26 <https://www.bonnchallenge.org/>

forest for conservation purposes, the landowners during that time played a very limited role: most of the discussion and decisions were done by senior government officials of relevant government department, the Fiji Native Lands Trust Board (now iTLTB), together with relevant chiefs.

The Forest Act 1953, responsible for the implementation of the 1950 forest policy, focused on establishing the process to ensure the sustainable management of Fiji's forests, establishes the office of the Conservator of Forests and its functions, including the Forestry board, its role and membership, and the process for appointment of its members. The Act also prescribes the process under which the Minister for forests makes declarations for nature reserves and forest reserves, and defined how they are to be managed. The Act further specifies the process and conditions for the issuance of various types of harvesting licenses. A significant element within the Act is the requirement for a logging plan as a condition for the issuance of a logging license, which includes: the specification of an annual cut, specifies any trees to be left in place, specification for trees to be felled, indication of all proposed roads, and skidding tracks, and specifies any form of reforestation or other post harvesting operations that will be carried out. Under this Act, the Forest Sawmills Regulation, Forest Guard Regulation, Forest (Fire Prevention) Regulation and the Forest (Timber Marks) Regulation were established in the 1950s through the 1970s to ensure compliance and sustainable use of forest resources. The approval of the forest policy to establish sawmills, establishment of the Coloi-Suva forest nursery and identification of commercial species first took place in the 1950s. Mahogany and pine plantations were subsequently established in the 1960s and 1970s, providing an opportunity for the establishment of the pine processing facilities in the 1980s.

A National Code of Logging Practice was established in 1990, to ensure the protection of forest workers, and endeavors to control the negative impacts of logging on native forest and associated ecosystems. The code was later expanded to include environmental and forest silviculture aspects. In addition to requirements of the Forest Act, logging licenses are also required to comply with the conditions of the code. The code was revised in 2013 to ensure the sustainable harvesting of logs, and renamed as the Fiji Forest Harvesting Code of Practice (FFHCOP).

The 1953 Forest Act was later repealed by the 1992 Forest Decree, which was a Decree relating to forest and forest produce with emphasis on the utilisation of forest resources. The need for the revision of the 1953 Act was to, amongst other things; strengthen the role of the Ministry in terms of increasing the membership and representation of the Forestry Board and enforcing stringent measures by applying increased fines and penalties to those who break the laws. Since its establishment, the 1992 Forest Act has been a major governing document in the forestry sector. This Act led to the formulation of the Forest Preservative Treatment Regulation of 1992. The Fiji Forest Act (1992) is the main law regulating forest use in Fiji. In 2007, the Forestry Sector reviewed its National Forest Policy, with a significant focus on sustainable forest management. It aimed to set a balance between timber production, the conservation of forest biodiversity, and the promotion of forest ecosystem services, including the role of forests in addressing climate change mitigation and adaptation challenges as the basis for the management of Fiji's natural forest resource. The policy also promoted landowner involvement, a multistakeholder approach to forest and landscape management, and defined the key stakeholders of the forest sector, their expected roles with an implementation and financing strategy.

Since then, extensive consultations had been carried out with all Stakeholders of the Forest Sector resulting in the draft 2016 Forest Bill. The draft 2016 Forest Bill was introduced in September 2016; at the same time the Ministry of Forests was created to address forestry issues in the modern era. The draft 2016 Forest Bill provides for protection, management, development and sustainable use of Fiji's Forest resources to provide social, economic and environmental benefits to Fijians for the current and future generations. This Bill also enables the full implementation of the current Fiji Forest Policy of 2007, whilst addressing areas that were not covered in the 1992 Forest Act. It adopted a cross-sectoral approach, focusing on environmental protection and sustainable development rather than being confined to forest harvesting as in the 1992 Forest Act. The draft 2016 Forest Bill further addresses the Outcomes of Fiji's National Green Growth Framework and key elements within Fiji's draft National Development Plan.

The revised forest decree (or Forest Bill 2021) has significant improvements, major ones include the inclusion of the Permanent Secretary for Forests, and more detailed articulation of the role and responsibilities of the Conservator of Forests. The forest bill requires the forest policy to be revised every five years, and specifies the classification of Fiji's forest into three main forest categories: multiple use forests, forest plantations, and protection forests. The bill also requires a national forest resource assessment to be conducted every ten years. As a requirement for obtaining a logging license, all license holders and owners of forest plantations are now

required to conduct their own forest resource assessments known as forest management inventories. The bill specifies two specific types of forest licenses: a special harvesting license for harvesting operations, and a forest management license which includes the licensing of forest plantations. A significant addition to the forest bill is the section on forest carbon trading which specifies the conditions for implementing projects, programs or activities that will involve the transfer of forest carbon rights.

Table 7: Forestry sector management, 2022 - Source: MoF Operational plan 2021-2022

Legislations	Regulations	Policies	Plans	Manuals
<ul style="list-style-type: none"> • Forest Act 1992 • National Research Bill • Environment Management Act (EMA) • Biosecurity Promulgation • Native Land Trust Act 2012 (amended) • Climate Change Act 2021 • Investment Fiji Act 2022 • State Lands (Amendment) Act 2022 	<ul style="list-style-type: none"> • Forest Sawmills Regulations 1968 • Preservative Timber Treatment Regulation 1992 • Forest Guard Regulations 1975 • Forest Fire Prevention Regulation 1972 • Environment Management (EIA Process) Regulation 2007 • Environment Management (Waste Disposal & Recycling) Regulation 2007 	<ul style="list-style-type: none"> • Fiji Forests Policy 2007 • REDD+ Policy 2011 • Forest Certification • Draft Forests Plantation Policy • Fiji Climate Change Policy 2018-2030 • Public Private Partnership Policy 2019 • Draft Energy Policy 2013 • Fiji Rural & Land Use Policy 2005 • Fiji NDC Implementation Roadmap 2017-2030 • Fiji 2020 Agriculture Sector Policy • Policy for Gender in Agriculture Fiji (2022-2027) 	<ul style="list-style-type: none"> • National Biodiversity Strategy and Action Plan (NBSAP) • Green Growth Framework (GGF) • National Development Plan (NDP) • National Adaptation Plan (NAP) 2018 • Forestry Strategic Development Plan (2017-2030) 	<ul style="list-style-type: none"> • Fiji Forest Harvesting Code of Practice (FFHCOP) • Sandalwood Manual • Nursery Manual

There is a complex legal compliance framework²⁷ that controls all forest harvesting operations, which are conducted in accordance with the requirements of (or its successor):

- Forest Act 1992
- Fiji Pine Decree 1990
- Fiji Mahogany Industry Development Decree 2010
- Fiji Mahogany Act 2003
- Environment Management Act 2005
- Endangered and Protected Species Act 2002
- Biosecurity Promulgation 2008
- Coconut Industry Development Authority Act 1998
- Fijian Affairs Act Cap 120
- Land Conservation and Improvement Act Cap 141
- Native Land Trust Act Cap 134
- Land Development Act Cap 142
- Land Sales Act Cap 137
- State Lands Act Cap 132 and
- Surveyors Act Cap 260
- Property Law Act Cap 130
- Land Transport Authority Act 1998
- Health and Safety at Work Act 1996
- Factories Act Cap 99
- National Fire Service Authority Act 1994

²⁷ <https://www.fao.org/faolex/country-profiles/general-profile/en/?iso3=FJI>

The Forest Policy 2007 is not clear on the actual role of the plantation sector in achieving the stated goal of the “sustainable management of Fiji’s forests to maintain their natural potential and to achieve greater social, economic and environmental benefits for current and future generations”. While it describes the importance of natural forests in terms of the range of environmental services that are provided by natural forests, and the sustainable use of the forest resources and timber harvesting, it needs to be more specific in describing how plantation forests can also provide these environmental services as well as providing an economic function for an industry that appears now to be heading towards a critical state.

The Fiji pine plantations were initially being managed under the Fiji Pine Commission Act of 1976. During 1990 the pine plantation was being privatized under the Fiji Pine Act 1990. The Fiji Pine Act makes provision for the incorporation of Fiji Pine Limited under the Companies Act; the establishment of the Fiji Pine Trust; the establishment of the Forest industries assistance fund for lending assistance to landowners for the development of their forest schemes, and the repealing of the Fiji Pine Commission Act. Fiji Pine Limited works in collaboration and provides assistance to landowners from whom the company leases its plantation lands; this collaboration is governed under the Fiji Pine Trust Rules 1990. Similarly, the Fiji Hardwood Corporation is governed under the Fiji Mahogany Act 2003 which establishes the provision for the development of the mahogany industry in Fiji, including harvesting and processing, and the participation of landowners in its development. The participation of mahogany landowners is governed under the Fiji Mahogany Trust Rules 2005. Other legislations that govern the development of the Fiji mahogany industry includes the Fiji Mahogany Industries Development Act 2010, providing for the restructuring of the mahogany industry for the purpose of facilitating its further development having regard to the interests of indigenous landowners; the Mahogany Industry Licensing and Branding Act 2011 (MILBA) articulating the process for the licensing and branding of Fiji Mahogany but most important is the provision for Issuance of Licenses by the Mahogany Council for the purchase of Mahogany, and the harvesting Code of Practice for plantation grown mahogany and the Mahogany Industry Development Amendment Act (MIDA) of 2014, which excludes all mahogany outside of FHCL from the MIDA and gives the right to individual owners to harvest and sell their mahogany trees, but subject to the MILBA if harvested for commercial purpose.

As natural forests have to focus more on the provision of ecosystem services, conservation of biodiversity, and in supporting rural livelihoods, the decision to proceed with the development of the Fiji Forest plantation policy is an indication of the recognition of the important role of forest plantations in meeting Fiji’s future wood demands, and the need for effective policies and strategies to set the direction of plantation development in Fiji. The main purpose of the Fiji forest plantation policy is to guide the development and management of Fiji’s forest plantations in a coordinated manner, to ensure its sustainability, and increased contribution to Fiji’s social and economic development.

Climate-related policies

In 2009, Fiji noted the potential role of forests in addressing climate change related issues including the possible economic benefit available through a global carbon market and the potential for Fiji to participate in that market. Starting from 2009, the Ministry of Forestry participates to the UNFCCC COP meetings including all other pre-COP meetings, intersession meetings and workshops to follow the REDD+ discussions. From late 2009 to early 2010 the Ministry of Forestry started to work on a Fiji REDD+ policy, which was endorsed by government in late 2010. The purpose of the Fiji REDD+ Policy is to set the necessary institutions and groundwork in order to prepare Fiji to participate in a future global carbon market.

Fiji is committed to actions designed to reduce emissions through the design and implementation of mitigation and adaptation programmes. Fiji ratified the United Nations Framework Convention on Climate Change in 1993 and Fiji’s commitments to this Convention are outlined in the National Climate Change Policy of 2012. It has further illustrated its commitment to addressing the cause and effects of climate change, as the first country in the world to ratify the climate change accord that was adopted at the Paris conference (COP21) in December 2015.

The Fiji REDD+ Policy 2010 is a great step by the Ministry of Forests in strengthening the recognition of Fiji’s forest ecosystem services, but mainly driven by the opportunity created under the UNFCCC which puts an economic value on forest carbon and the development of the international carbon market. The FSOS 2020 again stresses the increasing pressure from the international community in this regard, and the need to take advantage of the opportunity when it arises. The Fiji REDD+ policy 2010 was to put in place the necessary frameworks that will prepare Fiji to trade its forest carbon under an international carbon market. Legislations under the Fiji Climate Change Act 2021, and the revised Forest Act establishes the legal guidelines for the

implementation of REDD+ activities, the transfer of forest carbon rights, and the equitable sharing of carbon benefits. Although, much of government initiatives that sets the framework for environmental sustainability, and addressing climate change challenges comes later in the process; the REDD+ policy is already an early mover in this direction. The REDD+ Policy 2010 is being reviewed to put in place the necessary mechanisms to enable carbon trading to take place.

The Fiji Emissions Reduction Programme (ERP) is implemented under the Fiji REDD+ Policy. By 2016 a total forest area of 6,809 hectares has been leased for the piloting of REDD+ activities and payments of ecosystem services to the landowners. Fiji signed its ERP with the Forest Carbon Partnership Facility in 2020, for the implementation of a 5 years ERP. The ERP consists of a combination of activities across Agriculture, Forestry, and Land use planning, implemented under a highly inclusive governance structure. The ERP will reduce Fiji carbon emissions by 3.5 million tons CO_{2e} within the five years' timeframe 2020-2024. This represents a 43 percent reduction in carbon emissions compared to the Fiji Business as Usual in the forestry sector between 2006 to 2016 as stated within the Fiji reference level assessment report. A key activity under the ERP is the development of integrated land use plans. The iTLTB had already started work on preparing district land use plans for 20 identified districts in Viti Levu, Vanua Levu and Taveuni with a total budget of 399,000 FJ\$.

The National Climate Change Policy (NCCP) 2018-2030 and Climate Change Act 2021: Two of the objectives of the NCCP have direct implications on land use:

- Objective 3.2: To increase ecosystem protection, natural resources redundancy, and environmental resilience through nature-based solutions, and
- Objective 4.3 To preserve and enhance Fiji's natural *carbon sink and reservoirs*.

The Climate Change Act includes the legal process for allocating forest carbon sequestration property rights, and the establishment of a national carbon registry, including the process for the transfer of carbon rights²⁸. The Forest Bill 2016 under the Ministry of Forestry includes the process and procedures for the approval and registration of REDD+ projects²⁹. The Climate Change Act requires a land lease title for any land to be considered for a result-based payments under a REDD+ Project.

The climate change policy specifies the commitments and puts the implementation to each responsible ministry. The Climate Change Act sets the framework for the trading of forest related carbon, and encourage forest and land use related activities in rural areas. The requirement for a land lease title for carbon projects will be a challenge given the small average sizes of leases of agriculture land leases, the average size of the leases needed to ensure attractive economic return, and the conditions for the sharing of the benefits with landowners from the leases.

FLR related policies

Fiji made significant national commitments towards FLR through the Green growth Framework (2016), REDD+ Policy (2013), Forests Policy (2007), Rural Land Use Policy (2007), Climate Change Policy, Land and Water Resource Management Act, Environmental Management Act 2005. In addition, in its INDC, Fiji pledged for an unconditional 10% emissions cut by 2030 or a conditional 30% reduction with international support. Fiji recognizes that mitigating climate change impact requires coordinated efforts across sectors, through policy interventions and the creation of an enabling environment for increased productivity across agricultural and forestry lands. Through its INDC, Fiji committed to undergo the essential sectoral policy and institutional reform that involves the review and update of legislation and policies. The document does not mention any quantitative targets for the forestry sector and Forest and Landscape Restoration but it highlights clearly the need to better incorporate the mitigation potential of Fiji's Forestry sector in the future via the REDD+ program and other critical sectors.

The Forestry Strategic Development Plan (2017-2030) highlights the need for restoration and to increase forests' cover by 5% and protected areas by 17%.

In 2019 the Fiji Government made a commitment to plant 30 million trees for the next 15 years. This in an increase from 4 million trees in 4 years to an annual planting target of 2 million trees per year. This initiative has created a lot of positive messaging to all sectors of the community for thinking globally and acting locally to address climate change while at the same time supporting local livelihoods through the planting of trees.

²⁸ GoF, 2020

²⁹ GoF, 2016

R2R FLR is also an important part of the recently published Emission Reduction Program and a key priority for all the local and national authorities in Fiji.

In Fiji, FAO is supporting the development of a restoration strategy to complement the Emission Reduction Program, the 30 Million Trees in 15 years Initiative and others by incorporating FLR as a nature based solution, and ensuring participatory planning, implementation and monitoring across landscapes.

The Government of Fiji also formally approached FAO for technical assistance to develop a Policy on Planted Forests which will provide a negotiated agreement amongst the government and relevant stakeholders on a shared vision and goals for a country's planted forests and trees, adopted by government; a way of addressing society's needs and development goals while balancing various stakeholder interests in plantation sector; Strategic guidance for sustainable management and utilization; and a comprehensive framework setting up adaptive implementation mechanisms for diverse contexts and changing conditions.

5. State Support to the Sector

“Guided by Fiji’s commitments to various conventions such as the Paris Agreement, United Nations Framework Convention on Climate Change, and the recent Seoul Forest Declaration, the Ministry is dedicated to protect, restore and sustainably use and manage forests as one of the building blocks for social, environmental and economic development”. Honourable Josaia Voreqe Bainimarama, Minister for Forestry (operational plan 2021-2022)

Fiji’s national tree-planting programme to grow 30 Million Trees in 15 Years is one of the many initiatives and nature-based solutions that contributes to Fiji recovery, prompting economic activity and empowering resource owners and industries, while improving livelihoods in the process. This goes hand in hand with Fiji’s Forest Emissions Reduction Programme Agreement which Government signed with the World Bank in 2021 to offer results-based payments towards efforts to minimize carbon emissions and to further reduce Fiji’s already minimal carbon footprint.

The total budget for the Ministry is 17.7 million FJ\$ in 2022-2023, of which 10.9 million (61.6%) is for operating expenditure, 6.0 million (33.9%) for capital expenditure and 0.8 million (4.5%) as VAT³⁰. The total budget represents an increase of 3.9 million FJ\$ (29.3%) when compared to the 2021-2022 budget of 13.8 million.

Table 8: Ministry of Forestry budget summary 2021-2022 – Source: MOF Annual Operational Plan 2021-2022

SEG	SEG Particulars	Revised Actual 2020-2021 (\$000)	2021-2022 Revised Estimate (\$000)	Change (\$000)	Estimate 2022-2023 (\$000)
1	Established Staff	3,785.7	4,052.3	53.7	4,106.0
2	Government Wage Earners	1,380.4	1,291.9	12.1	1,304.0
3	Travel and Communications	400.3	286.1	20.0	306.1
4	Maintenance and Operations	1,203.6	941.0	189.0	1,130.0
5	Purchase of Goods and Services	1,048.1	607.8	179.2	787.0
6	Operating Grants and Transfers	832.0	798.1	150.0	948.1
7	Special Expenditures	760.2	2,219.4	131.1	2,350.5
	TOTAL OPERATING	9,410.4	10,196.6	735.1	10,931.7
8	Capital Construction	2,871.5	2,659.9	2,530.1	5,190.0
9	Capital Purchase	1,146.2	500.0	300.0	800.0
	TOTAL CAPITAL	4,017.7	3,159.9	2,830.1	5,990.0
13	Value Added Tax	458.3	469.3	301.4	770.7
	TOTAL EXPENDITURE	13,886.4	13,825.8	3,866.6	17,692.4

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Table 9: Forestry programmes and projects - Source: MoF Operational plan 2021-2022

Programme	Activities	Total Allocation by Activity (\$000)	Capital Projects within each Program/ Activity SEG 6-9	Capital projects Allocation (\$000) SEG 6-9	Desired Outcomes for Capital Projects
Policy and Admin	General administration and accounts.	1,956.0			
	Economic policy, planning and statistics.	233.4			
Forestry.	General admin.	1,711.3	Fiji Pine Trust. (R)	745.1	Sustainable management of Communal owned Pine plantations.
			Forest Subsidy	50.0	Support to forest based MSMEs
			APAFRI Subscription	132.5	Access to forest based research and technical assistance
			IUFRO Subscription	2.5	
			INBAR Subscription	18.0	Develop bamboo industry.
	Forest conservation and management services.	3,023.8	REDD+ (Fiji Govt.). (R)	500.0	To complete the Readiness Phase and implement the ERP
			REDD+ (WB). (R)	2,000.0	
			ArcGIS Subscription	40.0	Improve mapping of critical information
	Training and education.	461.3			
	Forestry Research and Development.	1,161.4	Pacific Week of Agriculture	150.0	Addressing forestry issues through dialogue and regional cooperation
			Sandalwood Development Programme.	100.0	Sustainable management of sandalwood
			Research and development of wood and non-wood species. (R)	500.0	Research & promote lesser known tree species for use by timber industries
	Forest product, trade and development.	2,066.7	Training Expenses	5.0	Skills & knowledge development for staff & stakeholders.
			Plywood Standard	1.5	National Plywood Standard developed and adopted.
			Upgrading of road at Nasinu. (R)	300.0	Improve road condition at Nasinu station

Programme	Activities	Total Allocation by Activity (\$000)	Capital Projects within each Program/ Activity SEG 6-9	Capital projects Allocation (\$000) SEG 6-9	Desired Outcomes for Capital Projects
			Upgrading of sawmill – timber utilisation division. (R)	300.0	Improve sawmill standard
			Purchase of laboratory equipment – timber utilisation division. (R)	300.0	Improve quality standards and service delivery
			Upgrade of office and forestry quarters. (R) CIU-MOE	400.0	Improve working and living conditions for staff.
	Extension and advisory services (harvesting and logging; forest planting and afforestation)	3,803.8	Reforestation of Degraded Forests (RDF) with indigenous & other species. (R)	3,300.0	Rehabilitate degraded/ vulnerable forest area and Improve Fiji's forest cover. Revive local indigenous species.
	Monitoring, control and surveillance (harvesting & logging);	2,967.7	Monitoring, control and surveillance of logging Operations.	90.0	Enhance compliance level of operations.
			Utilisation of Waste Wood.	150.0	Enhance value adding on our timber products and reducing waste wood.
			Maritime Pine Development (Cicia, Gau and Kadavu). (R)	500.0 (H32) 200.0 (H50)	Revive the community pine development scheme.
	Forest parks, recreation and nature reserves.	307.0	Upgrading and maintenance of forest parks.	40.0	Improving forest park facilities to provide better services.
	TOTAL	\$17,692.4			

The Ministry of Forestry identified four strategic goals and six strategic priority areas for its Strategic Development Plan 2017-2030:

- SG1: Establish sustainable life cycle management of forest resources
- SG2: Improve the socio-economic impact of forests
- SG3: Contribute positively to the Global Environment
- SG4: Substantially improve service delivery
- SP1: Cohesive Legislation, Regulation, Policy, Guidelines & Compliance
- SP2: Enhance Sustainable Forests Management Frameworks And Implementation of SFM
- SP3: Capacity Building (Ministry & Stakeholders)
- SP4: Stewardship
- SP5: Forest Financing
- SP6: Organization Effectiveness

The outputs of the Strategic Development Plan 2017-2030 directly related to this project are:

- In SP2: Reforestation of Degraded Areas Programme implemented / 2 million Trees (2022-2023 target) planted by July 2023
- In SP3: One Non-wood Product Industry developed by 2024
- In SP4: Agroforestry integrated in forestry and agricultural practices
- In SP5: Forest Trust Fund established

6. Past and Ongoing Development Projects

Engagement with the ecosystem of projects implemented in country and the region is a key success factor that aim at building on and reinforcing a variety of ongoing initiatives by fostering the exchange of information, best practices and success stories across projects and partners by actively contributing to improved collaboration and coordination across technical partners. Representatives of projects and initiatives identified as contributing to the overall goal and concrete activities of this project will carefully be involved all along project implementation, and will be encouraged to facilitate participation of their counterparts to the events (trainings, capacity development workshops) organized by the projects. They will be consulted locally as deemed relevant for guidance in the implementation of activities.

Project / programme	Brief description	Time period	Implementing agency / Funding source / National Partner(s)
Fiji Coral Reef Resilience Project (CRRP)	This project's concept note has been submitted to the GCF. It aims to ensure the continued productivity of reef and connected coastal ecosystems by reducing local threats from overfishing, land degradation, and pollution to ensure these reefs continue to withstand anticipated ocean warming and acidification and continue to provide the necessary services communities depend on.	2023-	GCF WWF
LoCAL: Supporting Resilient Island Communities in Tuvalu, the Solomon Islands, Fiji and Vanuatu through the Local Climate Adaptive Living (LoCAL) Mechanism.	The project's concept note has been submitted to the GCF. The LoCAL Pacific facility is an Enhancing Direct Access (EDA) programme that will strengthen the climate resilience of local communities and economies by improving the capacity of communities and local governments to access and use financing for adaptation investments.	2023-	GCF UNCDF/SPC
Emission Reduction Programme (ERP) and ERP Agreement (ERPA) 2021	<p>The ERPA advocates the issuance of REDD+ Leases and REDD+ Licenses to secure long-term tenure and forest permanence for emissions reductions and removals (ERR) activities.</p> <p>The Emission Reduction Programme (ERP) supports sustainable development and management of Fiji's forest to realize the full potential of the forest sector through reduction in deforestation and forest degradation, promoting sustainable forest management, conservation, and afforestation and reforestation to contribute to climate mitigation while meeting the demands of timber and non-timber forest products; maintenance of ecosystem services and an increase in the resilience of local communities to the impacts of climate change. The ERP sets specific targets to achieve in 20 districts in the three main islands</p>	2021-	WB MoF
Reforestation of Degraded Forest Areas	<p>This reforestation initiative is aiming to utilize degraded forests to address broad thematic areas of need including carbon stock enhancement, connecting forest corridors, coastal restoration, and food security, flood mitigation stabilization of riparian system, catchment restoration, enrichment planting, community woodlots and industrial planting.</p> <p>Creating future opportunities by:</p> <ul style="list-style-type: none">• Supporting plantation development for future timber needs• Supporting the restoration of degraded forests for its important environmental services. <p>This RDF project has reforested 600ha of degraded forest areas since the introduction of the RDF program in Fiji.</p> <p>In 2017 – 2020 RDF program will continue to maximize on its 500ha annual targets by establishing more plantations on the maritime islands and also Vitilevu & Vanualevu.</p> <p>Therefore this RDF program will be an on-going project in the future to allow Fiji's indigenous forest areas to recuperate from its drastic exploitation due to the past conventional logging techniques and agricultural developments</p>	2017-2020	MoF funded
Partnerships for Coral Reef Finance and Insurance in Asia and the Pacific	Utilising insurance products to increase resilience of coastal ecosystems is innovative but it also naturally leads to questions relating to how this type of insurance product will work and what its role could be.	2021-2024	GEF ADB
Community-based Integrated Natural Resource Management Project	The project aims to reduce land degradation, enhance carbon stocks and strengthen local livelihoods in Ra and Tailevu provinces of Fiji, by promoting community-based integrated natural resource management at landscape level. Through Farmer Field Schools, the project seeks to conduct on-ground training programmes across 60 villages in the province, on Climate Smart Agriculture practices/techniques. The project will work with Forest Training Centres to conduct training programmes on agroforestry, forest protection and improved forest management measures.	2019-2023	GEF FAO

The GEF Pacific Ridge to Reef Programme	The Pacific Islands R2R National Priorities - Integrated Water, Land, Forest and Coastal Management to Preserve Biodiversity, Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods (or GEF Pacific R2R Programme) provides provide an opportunity for Pacific SIDS to develop and implement truly integrated approaches for the sustainable development of island economies and communities. The programme is structured around 1) National R2R demonstrations; 2) Improved governance for integrated, climate resilient land, water, forest and coastal management 3) Regional and National/Local R2R indicators, Monitoring and Evaluation and Knowledge Management; and 4) Regional Programme Coordination	2015-2018	GEF UNDP, UNEP, FAO
Sustainable Land Management in Forest Margins	Reduce or reverse forest and land degradation in and around protected areas Activities -develop land use plans establish demonstration farms -Training -Production of video documentaries	2011-2019	FAO- GEF PAS
Greater Tomaniivi sustainability enhancement	In order to enhance the knowledge, understanding, conservation and sustainability of the region's biodiversity and threatened species - Greater Tomaniivi: Expert advice from Terrestrial sub-committee of Protected Area committee on the boundary of the proposed PA, collaborate with Provincial Office and landowners to sign off formal agreement for Conservation and legal protection of the demarcated sites.	2011-2019	GEF/Pacific Alliance
Greater Delaikoro sustainability enhancement	In order to enhance the knowledge, understanding, conservation and sustainability of the region's biodiversity and threatened species - Greater Delaikoro: Expert advice from Terrestrial subcommittee of Protected Area committee on the boundary of the proposed PA, collaborate with Provincial Office and landowners to sign off formal agreement for Conservation and legal protection of the demarcated sites. sites demarcated fall within Fiji's commitment under the Aichi Target.	2011-2019	GEF/Pacific Alliance
Fiji's Action Against Desertification	Action Against Desertification supports the UNCCD National Action Programme for Fiji, aiming to build the resilience and increase the productivity of forest landscapes, while improving the livelihoods of the local population through the restoration of degraded land and the sustainable management of natural resources. Results: Reforestation of 1,133 hectares of land and which contributed to Fiji's 30 Million Trees in 15 Years (30MT15Y) initiative; 2. assisted with the setup of backyard gardens in rural schools and communities with the provision of training, farming tools and seeds; 3. provided beehives and relevant harvesting and value-adding equipment, which have contributed to sustainable livelihood and revenue generation for communities, including women and youths; 4. established 35 project sites across Fiji which have directly benefited about 3,360 Fijians and indirectly benefited up to 2940 more Fijians in 29 neighbouring sites; 5. supported the Ministry's natural disaster rehabilitation programme by providing planting materials and gardening tools	2014-2019	EU FAO
The Reforestation of the Degraded Foothills of the Sugar Belt - Reforest Fiji	To improve the watershed management in the sugar cane belt of Viti Levu Island and to generate community income through Reforestation. Activities -Forest establishment (demonstration plantation, protection forest, production forests and woodlots) -forest maintenance -tree seedling production -training	2014-2018	European Union
The Paris Agreement in action: upscaling forest and landscape restoration to achieve nationally determined contributions	The project enhances regional & national capacity for large-scale FLR programs, crucial for achieving countries' NDCs. Forest-based options, including REDD+, play a key role in joint mitigation and adaptation efforts, offering both carbon and non-carbon benefits. Aligning with existing regional FLR initiatives under the Bonn Challenge, the project aims to scale up restoration impacts, contributing to the achievement of NDCs.	2018-2024	IKI / FAO
Nakauvadra Community Based	Restoration of 1,135 ha along the Southern and Northern slopes of the Nakauvadra Range. The Nakauvadra Range, a 11 387ha forest refuge has	2013-2018	CI/Fiji Water Foundation

Reforestation Project	<p>been designated as a Key Biodiversity Area (KBA) and is earmarked as a priority site in Fiji's proposed protected area network.</p> <p>Involves cash payments for tree planting and purchase of seedlings from tree nurseries managed by members of the local communities, combined with in-kind benefits in the form of additional revenue generating activities. Community Conservation Agreements commit the landowners to look after the planted trees for 30 years. No lease payments are made to landowners as the trees belong to them. Funds distributed directly to village committees on account of active participation in planting activities are shared to individuals that contribute to restoration activities. Traditional meeting structures (one with heads of LOUs where all villages attend) are used to provide the necessary oversight in the distribution of benefits.</p>		
The Sovi Basin Protected Area	<p>The Sovi Basin is Fiji's largest remaining undisturbed lowland forest in Fiji and it provides essential ecosystem services to surrounding communities and downstream provides freshwater to 70,000 people in the capital city of Suva. Recognized as one of the highest priority areas for conservation in the Polynesia-Micronesia area, the Sovi Basin has high levels of diversity, endemism and globally threatened species.</p> <p>Secured under a Conservation Lease issued by TLTB to the National Trust of Fiji (NTF) under a co-management system in partnership with landowners. Sovi Basin is funded under a USD 3.9 million Trust Fund established in 2012. The paramount chief of each of the communities surrounding the Sovi Basin Protected Area signs a Community Conservation Agreement committing to protect and monitor the forest in exchange for FJ\$ 10,000/year for community development designed to give benefits to everyone in the village.</p>	2012-	Fiji Water Carbon
The Kilaka Forest Conservation area	<p>A 99-year forest conservation lease covering 402 hectares of natural forests in the district of Kubulau on the island of Vanua Levu. It is a collaboration between the Kilaka landowners and Wildlife Conservation Society. The management plan for the Kilaka forest conservation area was derived from the Kubulau EBM plan and was endorsed by the Ministry of Forestry, the ITLTB, the Bua Provincial Council, and the Kubulau resource management committee. The Kilaka forest conservation lease pays a set annual amount of money to the land-owning community for the 99 years duration of the lease period.</p>	2012-	WCS CI
Drawa Rainforest Conservation Project	<p>The Project aims to conserve mature indigenous rainforest through avoiding forest degradation, by means of legal protection of forest. The project activity involves termination of baseline logging activities and placement of Project Area into a protected reserve.</p>	2012 - 2042	Nakau Programme Pty Ltd
Emalu – REDD+ Pilot Site	<p>This is a pilot project under Fiji's national REDD+ strategy. The project examines the potential of sustainable forest management (selective harvesting) in Mataqali's forests and of conservation of forests to enhance carbon stocks and to offer a viable alternative to logging. These include: a forest carbon survey, a biodiversity survey, a land use survey, a socio-economic survey, and a cultural mapping survey.</p> <p>With an area of 6,809 ha of predominantly pristine forest was leased in 2012 for 99 years as the REDD+ Pilot Site for Fiji with a condition that is handed over to the landowners in the 30th year. The Emalu land owning unit are currently receiving monetary benefits from the lease through TLTB as well as non-monetary benefits through alternative livelihood projects.</p>	2012	Fiji National REDD+ Programme
The Drawa Block Forest Community Cooperative (DBFCC)	<p>Established in 2011 with a 30-year REDD+ lease with right to renewal for two consecutive 30-year periods from TLTB for the conservation of the Drawa forest. The DBFCC involves cash benefits as lease payments to the landowners with remaining carbon funds being shared as additional cash payments to the landowners as well as a women's group and a youth group. In addition, the local communities' benefit from livelihood projects that are paid from non-carbon community development support funds received from other philanthropic donors.</p>	2011-2041	REDD+
Community based restoration and sustainable management of Vulnerable Forest of the Rewa Delta	<p>This project seeks to address the problem associated with overpopulation and pressure on resource exploitation through the establishment of demonstration sites for rehabilitation and sustainable management of coastal and mangrove wetlands. Expected outputs include community empowerment to undertake sustainable management at the community level; improvement of the quality of existing ecosystem; strengthening the up-keep of traditional knowledge and skilling among community members to support sustainable resource use. In addition, it is expected that communities</p>	2015-2018	International Tropical Timber Organization (ITTO) MoF

	will adopt alternative livelihoods that will reduce pressure from overutilization of coastal and mangrove wetland resources.		
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Ongoing FLR activities within the MoF

30MT15Y Initiative

As part of the 30MT15Y initiative, the MoF carried out this national tree planting programme with the support of relevant stakeholders and the public. In the year 2021-2022, a total of 5,488,756 seedlings were planted within a total area of 5,300ha.

Table 10: Tree planting by divisions in 2021-2022 - Source: MoF Annual report 2021-2022

Species categories	Central Eastern	Northern	Western	FPL	FHCL	FPT	Grand Total	Area
Native	6,392	37,015	16,666				60,073	172.83
Pine	3,270	26,300	19,242	4,712,369		11,743	4,722,924	4314.83
Mahogany	20,554	19,531	11,258		33,570		84,913	222.87
Teak	5,521	862	12,053				18,436	55.45
Sandalwood	5,984	4,578	8,401				18,963	61.47
Coastal	2,366	3,082	1,553				7,001	16.55
Mangroves	36,456	76,208	66,771				179,435	82.75
Fruit Trees	19,336	17,153	23,138				59,627	182.14
Fuel wood	1,147	265,820	6,535				273,502	146.92
NTPF	5,553	679	7,650				13,882	44.23
Grand Total	106,579	451,228	173,267	4,712,369	33,570	11,743	5,488,756	5,300.04

Seed Technology

In 2021-2022, the usual activity of seed collection and processing was decentralized to enhance seedling production in divisions and better assist the public who need seedlings for their tree planting initiatives. The research team conducted training for divisions to enhance their knowledge and skills in seed collection and seedling production. Furthermore, the research team also conducted training for the staff of FHCL, who can now do their own seed collection and processing to enhance their reforestation programme. A total of 16 mother trees were identified as seed sources after assessing the tree form, canopy cover and health status. The research team continued to collect seeds for their research purposes and assisted divisions when required. 80kg of mahogany (*swietenia macrophylla*) seeds were sold at 8,000 FJ\$ to Totoka Islands, a private company aiming to develop integrated agroforestry operations in remote areas. Another 40 kg of mahogany seeds were distributed to the 3 operation divisions to assist in the reforestation programme³¹.

Tree Improvement

The objective of tree improvement is to identify, thin and develop superior stands to supply quality seeds for reforestation and ensure that the commercial trees are genetically superior for higher production. Assessments were conducted for the following trial plots, and reports were compiled accordingly: Yavuna Nausori Highlands – Sandalwood & mixed species, Drasa Alternative Species Trial – Eucalyptus, Pine & Acacia, Vaqia, Ba – mixed species.

7. Description of the main stakeholders of the sector

At global level

The Bonn Challenge is a global effort to restore 150 million hectares of the world's deforested and degraded lands by 2020 and 350 million hectares by 2030. Several regional initiatives/processes are contributing to its achievement, such as the Initiative 20x20 in Latin America or the Mediterranean Initiative (Agadir – March 2017). In this context of regionalization of the Bonn Challenge, the Asia-Pacific region does not have yet a regional initiative.

The Global Partnership on Forest and Landscape Restoration (GPFLR) is a proactive global network that responds to the Bonn Challenge. It unites governments, organizations, academic/research institutes,

³¹ MoF Annual report 2021-2022

communities and individuals under a common goal: to restore the world's lost and degraded forests and their surrounding landscapes. FAO is a member that plays an active role within its E-Secretariat and as a key partner of FLR initiatives both at regional and country levels. All regional/national actions to be implemented will benefit from the existing global knowledge/learning tools etc., capitalized by GPFLR partners since 2003. Simultaneously all results and new successful FLR approaches implemented in the context of this project will benefit the GPFLR.

The UN Decade on Ecosystem Restoration has been proclaimed by the United Nations General Assembly following a proposal for action by over 70 countries from all latitudes in 2021. The UN Decade on Ecosystem Restoration is a rallying call for the protection and revival of ecosystems all around the world, for the benefit of people and nature. It aims to halt the degradation of ecosystems, and restore them to achieve global goals. The UN Decade runs from 2021 through 2030, which is also the deadline for the Sustainable Development Goals and the timeline scientists have identified as the last chance to prevent catastrophic climate change. Led by the United Nations Environment Programme and the Food and Agriculture Organization of the United Nations, the UN Decade is building a strong, broad-based global movement to ramp up restoration and put the world on track for a sustainable future. That will include building political momentum for restoration as well as thousands of initiatives on the ground. Through communications, events and a dedicated web platform, the UN Decade provides a hub for everyone interested in restoration to find projects, partners, funding and the knowledge they need to make their restoration efforts a success.

Asia-Pacific regional partners

The Asia-Pacific Forestry Commission is a Statutory Body of FAO. It is a forum for advising and taking actions on key forestry issues in a region of diversity and rapid change. It is an efficient regional platform to disseminate knowledge and interact with the Directors of Forestry in Pacific Island states. APFC supported the preparation of a regional Strategy and Action Plan on FLR taking into consideration the specific needs of the Asia-Pacific region including the Pacific Islands. This Strategy and Action Plan has been endorsed by member States during the 27th Session of the APFC held in Colombo, Sri-Lanka from 23 to 27 October 2017.

Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC) promotes and improves sustainable forest management and rehabilitation in Asia-Pacific through capacity-building, information-sharing and regional policy dialogues.

Asian Forest Cooperation Organization (AFoCO) strengthens regional forest cooperation on forest policies and technologies, in order to rehabilitate degraded forest land and to prevent deforestation and forest degradation.

Asia Pacific Model Forest Network (APFNet) links national government focal points to local organizations in order to facilitate multi-stakeholders' dialogue.

The Pacific Community (SPC) is a regional intergovernmental organization whose membership includes 22 Pacific Island Countries and Territories and Australia, France, New Zealand, the USA as well as Timor Leste. It aims to develop the technical, professional, scientific, research, planning and management capability of Pacific Island people and directly provide information and advice, to enable them to make informed decisions about their future development and well-being. SPC has a long experience in term of capitalization of science, knowledge and innovation on sustainable development issues. As a recognized regional entity providing support in the areas of lands, agriculture, forestry, livestock, health and fisheries, SPC provides technical guidance by disseminating existing science, knowledge and innovation on FLR and by capitalizing results of the actions funded through projects.

National and local partners

The National Government establishes forest policy and determines how the forests should be managed. It enacts forestry legislation and issue licenses for forestry enterprises. It shall ensure the provision of adequate resources to implement the Fiji Forest Policy.

The Fiji Ministry of Forests (MoF) guides the implementation process of the Fiji Forest Policy and administer forestry legislation. It coordinates closely with all stakeholders to promote the sustainable management and conservation of forest resources for both timber and nontimber benefits. It approves utilization operations' agreements, forest management and harvesting plans in all forest types, both natural and planted, and ensure that the Forest Management Standard and the Fiji Forest Harvesting Code of Practice is implemented. It collects information about forest resources, conducts forest research, provides extension services and training,

fosters sustainable management of natural forests and the conservation of Protected Areas, facilitates the development of plantations and agroforestry systems, and promotes value-added processing. In all these endeavors, the MoF keeps the social, economic and environmental impacts of forestry operations of resource owners to the fore. Fiji Ministry of Forests (MoF) has a long history collaborating and working in partnership with FAO on technical areas, principally related to sustainable forest management, biodiversity conservation and commercial forest plantation establishment. They were a strong partner in the Action Against Deforestation (AAD) project. The current national FLR plan is the government funded project of Reforestation of Degraded Forest (RDF) areas which was established in 2015. The MoF is very supportive of this new project to expand their FLR activities. It will be a strong political support, will be the focal Ministry for this project and will be in charge of implementing activities.

The MoF cooperates with other Government ministries and authorities, to implement the various land use planning, agroforestry and conservation strategies; for example, the Ministry of Environment, Ministry of Agriculture. The forest sector is supported by the Department of Finance, Fiji Islands Revenue and Customs Authority, and the Ministry of Commerce, Business Development and Investment. For this project, the Fiji Office of Climate Change from the Ministry of National Planning, will act as partner Ministry to oversee work and activities particularly that relating or impacting on climate change policies at the national level.

Resource owners manage their forest resources in compliance with the Forest Management Standard, via forest management companies, with the assistance of the MoF, the Native Land Trust Board (NLTB) and the Fijian Affairs Board (FAB). They assist the MoF with scaling logs. They are involved in harvesting and processing their trees and are responsible for rehabilitating forest areas. Landowner groups are encouraged to take equity in commercial forest developments and to become engaged in community forestry approaches.

The forest industry includes big and small forest management companies, harvesting and processing entities as well as retail outlets. The forest industry coordinates its activities towards improved raw material supply, processing and marketing of forest products. It negotiates through the NLTB and FAB as well as with resource owners for the harvesting of timber and, where appropriate, for plantation development and reforestation activities. The industry carries out pre-harvest inventories, prepares harvesting plans and implements the plans approved by the MoF in accordance with the Fiji Forest Harvesting Code of Practice. The industry works with Government to develop rural infrastructure where required, and develops a skilled rural workforce. It develops value-adding wood processing facilities that meet international expectations, and in partnership with the MoF seeks niche overseas markets for Fiji wood products, particularly those that are sourced from certified, well-managed forests.

Fiji Pine Limited (FPL) was initially established by the Government of Fiji in an effort to generate economic activities in the rural areas as well as to fully utilize “talasiga” (dry grass lands) on which Caribaeana pine (*Pinus caribaea* var. *hondurensis*) was planted. FPL was incorporated in 1990 in order to privatize the forests, ultimately transferring ownership back into the hands of the private citizens of Fiji, the owners of the forests. The company has attained FSC™ certification for “Well Managed Forest” in 2013

Fiji Hardwood Corporation Limited (FHCL) is a state-owned enterprise, established in 1998, responsible for the profitable and sustainable management of Fiji’s Mahogany plantations. FHCL operates under the direction of the Mahogany Industry Council under the Ministry of Public Enterprises for the promotion and marketing of the Fiji Mahogany Brand to the overseas markets.

NGOs, international donors and aid organizations are invited to work closely with the MoF to promote sustainable forest management, the shift toward community-based natural resource management, the development of landowner forestry enterprises, and the promotion of an export-oriented timber industry.

Other stakeholders that will be involved in the project: Landowners, land users, the private sector, statutory bodies, local municipalities, the academic institutions, primary and secondary schools and civil society organisations.

8. SWOT Analysis of the Sector

Strengths	Weaknesses
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<p>Large forested areas (~60% of total land area) with 87% of natural forests</p> <p>Rich biodiversity still existing in forests of Fiji</p> <p>Recognition of importance of forest goods, services on national, local and public level</p> <p>Long forestry tradition</p> <p>Existing core budget (Forest fund) for forestry investments</p> <p>Fiji has advanced the mainstreaming and implementation of climate actions in forestry sectors including REDD+ and mainstreaming interventions to strengthen the resilience of communities.</p> <p>Strong mandate of the Ministry of Forestry</p> <p>National Forest Monitoring System existing</p> <p>Annual exercise of Forest Cover change detection</p>	<p>Lack of awareness, capacities and coordination for an integrated land-use planning and utilization especially at landscape level</p> <p>Lack of capacity for effective monitoring and enforcement of existing policies and regulations related to commercial and sustainable management practices</p> <p>Lack of long-term financial incentives to avoid converting forest to other land use</p> <p>Lack of access to technologies and finance to implement FLR</p> <p>Unclear and insecure land tenure for forested lands</p> <p>Lack of female participation in decision making</p> <p>Underdeveloped value chains for climate resilient forestry products</p> <p>Lack of institutional and regulatory support for forest products industry leading to a lack of quality control and trust and demand of consumers</p> <p>Pressure towards further deforestation from population growth and the demand for new settlement areas, and greater agricultural production for food security.</p> <p>Limited access to NTFPs markets, especially for rural communities, only few NTFP are marketed e.g. noni (<i>Morinda citrifolia</i>) and sandalwood (<i>Santalum yasi</i>)</p> <p>Non-monetary benefits are not reflected in the national or sectoral accounting system.</p>
Opportunities	Threats
<p>Forestry recognized as key sector for CC mitigation and adaptation, as well as green economy</p> <p>Significant potential to increase resilience as well as productivity of forests</p> <p>The management of productive plantations and their extension has a significant potential for high value timber supply and rural development</p> <p>There has been encouragement for the establishment in Fiji of a valuable furniture industry and other value-adding processes in order to provide higher value return.</p> <p>Revenue from forestry does not comprise a high percentage of GDP, but is expected to remain a significant driver of growth in the future.</p> <p>FLR approach allows for climate adaptive management of natural resources from Ridge to Reef for the benefit of local sustainable development</p> <p>Opportunities for stronger value and supply chains for NTFP have been identified (e.g. sandalwood for carving, sandalwood oil and incense stick; whitewood as a paneling timber)</p> <p>Existing FDB forestry financial instruments</p> <p>Ongoing National Forest Inventory 2021/2022</p> <p>Ongoing review of the Forest 1992, a new forest harvesting regulation will be developed, review of the 2011 REDD+ Policy carried out, draft Climate Change Act ongoing</p>	<p>Predicted climate change and extreme climate-related weather events</p> <p>Changes in main species composition as well as emergence of invasive species due to climate change</p> <p>Reduced productivity, resilience and capacity for natural regeneration of forest stands due to climate change</p> <p>Customary land owners and the private sector do not recognize the value of FLR and SFM</p> <p>Development of plantation areas meets constraints in financing and bears environmental risks, especially if expansion goes ahead at the expense of natural forests.</p> <p>The extent of deforestation (forest and vegetation clearing) and its impact on the surrounding environment remains a serious concern</p> <p>Lack of reforestation by the Fiji timber sector is a threat to future climate change mitigation outcomes</p> <p>Fragmentation of land suitable for afforestation and reforestation</p> <p>Low capacity of local forest owners, users, enterprises and contractors to reach the planned number of hectares</p> <p>Difficulty to engage the private sector in the project</p>

9. Proposed interventions and Recommendations

1. Rationale and Detailed Description of Proposed Interventions

There are specific needs at sub-national and local levels in Fiji Islands to support planning, implementing and monitoring phases of FLR initiatives in order to create a sustainable ownership of legitimate stakeholders and to significantly scale up FLR efforts by building replicable pipelines/virtuous financing instruments to properly transfer funds at landscape level for sustainable FLR investments.

The specific needs at national level are to support both: (i) multi-stakeholder dialogues and inter sectoral platforms, (ii) enabling environment on key issues (e.g. land tenure policy), (iii) capacity building on FLR planning, implementing and monitoring phases and (iv) innovative financing options/incentives in order to achieve both FLR and NDC pledges.

Key barriers/challenges

- Lack of awareness, capacities and coordination for an integrated land-use planning and utilization especially at landscape level. Communities have been identified to lack the necessary technical capacity to implement activities related to FLR and SFM. In the context of Fiji, the activities would among others concentrate on fire prevention, assisted natural regeneration, soil management, use of indigenous species, availability and application of agroecosystem management options for adapting to climate change, and alternative approaches to restoration. The Technical Needs assessment of the TNC highlighted the importance for a knowledge transfer on related techniques and capacities (Annex 6). Moreover, while Fiji made considerable progress concerning the land use management with the adoption of the land use plan for Viti Levu, unplanned agricultural expansion is a considerable driver of deforestation due to the perceived economic benefits compared to SFM.³² Sustainable management forest standards have only partially been implemented and while diameter limits concerning the extraction of merchantable species have been introduced, their adoption and implementation has been delayed³³.

Moreover, there is a differentiation on the focus between institutions with some focusing on SFM, conservation of forests and carbon stock enhancement, while others towards maximizing yields³⁴. At the same time, agricultural policies are aiming at promoting land intensive production practices (e.g. kava³⁵), which have the potential to undermine efforts to promote FLR and reduce forest clearance. It is therefore of main importance to carry out an integrated and coordinated approach for landscape and natural resource management and that the different sectors are timely informed about the objectives of forest conservation measures.

- Lack of long-term financial incentives to avoid converting forest to other land-use: While customary landowners recognize the importance of forest resources to their material and spiritual well-being, it is recognized that the spiritual importance of the forests has dissipated to a significant extent with the advent of monetary benefits via the payment of logging royalties³⁶. Moreover, absent long term planning, low awareness of customary landowners concerning the multiple benefits that forest ecosystem services offer and low awareness of the market benefits in conjunction with the inadequate financial incentives, have been an important driver for deforestation³⁷.
- Lack of access to technologies and finance to implement FLR. Limited access to finance by customary landowners hinders the transformation of the forestry sector and scaling up FLR and SFM interventions. At present, the forestry sector in Fiji is underperforming and underfinanced. The forest value chain from nursery to harvesting to downstream and value addition has resulted in inefficient production as evident in the continuous decline of productivity of logs harvested from Fiji's forest. The last FAO Forest Sector review³⁸ suggested that logging of native forest would phase out as plantations

32 Conservation International, 2020: Analysis of Drivers of Deforestation and Forest Degradation and Identification of Response Strategies

33 Ibid.

34 Ministry of Forestry (2019) Emission Reductions Program Document.

35 2020 Agriculture Sector Policy Agenda,

36 Ministry of Forestry (2019) Emission Reductions Program Document.

37 Ministry of Forestry (2019) Participatory Self-Assessment of the REDD+ Readiness Package in Fiji

38 Leslie, A. and Tuinivanua, O. 2010. Fiji Forestry Outlook Study. Asia-Pacific Forestry Sector Outlook Study II. Working Papers Series. Working Paper No. APFSOS II/ WP/ 2009/ 20. FAO. <http://www.fao.org/3/am615e/am615e.pdf>

come into maturity with potential to deliver over 1,000,000 m³ of roundwood per annum by 2020. However, the production level in the forest sector currently averages 458,642 m³ per annum³⁹, performing well below capacity; due mainly to lack of financial capacity to fully harness the full production potential of the plantation resources. Collectively, the high cost of land leases coupled with the financial value of harvestable stocks of roundwood drive the cost of doing business to unsustainable levels. There is also a need for investment into entrepreneurial skills and quality awareness on sustainable forestry and other climate-friendly products from forest lands. Common challenges related to forestry investments that would need to be addressed include (i) unfavorable terms of financing (e.g. high interest rates and short payback periods); (ii) the high upfront costs of preparing investment projects in the forest sector; (iii) the relatively high level of administrative costs for small enterprises including significant induced transaction costs; and (iv) the non-acceptance of forests (or standing trees) as collateral. On the other hand, the biggest challenge for financial institutions is the quality of the funding proposals they receive because local forestry businesses and enterprises and smallholders rarely have technical experience in developing bankable projects. These investments are also of high-risk nature, raising concerns on ability to repay. Thus, forest smallholders and Small and Medium Forest Enterprises (SMFEs) are unable to capitalize sufficiently to achieve financial sustainability, and they are left in a vicious cycle of financial dependence on informal financiers.

- Unclear and insecure land tenure for forested lands. Fiji natural resources management is characterized by complexity, limiting furthermore youth participation. The dual structure of both traditional and conventional administration systems, particularly considering 90 percent of Fiji's land is held under customary ownership, is one of the underlying causes⁴⁰. Land tenure is also recognized in the NAP (2020) as one of the main barriers for climate adaptive biodiversity and natural resources management and conservation. The traditional land ownership systems are a barrier to the consolidation of landholdings and appropriate economies of scale for the forest industry. Further challenges include short term licenses often assigned to logging companies for the rights to remove logs for commercial purposes from native forests, limiting long term planning and investments in sustainable techniques, such as reduced impact logging.⁴¹
- Lack of female participation in decision making. The National Adaptation Plan (NAP) recognizes the needs to enhance the role of women in the agricultural sector (that includes also forestry). Although women carry out an important role in all productive stages of the food system, they are often underrepresented and underreported and often face restrictions. An enhancement of their participation would increase the productivity and profitability of their whole sector.⁴² Furthermore, given that women are primary caregivers, their capacity development would be passed on to future generations potentially affecting long term behavior changes and attitudes.
- Underdeveloped value chains for climate-resilient forestry products. Agroforestry systems have the potential to successfully increase the resilience of rural communities in Fiji and diversify their livelihoods. Nevertheless, access to markets is a significant barrier for communities. Timber demand is mainly driven by export markets and while opportunities have been identified (e.g. sandalwood for carving, sandalwood oil and incense stick; whitewood as a panelling timber) value and supply chains are not in place. Similarly, there is limited access to NTFPs markets, especially for rural communities, leading to significant impacts in profitability⁴³. Moreover, there is a general lack of institutional and regulatory support for forest products industry leading to a lack of quality control and trust and demand of consumers.

The project will address these barriers by raising awareness of customary landowners on the benefits of FLR and ecosystem services, strengthening the capacity of the most vulnerable communities to access information, technologies and finance to successfully implement resilience measures and generate ecosystem services. Customary landowners' climate actions will be enabled by integrated land use planning, strengthened regulatory frameworks and codes of conduct as well as innovative financial mechanisms including Fiji's access

39 Ministry of Fisheries and Forests. 2015. Department of Forestry Annual Report 2015. Fiji. Available:

<http://www.parliament.gov.fj/wp-content/uploads/2020/07/Department-of-Forests-Annual-Report-2015.pdf> [2021, October 07].

40 Conservation International, 2020: Analysis of Drivers of Deforestation and Forest Degradation and Identification of Response Strategies

41 Participatory Self-Assessment of the REDD+ Readiness Package in Fiji

42 National Adaptation Plan

43 Harrison S. and Karim, S. (eds.) (2016) Promoting sustainable agriculture and agroforestry to replace unproductive land use in Fiji and Vanuatu, ACIAR

to international carbon market. The project interventions will generate important outcomes: they will strengthen the resilience of communities and ecosystems with diversified, more resilient livelihoods, reduced risks of climate hazards and disasters (floods, landslides soil erosion and pollution). They will also lead to efficient reduction of forest and land use change GHG emissions, contributing to Fiji's goal of net zero emissions by 2050, national biodiversity and the SDGs.

Objective

The project objective is to restore the productive capacity and ecosystem quality of Fiji's forest landscapes to improve the climate resilience of vulnerable local communities while enhancing carbon removals and sink.

FLR approach in the project

FLR plays a crucial role to maintain biodiversity in agricultural landscapes and restore forests that are among the richest hotspots of biodiversity. By unlocking innovative finance channels, involving the private sector in FLR, building capacities for implementing FLR, facilitating inter-sectoral dialogues, and by mainstreaming FLR as a key option into the national development agendas, in particular – but not limited to – into climate change adaptation / mitigation frameworks (NDCs, NAMAs, REDD+ strategies, etc), the project sets up the enabling environment for implementing FLR at scale. The project fosters exchange of knowledge, expertise and experience across countries, thus contributing to inspire new FLR commitments and generating emulation within a given region, strengthening the movement towards a climate-proof and green development. It also sets the stage for larger private sector investment in FLR through the development of economically viable activities, an important mean to achieve transformative change at scale.

The FLR process of the project aims at implementing integrated and climate responsive land use to regain its ecological integrity and restore forest ecosystems and related human wellbeing in a climate adaptive way as part of larger landscape management changes, rather than through isolated restoration projects. This will be vital for climate resilience of forest dependent communities, of downstream coastal ecosystems and for coral reef protection, while reducing GHG emissions and increasing carbon stock. The adaptation results of the approach are associated with ecosystem services provided by the forests. These include the regulation of microclimate, retention of soil moisture to counteract increases in evaporation, infiltration of runoff, preservation of aquifer recharge and stream flow stabilization to enhance resilience to rainfall variability, increases in temperature, drought and extreme climate related weather events. Reforestation and reduction of land degradation can therefore enhance the climate resilience of vulnerable rural communities and address the lack of response mechanisms to extreme weather events at central and local levels (Garrett, L. et al. 2022⁴⁴). Furthermore, the FLR approach promotes climate smart activities enhancing livelihoods like agroforestry, shade agriculture and development of Non-Timber Forest Products (NTFP).

The approach follows the principles and options highlighted in the regional strategy and action plan for FLR. Through addressing land use planning, policy and institutional frameworks and sustainable financing, the project will make a significant contribution to transform Fiji forestry sector to support the country's climate and sustainable development goals⁴⁵, while recognizing the importance of ecosystems, particularly forestry ecosystems in the economy of Fiji and their specific challenges. Through addressing land use planning, policy and institutional frameworks and sustainable financing, the project will make a significant contribution to transform Fiji forestry sector to support the country's climate and sustainable development goals.

Design planning of the multi-stakeholder platform on R2R.

A multi-stakeholder platform will be established that brings together all relevant stakeholders' part of landscape management in the country, including organizations representing indigenous people and local communities, academia, government and other public sector actors, and industry and other private sector actors. Participants of the platform will meet regularly to discuss emerging issues, general matters, and possible synergies and collaborations related to FLR, SFM and related landscape management that contribute to a climate resilient system from R2R. It will focus specifically on technical knowledge sharing from on-the ground implementation and implementing this into policy and new initiatives. It will ease the integration of technical practical experiences and needs to policy, for example through the involvement of public sector and ministries in the platform.

44 Garrett, L., Lévite, H., Besacier, C., Alekseeva, N. and Duchelle, M. 2022. The key role of forest and landscape restoration in climate action. Rome, FAO.

45 Endorsed by the Asia-Pacific Forestry Commission (APFC) in 2017 with 30 FLR actions under the six strategic priorities.

This platform will build on the FAO-GEF4 and EU-funded Action Against Desertification projects that have already mobilized technical expert groups from MoF, Ministry of Environment (MoE), Ministry of Lands (MoL) and Ministry of Agriculture (MoA) and that also includes existing legislated committees such as the National Environment Council Protected Area Committee, collaborating line ministries on climate change, land-use planners, forest users and industry partners, and community representatives. It will also include all ongoing projects relevant for FLR, SFM and related landscape management in the country. The process will allow for continued identification of coordination and regulatory gaps, enhancing the effectiveness and the complementarity of the interventions employed. The activity will also be an opportunity to create an enabling environment for the scaling-up and rolling out of nature-based solutions (NbSs) from R2R including coastal protection approaches across Fiji and to develop lessons learned (e.g. AF- NbS seawall construction and management), to refine processes and enhance effectiveness of landscape management investments in the long-term.

It is planned for a consultant to be contracted to lead the design planning of the multi-stakeholder platform through inputs from relevant actors for FLR and SFM, as well as other natural and human made ecosystems, along the R2R. The final design of the multi-stakeholder platform should specify the issues to be addressed by the platform, its objectives and scope, roles and responsibilities, target activities and timelines during the first ten years, budget arrangements as needed and be based on below mappings.

- Mapping of ministries, institutions, civil society, private sector and other actors relevant for FLR, SFM, and other natural and human made ecosystems with relevance for FLR and SFM alongside the R2R, , their roles, responsibilities and needs for developing and/or strengthening mechanisms for inter-sectoral collaboration and coordination for FLR and SFM through a R2R-approach (examples of sources for mapping: key informant interviews, literature review). The matrix in figure 9 may provide guidance for assessing which stakeholders to include in the platform.
- Mapping of all ongoing and planned projects relevant for FLR and SFM, and/or related landscape management.
- Mapping of existing multi-stakeholder coordination mechanisms, platforms, networks, structures, and communication streams for FLR and SFM, their benefits and strengths, bottlenecks, gaps, overlaps, and areas of improvement (e.g. strengthening gender equality in decision-making) (examples of sources for mapping: above mappings, key informant interviews, literature review).
- Based on above mappings and through consultations with ministries with mandates relevant for FLR and SFM, develop a design of the multi-stakeholder platform specifying the issues to be addressed by the platform, its objectives and scope, roles and responsibilities, target activities and timelines during the first ten years, and budget arrangements as needed.
- Once the design of the multi-stakeholder platform is drafted with inputs from the ministries, the consultant will facilitate a workshop with ministries, institutions, civil society, private sector, academia, local communities and other relevant stakeholders, networks and forums working with NRM, including FLR and SFM, along the R2R to provide inputs on the platform design, avoid duplications and ensure complementarity with other similar initiatives and local policy framework, and to identify stakeholders interested in being part of the platform and their different roles/responsibilities. Representatives of groups/organizations working with women, youth, indigenous people and disabled people will also be consulted to ensure the development process includes also their preferences for the platform. The consultant might need to arrange bilateral and/or follow-up meetings to further finetune the design and next steps for establishing the platform, and to ensure all stakeholders are provided sufficient space to share their inputs. Once this is available, high-level approvals for establishing the multi-stakeholder platform may be obtained.

Stakeholder analysis matrix: who should be involved?

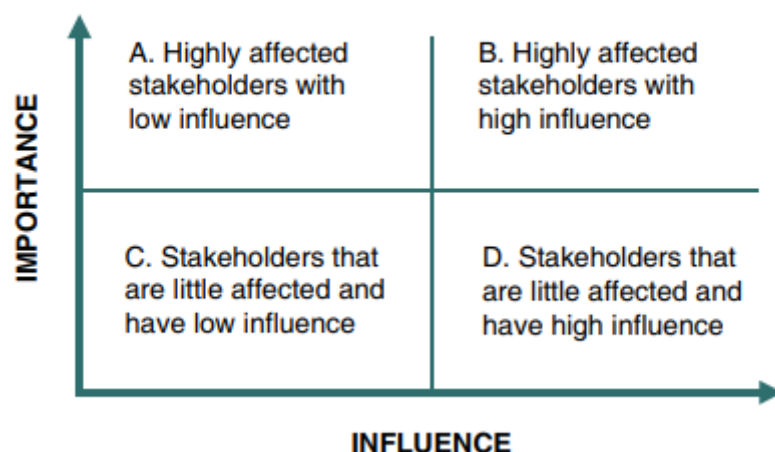


Figure 9: Example of a stakeholder analysis matrix to determine who should be involved in the multi-stakeholder platform. Source: FAO, 2010

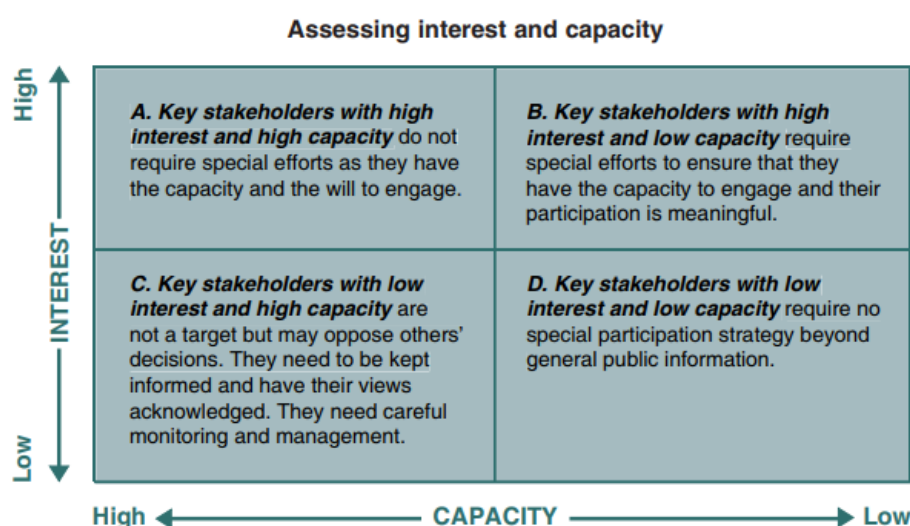


Figure 10: Assessing the interest and capacity of stakeholders to participate fully in the multi-stakeholder platform. Source: FAO, 2010.

Establish community-supported ecological monitoring across the target districts

The project will support communities participating in the design of participatory communities' landscape management plans (CLMP) for target districts in ensuring monitoring of the execution of the plans, strategies and investments in their areas of interest. It will establish a community-supported ecological monitoring framework of the targeted areas, including procedures, the objective and scale of the monitoring, data and indicators, frequency of data collection and usage of the data collected. The community monitoring framework will differ from the overall project monitoring in that it will live on after the project has ended and focus specifically on the ecological targets and outcomes as specified by communities themselves, and thus also feed into and inform the community landscape management plans, local and sub-national structures and processes for natural resource management. In alignment with the national REDD+ MRV Framework, the project will use information gathered through established community-based forest monitoring approaches and have independent verification done to verify successful delivery of FLR-related activities and evaluate impacts to farmers', households' and communities' livelihoods, wellbeing and the ecosystem as a whole. The relevance of participatory monitoring will be explored, in which monitoring is performed directly by forest stakeholders with

the advantages of obtaining information on stakeholder perceptions of the impacts of forest activities; helping to track progress on issues of particular concern to stakeholders; ensuring that stakeholders are well-informed about forest changes; encouraging stakeholders to review their own objectives in the light of outcomes; and facilitating face-to-face contact among stakeholder groups (FAO, 2023). A monitoring expert (consultant, consultancy firm, NGO or other service provider as relevant) will be hired to lead the process and support the initial implementation of the community monitoring framework. The work will include representatives of local communities and indigenous people, also ensuring women and youth are involved in the process.

Develop a community-supported ecological monitoring framework

Proposed workplan

A contracted monitoring expert will conduct, in close collaboration with leading ministry and other ministries as relevant:

- Meetings with district governments and community representatives of the targeted areas to discuss and agree on workplan for establishing community-supported ecological monitoring procedures across the target districts. Ensuring there is support for the process both from the local government and the communities.
- Lead the process of establishing community-supported ecological monitoring framework and procedures across the target districts, in close collaboration with district and local governments and communities. The expert will define the objective and scale of the monitoring, data and indicators (including gender and youth sensitive indicators), frequency of data collection and usage of the data collected. Selection of monitoring objectives and indicators could be inspired by Figure 11. Specific factors to include will be based on a strategic environmental assessment (see sub-activity 1.3.1.6) but may include, for example, high conservation values or socioeconomic benefits for local communities. The monitoring framework will also include identified suitable methodologies and approaches for the community-supported ecological monitoring with preference for those that are easy and cheap to use and access to allow for sustainable usage also after project ends.

Example of monitoring tools to use are Open Data Kit (ODK), Maverick and SeedIT⁴⁶. The framework will also use available capacity and guidance documents on FLR monitoring in Fiji already developed by FAO and GPFLR members, for example FAO/WRI guidelines and Collect Earth Open Foris. It will also link to the Task Force on Monitoring of the UN Decade on ecosystem restoration led by FAO⁴⁷. The final draft of the monitoring framework to be validated and agreed with local and district governments and community representatives of the targeted districts.

Implement community-supported ecological monitoring across funded investments in project area

Building on the monitoring framework, its focus on participatory monitoring led by the community and monitoring ecological priorities, the project with support from the monitoring specialist will provide continuous mentoring and support as needed to communities and district governments during their implementation of the monitoring framework. Workshops will be held separately and jointly with community members and district government officials to discuss their experiences from implementing the monitoring framework, including challenges and other adjusting needs. The monitoring framework will be adjusted based on the inputs and needs identified. Additional trainings and/or bilateral support will be provided based on what is identified and requested during the workshops.

46 ODK and Maverick are used to collect restoration data with GPS Coordinates, while SeedIT is used to record planting materials collection and transfer.

47 This task force developed a monitoring framework and platform for the United Nations Decade on Ecosystem Restoration (2021–2030), named Framework on Ecosystem Restoration Monitoring (FERM), that enables consistently and transparently monitoring and reporting of the progress of restoration efforts. It is composed of a registry that compiles data on restoration activities and initiatives from various data sources, and a geospatial platform for visualizing data. (<https://data.apps.fao.org/ferm/?lang=en>) FERM plays a key role in reporting progress under the Convention on Biological Diversity post-2020 Global Biodiversity Framework Target 2.

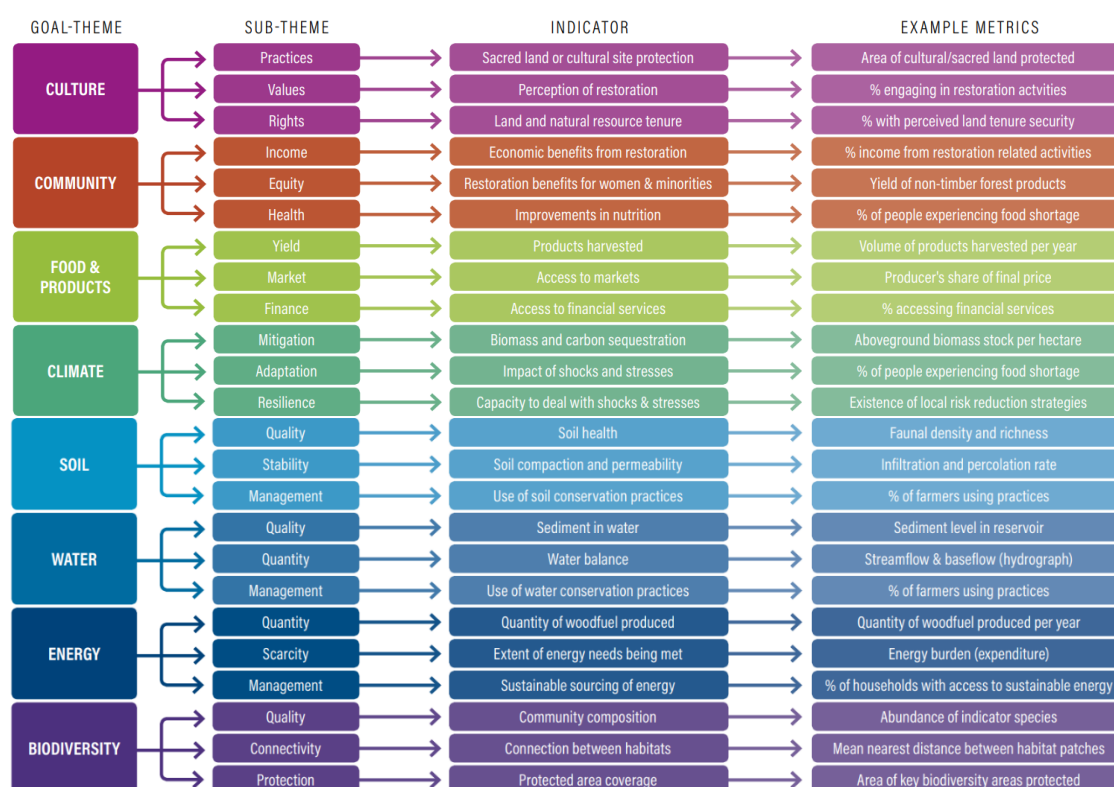


Figure 11: Examples of Indicator Options to Measure Restoration Goals. Source: WRI and FAO (2019).

Establish the forest ecosystem services levy or timber extraction levy

A review of existing taxes, subsidies and levies, including the existing fees and royalties' system at the national level will be developed and recommendations for increasing government revenue from forest utilization will be established. The review will ensure that iTaukei customary rights remain unaffected and assess how alternative financial tools can increase revenues. The project will then work through the necessary governance processes to establish the forest ecosystem services levy or timber extraction levy, from all types of forests. The levy is intended to be collected in alignment with existing monitoring efforts and aims to provide additional resources to local communities engaging in FLR activities, delivered in close coordination with the Fiji REDD+ Programme, and the GEF projects "Ridge to Reef" and "Community-based Integrated Natural Resource Management Project", as well as other forest projects and programmes.

The process for activity will be:

- Identify a tax/levy mechanism on the forest sector effective for increasing the revenue of the government.
- A certain percent of this tax is collected into a national fund. (Eg: The Malawi Forestry Department retained up to 80% of forest taxes and fees in its Forest Development Management Fund (Landell-Mills, 1999). Other funds with this model: Cameroon, the Gambia, Indonesia, the Lao People's Democratic Republic, Malaysia and the United Republic of Tanzania)
- Then a national forest fund is established to serve as device for receiving specified percentage of this levy.
- These revenues are earmarked for reinvestment in the forest sector and FLR activities.
- The main objective behind this establishment is to ensure that forest revenues are not totally absorbed by the treasury and a portion is ploughed back into forestry and sustainable practices.

Overall, the funds that depend on forest-sector-related taxes, levies and fees generally achieve lower capital growth than funds that receive non-forest revenues.

Another major hurdle for capitalization strategies that depend on revenue derived from forest products is that such products may be collected and traded locally and informally.

Recognizing the challenges associated with forest-based revenues, some funds have diversified their revenue sources. Levies imposed on industries to compensate for their environmental damage play an increasingly important role; they offer great promise as potential sources of funding for undertaking mitigation measures and restoring lost environmental services. The making of such payments is also an indicator of a country's commitment to improving environmental and social outcomes, and this may trigger interest in the international community in supporting the fund.

Example: the Indonesia's Reforestation Fund

Indonesia's Reforestation Fund (Dana Reboisasi) was established in 1989 as a national forest fund financed by a volume-based levy paid by timber concessionaires. Its aim was to sustain national forests in the long term by supporting public investments in reforestation and the rehabilitation of degraded forest lands. The levy ranged from as high as USD 20 (per m³ of ebony) to as low as USD 2 (per tonne of pulpwood), depending on species, product and subnational region⁴⁸. Money raised through the payment of levies was deposited into an off-budget fund under the direct responsibility and management of the Ministry of Forestry, with limited oversight on how funds were used. More than USD 1 billion was allocated to commercial forest plantations through cash grants and (less frequently) discounted loans to state-owned forestry enterprises and joint ventures between such state-owned forestry enterprises and private companies.

Proposed Workplan:

Hire experts to develop a feasibility study of the levy and of a fund to collect the levy. See details of the steps below. During that phase it is of prime importance to ensure that there are mechanisms in place to make sure that part of those taxes is going back to the local communities/indigenous people.

If the feasibility study is validated by all stakeholders, develop a full design phase, including approval of a draft decree for the fund establishment, putting in place key governance structures, drafting a Fund Operational Manual⁴⁹, including a logical framework, as well as a resource mobilization and communications strategies.

Steps for the feasibility study of the levy:

- Review existing taxes, subsidies and levies, including the existing fees and royalties' system at the national level – and include a phase of capitalization of experiences in the Pacific islands

Several types of levies/taxes can be established:

- Forest fees are those instruments that are designed by governments with the specific intent of charging the forest sector for its use of timber taken from forests.

A convenient classification of forest fees groups them according to where they are imposed in the flow of timber through the forest sector; those that are determined before the harvesting of wood (pre-harvest determined fees), fees that are determined according to the amount of wood harvested (harvest determined fees) and those fees that are determined according to the amount of wood processed into timber products (post-harvest determined fees).

Pre-harvest determined fees are paid by the chosen concessionaire to the forest owner entirely independent of any actual harvesting that may occur (concessions fees, area fees, standing volume fees, Fees based on the Annual Allowable Cut, Performance Bonds, Local development obligations, etc.).

Harvest Determined Fees are those determined by the quantity of timber harvested from a concession (also called royalty). Harvest-determined fees come in two types. Those that charge the same fee for every unit of output regardless of the cost of extraction and the value of the timber (a uniform specific royalty) and those that take account of costs and value (a differentiated royalty). (Per-Tree based Fees, Volume Based Fees, Value Based Fees, Reforestation Fees, Export Fees, etc.)

Post Harvest Fees are levied on the output of processed products (sawnwood, veneer, plywood or their subsequently processed products) instead of on logs. (Fees Based on Processed Products, Processed Product Export Fees)

- Government taxes are those payments made by the forest sector to the government which are not designed specifically to capture the rents available in the forest sector.

48 https://www.etifor.com/it/wp-content/uploads/sites/2/2019/02/Valuing-forest-ecosystem-services_FAO_19.pdf

49 See as example the FONERWA Operational Manual, July 2012, Rwanda and Fonerwa brochure

- Export Taxes (Processed products and logs): Most nations institute a set of taxes on exported goods and products as a means of raising government revenues
 - Income and Profit Taxes
 - Turnover taxes or value-added taxes
 - Transportation taxes ⁵⁰
- Identify and analyze the following: How effective are these instruments in increasing government revenue? What effect do the instruments have on the behavior of companies in the forest sector and how might this influence the way in which they use the forest? How easy is it for the government to calculate and then collect the payments due them from a particular instrument? How easy is it for companies to avoid making some or all of the payment?
- Develop recommendations on which levy/tax should be developed by the Fijian government and/or improved if already existing.
- Develop a step-by-step guide to establish this levy:
- what are the pre-requisites for the establishment of the levy (e.g. forest inventory)
- law, regulations, decrees to be updated/adopted

Steps for the feasibility study of establishing the fund to collect the levy to support implementation of Fiji's reforestation national goals and international commitments, including provisions for public, civil society and private sector participation.

The analytical framework for the feasibility study will be based on the FAO technical publication "Towards effective national forest funds" (FAO, 2015) featuring four components for the successful establishment of NFFs: 1) governance, 2) utilization 3) capitalization and 4) oversight. The recommendations will be based on best practices of international experiences with such funds (e.g.: FONAFIFO in Costa Rica, FONERWA in Rwanda, etc.). Scenario options will be presented along with a final recommended fund establishment scenario for Fiji.

This feasibility study will be conducted in a participatory manner, and therefore feasibility mission(s) should be conducted as required to undertake stakeholder interviews across public, private, civil society and development partner stakeholders relevant to the establishment of such a fund.

- Governance process:

Identifying the governance process should ensure

- Greater congruence between a fund mandate and the overall or specific goals of forest policies and programs within which the fund operates,
- Close coordination at the highest levels of government to ensure complementarity and cohesiveness among national forest initiatives,
- Well-defined goals and objectives and a clear set of target parameters,
- An appropriate legal form that is aligned with the objectives of the fund and the political and institutional environment in which it operates and
- A robust, competent and flexible organization, with adequate financial management capability.

The analysis of the potential fund governance will encompass interviews across public, private, civil society and development partner stakeholders, along with the international experience. This includes a comparative advantage analysis of potential institutional arrangements for fund management and administration as well as consideration of a fund governing body in the context of an overall governance structure.

Elements to be included in this section

- Fund management (day-to-day technical and financial management) and administration activities scenario
- Comparative advantage analysis conducted of existing management options (e.g.: Ministry of forestry, FDB, etc.)
- Identification of potential institutional arrangements in terms of the lessons, experiences and perceptions of existing funds and initiatives

50 https://www.ucl.ac.uk/cserge/Forest_Rents.pdf

- Proposal of a technical and financial management structure (e.g. Board of trustees, CEO, Technical committee, administrative agent, FDB.)

Attention, strong collaboration needs to be implemented with the ministry of finance that can sometimes be reluctant to have a fund managed by a technical ministry.

- Utilization:

Fund utilization should be based on four components:

- identification of priority areas
- prioritization of beneficiaries and activities
- decision as to types of assistance
- development of a detailed fund access mechanism (project solicitation and granting of funds).

Effective Fund utilization is critical, particularly in the early stages of a Fund when establishment of a solid track record is needed to build investor confidence and validate the Fund's value proposition for delivering results.

In line with the objectives of Fiji policies, identify priority areas for the fund investments (e.g. nurseries, planting, maintenance, R&D, forest services). The fund utilization can integrate multiple priority areas using a programmatic approach, including elements of cross-cutting themes (e.g. community partnership principles, climate resilience/mitigation, land degradation neutrality, biodiversity, knowledge sharing, among others).

Identify the beneficiaries of the fund (e.g. the State, municipalities, the private sector, NGOs and academia, iTaukei communities).

Develop appraisal criteria including relevance, value for money, sustainability, technical feasibility and gender considerations for the prioritization of funding.

Identify the most relevant financial instruments (e.g. transfer fund via grant modalities, catalytic fund through concessional loans and repayable grant instruments, or innovative instruments including compensation payments and Payments for Ecosystem Services (PES)). Several instruments and mechanism already exist: for example, the land accelerator of WRI to redistribute to local communities⁵¹, the small grants mechanism put in place in several FLRM projects, etc. This activity is directly linked to the activities under component 2 on income-generating activities.

Propose the access mechanism to the fund (e.g. open call for proposals on a rolling basis, closed calls for proposals accepted during certain periods, thematic calls, targeted calls).

Develop an application process (e.g. Initial screening by the CEO and AA, appraisal by the Technical Committee, funding approval by the Board of Trustees).

- Capitalization:

In this section of the feasibility study, give recommendations on how the fund can be capitalized in addition to the levy collected.

The ability to identify and secure capitalization is a core function of fund management, particularly in the first year of operationalization. From international experience, mobilization and harmonization of resources can be increased by:

- making an attractive business case for investment by the private sector;
- ensuring that domestic policy and institutional frameworks meet the governance requirements of international funding mechanisms; and
- diversifying sources of income and devising innovative schemes such as payments for forest environmental services.

A diverse range of potential funding sources exist including the government, bilateral and multilateral development partners, international financing mechanisms, private and individual donations. Towards this, a symbolic contribution from the government could demonstrate government commitment to the fund concept.

⁵¹ The Land Accelerator, through its online and in-person boot camps and personalized mentorship, empowers entrepreneurs to pitch impact investors and sell their products more effectively. By fostering entrepreneurship, this first-of-its-kind program provides a cost-effective approach to restore — and develop — rural areas around the world. (<https://files.wri.org/d8/s3fs-public/2022-03/land-accelerator-south-asia-brochure.pdf>)

Seed capitalization from bilateral and multilateral development partners is likely to be the largest and most immediate source of funds, after the levy collection. A participation from this GCF project could present a source of potential programmatic climate finance in line with Reduced Emissions from Deforestation and forest Degradation (REDD+) and Ecosystem-based Adaptation (EbA) concepts.

→ Monitoring, Evaluation and Oversight:

Effective oversight is a key means of improving the performance of the fund. It can be achieved by:

- ensuring broad representation in fund management and decision-making;
- maintaining effective accounting, monitoring and evaluation systems;
- strengthening independent review and oversight mechanisms;
- improving public access to information on the fund;
- boosting the capacity of staff to manage funds and respect good governance practices.

Effective and efficient monitoring and evaluation systems coupled with strong financial and technical oversight are critical to delivering on an NFF's value proposition and intended results. This in turn increases donor and investor confidence in a Fund's business model, supporting future replenishment needs.

In this section of the feasibility study, will Develop a results-based management framework as a best-practice approach to both Fund and project-level management.

Develop a Fund-level logical framework in a participatory manner with public and private stakeholders to ensure project-level objectives and national-level objectives.

Ensure project implementers closely engage affected communities throughout the project cycle and align with goals of municipalities.

Ensure communities play a key role to ensure reforestation sites are well maintained and deliver community benefits, especially income and resources in the form of non-wood forest products.

Develop the risk register of the fund, including key assumptions and management plans.

Identify the oversight mechanism of the fund.

Participatory community involvement to ensure and enhance sustainable FLR

Successful forest and landscape restoration relies on several key elements such as strong stakeholders' engagement at all levels, development of sustainable economic alternatives, good planning and monitoring.

FLR is an integrated approach that relies on people's participation to balance trade-offs between conservation and production objectives, and seeks that balance at multiple scales. Due to its wide encompassing objectives, it supports cross sectorial and inter-institutional approaches. By supporting decentralization for planning, monitoring and implementing FLR, this project empowers stakeholders and enables them to reconcile their potentially divergent objectives, thus opening up new ways towards a sustainable, fair and inclusive development.

All stakeholders, right-holders, and especially under-represented groups (e.g. local communities, Indigenous peoples, ethnic minorities, women, youth and LGBTIQ+ people), should be equitably and inclusively provided with opportunities to be engaged and integrated in meaningful, free and active ways. Such inclusive participation is necessary for achieving the desired outcomes of restoration over the long term, and should be promoted as much as possible throughout the process, from planning to monitoring. This participation can be achieved by securing equal and regular access to information and knowledge; recognizing and addressing social asymmetries through empowerment and capacity development of underrepresented groups; seeking free, prior and informed consent; providing effective incentives and improving livelihoods, food security and opportunities for local communities; promoting co-management and ensuring a key role for local communities in decision-making; recognizing rights, needs and concerns; fostering tenure security; pursuing fair and equitable distribution of benefits and responsibilities; and building dialogue, trust and mutual respect through inclusive and transparent governance with mechanisms for impartial conflict resolution.

Restoration approaches are planned, implemented and tested in several sites (20 districts) with FLR options providing both socio-economic and environmental benefits (both carbon and non-carbon) through participatory planning, community driven FLR investments and sustainable economic alternatives identified at landscape level, addressing needs of male and female farmers.

There are specific needs at sub-national and local levels in Fiji to support planning, implementing and monitoring phases of FLR initiatives in order to create a sustainable ownership of legitimate stakeholders and to significantly scale up FLR efforts by building replicable pipelines/virtuous financing instruments to properly transfer funds at landscape level for sustainable FLR investments.

The key approach is based on capacity building for national governmental staff, NGO and other stakeholders in the development of pilot restoration plans integrated with FLR strategies with participatory approaches and the development of pilot restoration plans on the targeted sites including participatory planning and implementation of pilot landscape plans and set up the conditions for effective FLR (local coordination, nurseries, capacity building and development of economic alternatives).

[Set up the conditions for onsite FLR in target areas](#)

The first step in the process will help establishing enabling environment for informed and learned community members who would be in a better position to make appropriate decisions on the sustainable management, development and use of their natural resources. Through this, the project is creating a sense of ownership and championship thus enhancing stewardship of their natural resources from household, iTaukei/clans to communal level, including marginalized socioeconomic members within these groups such as women and youth.

This will create awareness on the project, identify restoration barriers, community restoration objectives, establish women's and youths priority needs and capacity gaps, finalize land use maps and land use plans, establish the Natural Resource Committee at village and District Level, establish the M&E procedures and build capacity of Community M&E Officers, acquire consensus from land owning units, clarify demarcation of responsibilities between the project team and the community as well as the provision of alternative livelihood programs.

In order to do so, several activities will be implemented:

- Develop a baseline assessment of each target site including:
- community consultation and community awareness,
- land use assessment and development of an updated land use map for each site,
- seed phenology and collection,
- seed propagation training,
- water resource assessment,
- apiculture inspection and training, and
- fisheries assessment, etc.
- Improve local coordination through supporting local communal structures and CSOs
- Develop Village Integrated Natural Resource Management Plans with Forest and Landscape Restoration options (including financing plans)

Various sessions to be held with the respective village elders and communal structures to identify priority issues and challenges as well as motivational factors for restoration.

Motivational factors to be identified voluntarily by community members based on their perception and experience on relevant and prevent priority issues, actions they need to take to resolve or reduce this issues, identification of roles and who will be responsible and timelines for each activity.

Through the plan, identify the exact area and the number of hectares to be

- under sustainable management
- under direct restoration efforts

And the FLR techniques to be used in each area.

The plan is monitored by the Natural Resource Committee in the respective villages with support from relevant stakeholders.

- FLR/Forest Reserves/Protected Area awareness raising and capacity development in the target areas

Capacity building programs to be organized for communities and representatives from Government and NGO's. Capacity building programs to be conducted in the form of awareness and hands-on practical training. Relevant capacity building programs are to be identified by the communities and stakeholders themselves during the baseline assessment.

The capacity building programs can cover topics on Forest and Landscape Restoration, Sustainable Land Management, Sustainable Forest Management, Protected Area, Sustainable Fisheries Management, Environmental Health and Wellness as well as on iTaukei Governance and community member's roles and obligations while living in a community, etc.

And can be jointly facilitated by FLR Project, Ministry of Forestry, Ministry of Agriculture, Ministry of Fisheries, Ministry of Rural and Maritime through the District Office, Ministry of Health and respective Provincial Office, etc.

In addition to awareness sessions, specialized training can be conducted on Community Monitoring and Evaluation training, Beekeeping training, Entomological survey and seed collection, processing and propagation hands on practical sessions to community representatives.

Restoration of degraded lands in the target areas

The second step of participatory community involvement in FLR is on implementing restoration approaches in selected sites with a high potential for FLR providing both carbon and non-carbon benefits through participatory and gender-responsive plan.

The different steps are as follow:

- Farmer and community reforestation and restoration consultation (workshops on Integrated Natural Resources Management Plans and identification of alternatives options for FLR)
- Reforestation and restoration of degraded lands with both provision of alternatives materials, support to nursery installation and support to line cutting, planting and weeding efforts (based on a rate per hectare (lump sum) established by the government to allow local partners to implement their respective plans)
- Provision of planting materials for restoration

Number of seedlings from various specie to be planted (Native vs exotics that became naturalized).

Choice of the different species depending on the objective of the FLR efforts: timber, erosion control, source of income, source of food and fuelwood to name a few.

Source the planting materials from local seed sources and propagated them in the respective community nursery and/or get planting materials from the Ministry of Forestry / Ministry of Agriculture nurseries.

- Restoration

Restore the areas identified and targeted by the Village Integrated Natural Resource Management Plans with the techniques identified in the plan. All these activities are always decided through community consultation and discussion.

It can be

- enrichment of farmland through agroforestry
- enrichment with native species
- protection of some type of forests (e.g. remnant dry forest and mangrove)
- protection of water sources
- restoration of grassland with multipurpose species
- etc.

Restoration involves a wide range of activities and often includes some part of planting trees or assisting natural regeneration. This part of restoration heavily relies on quality native planting material to ensure good adaptation of the plants and survival rates.

Therefore, building the capacity of "village seed technicians" in collecting and propagating quality native planting materials is integral to successfully restoring degraded areas, bringing back the natural vegetation with its various ecosystem and cultural service's as well instilling a sense of ownership and stewardship in sustainably managing their natural resources.

FAO, for the past years, as parts of its various programs such as the EU funded Action Against Desertification Project and the International Climate Initiative funded project on "Paris Agreement in Action", has been able to establish baseline phenology data for some islands (Mamanuca) which would help in planning seed collection. This activity has been done in partnership with Ministry of Forestry, Pacific Community and resource owners.

The phenology data contains information on what species are flowering, fruiting and maturing and in which months. This activity should be pursued and replicated in all the pilot sites of this project.

The most important thing is to ensure that planting materials are sourced from local native species as the conditions are similar in terms of climate, altitude and soil type of the proposed restoration sites. This is in addition to reducing costs related to transportation of planting materials.

Development of sustainable economic alternatives with both capacity building workshops on eco alternatives and provision of the required materials / Income generation program

Income generations programs to be identified based on factors such as available resources and skills at community level, community interest and activities that will benefit restoration efforts. These programs are identified in parallel to the development/update of the Village Integrated Natural Resource Management Plans.

Following community consultation, the income generations to be supported could potentially be:

- Procurement of seeds/seedlings for restoration: Seeds and seedlings are purchased from community members and planted during various events throughout the year (technical days, FLR days, international day of forest etc.).
- Masi value addition: Masi if harvested sustainably can be a source of income while meeting various cultural obligations at household and communal level. However, the women do not have the knowledge and tools to harvest, process and conduct value addition of masi.
- Beekeeping value addition: Procurement of beekeeping materials from the project, installation of hives, on-site one to one training with the community beekeepers.
- Vanilla value addition: Vanilla is a highly valued commodity that could be selected for inclusion in agroforestry plots to increase farm value as well as promote inter-cropping. Some plots can be used as a demo to illustrate to communities how they can maximize the use of a small space while at the same time increasing farm biodiversity and source of livelihood.
- Value addition of breadfruit and other staple crops to flour: Can be identified due to the abundance of these resources in the targeted communities as well as its importance in buffering against food and nutrition security post disaster. Targeted staple crops apart from breadfruit includes, plantain, cassava, uvi and sweat potato to name a few.
- Value addition of leafy vegetables as vegetables powder: can be identified due to the abundance and under-utilization of these resources in the targeted communities as well as its importance in buffering against food and nutrition security post disaster. Targeted vegetables include saijan, sweat potato leaves, taro leaves, and bele leaves.
- Etc.

Implementation mechanism

Concerning the work in the islands, an assessment of the existing maps and restoration opportunities is the first needed step. Participatory Land Use Plans closely linked to Village Development Plans should be defined before restoration activities can start.

Experts from the target area will be selected as project focal point for the area, working directly with the communities on FLR coordination, capacity building and monitoring as well as the development of alternative economic activities to lower deforestation and land degradation and the relationship with the private sector. The local NGOs/service providers, (for example MES and Vinaka Fiji), have very strong linkages with local communities which will be very helpful to facilitate community engagement in planning and activities implementation. The technical support given by the different ministries will be coordinated by the Ministry of Forest. Indeed, capacity building is needed to overcome some of the current challenges such as fire management (through fire breaks) and nursery weaknesses. Some restoration technics not tested yet in some of the sites, such as Assisted Natural Regeneration, should be tested.

The tasks of the service providers should include:

For the conditions for onsite FLR set up through consultations, baselines and integrated planning

- Reconnaissance and consultations conducted and sites confirmed. Consultations include capacity needs assessment covering the villages, alternative livelihood opportunities assessment, biophysical survey report, and site selection report with maps and geo-coordinates.

- Socio-economic survey baseline assessment including report on socio-economic data, report on priority plant species and species of interest for restoration

This will ensure the development of integrated district and village development plans, which also integrate restoration plans with clear targets and activities to be led.

For the restoration of degraded lands with/by communities in the different villages

- Reforest and restore degraded lands with both provision of eco alternatives, support to nursery installation, and support to line cutting, planting and wedding efforts
- Develop sustainable economic alternatives to support restored land by planning for the diversification of livelihood sources (linked to the capacity needs assessment previously realized), training trainers with capacity building workshop to develop skills and knowledge on practical product development, developing IGA at community level.

These activities will follow the Integrated Village Development Plans developed with the Ministry and provincial office under the previous activity. To ensure that the restoration is sustainable on the long-term, socio-economic activities linked to restored land will be developed.

For the monitoring and maintenance and assessment of restored and replanted areas:

- Collect data, conduct monitoring and maintain restored plots by developing a community monitoring guide, and delivering regular M&E reports

This activity is done in partnership with the Ministry of Forestry to harmonize the different reporting system and to ensure its sustainability after the project.

Example of service provider: Mamanuca Environment Society for the Mamanuca islands, Vinaka Fiji for the Yasawa islands, etc.

A LoA will be signed with the Ministry of Forestry including technical assistance, capacity building activities, provision of seedlings and planting materials.

Establishment of Forest Ecosystem Services incentives

The project will support the establishment of a Forest Ecosystem Services Levy to support community-based SFM, to promote climate resilient forestry products and to ensure permanence of FLR investments, particularly in the face of climate change, increased natural hazards and the risk reduction/protection function that forests provide. The ES PRO⁵² is an impact verification framework that establishes the requirements for forest and land managers to contextualize, measure, report, and verify the positive impacts of their management activities on five ecosystem services – biodiversity conservation, carbon storage and sequestration, watershed services, soil conservation, and recreational services. Its outputs include quantifiable, externally verified, and annually audited impact data to substantiate positive impact claims. In addition, the ES PRO outlines market tools that define how claims can be used to demonstrate progress toward meeting sponsors' nature-positive targets. Applying the ES PRO includes seven steps for identifying the ecosystem services to be verified, describing the local social and biophysical context, naming stakeholders and beneficiaries and their rights to use, access, or receive payments for ecosystem services, and demonstrating positive impacts through an explicit theory of change that links management activities to specific outputs and outcomes. The ES PRO does not generate tradeable or bankable environmental assets like carbon credits, but impact claims that preserve the integrity of landowner's tenure rights.

The ES PRO as an impact verification framework is flexible and is underpinned by the FSC Principles and Criteria. The FSC framework – including both forest management certification and the ES PRO – will provide a robust impact verification framework to support forest landscape restoration for climate benefits and resilience in Fiji. It will guide stakeholders in creating effective project designs and clearly demonstrating how their project activities generate positive impacts. These impacts will be annually audited by a third party and audit reports made publicly available.

52 <https://connect.fsc.org/document-centre/documents/resource/316>

In addition, the ES PRO is an International Capital Market Association-approved verification tool for the issuance of green and sustainability-linked bonds. It includes stringent environmental, social, and economic safeguards that reduce risk for investors, many of which are not explicitly covered in existing carbon standards.

2. Implementation arrangements

The main stakeholders involved in the project are:

- Ministry of Forest (local and national representatives)
- Ministry of Rural and Maritime Development
- Ministry of iTaukei Affairs (provincial and local representatives)
- Ministry of Lands and Mineral Resources
- Ministry of Agriculture, Land Use section
- iTaukei Land Trust Board
- Ministry of Fisheries
- Service providers/NGOs from the pilot sites: e.g. Mamanuca Environment Society, Vinaka Fiji, etc.
- District/Villages representatives

In the section above describing each activity, implementation modalities are proposed (Ministry in charge, organizations to be involved, experts to be recruited, LoA to be signed etc.)

3. Expected Benefits

FLR contributes to the achievement of the UN Sustainable Development Goals (SDGs), particularly towards SDG1, 2, 5, 6, 13 and 15.

The project will allow local actors, specifically women and youth, to champion restoration actions delivering socioeconomic and environmental benefits.

Socio-economic benefits of the project

FLR increases supplies of landscape products such as food, water, timber and biomedicines. Therefore, FLR offers communities that depend on forests opportunities for income generation and sustainable livelihoods.

Restoration-positive businesses/value chains developed by the project will provide adequate socio-economic benefits to local entrepreneurs.

Socio-economic benefits will be enhanced by establishing land use agreements with local communities as well as rights to harvesting, value addition and selling of forest and tree products (with particular emphasis on gender equality).

Implementing FLR will benefit young people in terms of job opportunities and economic perspectives.

FLR provides opportunities to improve or create new institutional structures for stakeholder engagement. It boosts stakeholder consultations, participation and ownership. This can bring greater transparency and accountability to decision-making processes on contentious issues such as land tenure, land-use management and water access.

FLR promotes meaningful participation in decision-making by disadvantaged groups, whose voices and opinions are often ignored. This includes poor and landless people, women, youth, and indigenous groups. These groups may become empowered and more widely acknowledged by other stakeholders as a result of participatory processes, capacity building and improved economic and social returns from their sustainable practices.

FLR promotes stronger collaboration among landscape stakeholders and brings sectors together to negotiate solutions at the landscape level.

To this, should be added non-market benefits (e.g., resilience, biodiversity, water quality and recreation) as well as the whole potential of underdeveloped landscape value chains.

Environmental benefits of the project

FLR enhances forest protection and restoration, soil conservation, water source protection, air quality, local climate and biodiversity conservation.

FLR also support climate change mitigation and adaptation while enhancing ecological and livelihood values for the landscape and its people (see the FAO publication on the key role of FLR in climate action⁵³). Forest and landscape restoration practices have also proven to have significant benefits for addressing the impacts of climate change including carbon sequestration and reduction of GHG emissions, improving the resilience of landscapes.

The improvement of forest and other resources through FLR processes can also reduce disaster risks such as floods, droughts, landslides or outbreaks of pests.

4. Monitoring and Evaluation

In Fiji, several tools are already used to monitor forests. Using ArcGIS, the Ministry continued updating information as and when received from various sources to project visuals and web maps in 2D and 3D. The web maps facilitate informed decision-making by the senior management team and are updated with real-time frequency. The planted areas dashboard is also updated as soon as the information is received and verified⁵⁴ (Source: Mof Annual report). The submission of harvested area reports from the operations divisions is critical as this is used for forest reference level reporting. The Ministry of Forests is mandated to carry out the National Forest Inventory (NFI) in Fiji every decade. The design and methodology for the NFI 2021/2022 were developed and officially launched on 27 January 2021 by the Permanent Secretary for Forestry.

An MRV Guideline was developed in 2020- 2021 to capture the quality of work delivered by the Ministry in the implementation of the Reforestation of Degraded Forest project and the 30 million trees in 15 years initiative to capture the quality of work delivered by the Ministry. The MRV Guideline for traceability starts from the seed collection to field planting survival or mortality rate. These last years, the guideline was successfully trialed out in the daily operations of the Divisions, and this will ensure that proper records are maintained from seed collection, mapping of seed stands or mother trees and collection of seed survey data for traceability purposes.

Technologically advanced tools for monitoring ecological restoration are available and can be used in addition to already used tools to inform future planning and managing decisions on restoration in Fiji. These tools include:

- the [Adaptation, Biodiversity and Carbon Mapping Tool \(ABC-Map\)](#), a geospatial application to assess environmental impacts in the agriculture, forestry and other land-use sectors;
- the [Assessment, Understanding and Reporting of Restoration Actions \(AURORA\)](#) tool, which helps stakeholders develop a monitoring system tailored to their needs and goals;
- [Collect Earth Online](#), a tool for land-use data collection to establish reference levels and monitor the dynamics of land-use change with high-resolution satellite imagery;
- [Earth Map](#), which provides free and user-friendly access to satellite imagery and geospatial datasets for analyzing changes to the Earth's surface to aid policy and investment decisions;
- the [Framework for Ecosystem Restoration Monitoring \(FERM\)](#), the official monitoring and reporting platform of the United Nations Decade on Ecosystem Restoration 2021–2030; and
- [Se.plan](#), a spatially explicit tool to identify potential restoration opportunities by assessing defining the benefits relative to costs as well as biophysical and socioeconomic constraints.

The project will be monitored on a regular basis based on the risk log, log frame and work plan/budget making use of internal FAO systems.

The Monitoring and Learning framework combine both monitoring and adaptive learning. In terms of monitoring, both quantitative and qualitative indicators are used and will be refined during inception phase. The M&L system includes overall guidance on who will assess and report on what and to whom and detailed guides and technical fiches will be developed during inception phase for Fiji partners and facilitators.

The M&L system will entail different levels of assessments: assessment of progress as indicated through contractual arrangements (LoAs, small grants), participatory monitoring at landscape level through landscape platforms with all service providers and implementing partners (with feedback loop to national FLR monitoring platform). An external mid-term review will take place halfway through the project implementation providing guidance and direction, followed by a final evaluation at the end to ensure effective capture and dissemination

⁵³ <https://www.fao.org/documents/card/en/c/cc2510en>

⁵⁴ MoF Annual report 2021-2022

of lessons learned. The project will assess the progress against the Logical Framework Matrix and work plans through six-monthly progress reports.

Throughout project interventions, the capacity of local actors will be strengthened to ensure participation in effective monitoring of results following a set of common indicators.

Human and financial resources needed for M&E

In order to facilitate the project's implementation and achieving of agreed project objectives, it is recommended that the Executing Entity shall make available one person dedicated to Monitoring and Evaluation with understanding of GIS and remote sensing tools, available to the project. This specialist will be supported by independent evaluation service providers.

Intended set of indicators to be tailored by the project stakeholders during the first months of the project implementation

Building on the UN Decade FERM monitoring framework, and the GCF monitoring framework, during the first months of the project, the project management team will select and standardize a set of indicators and their qualitative and quantitative performance metrics. This could be done with the AURORA tool⁵⁵ that ensures a more-tailored monitoring system. A guide to identify priorities and indicators for monitoring FLR is available to the project⁵⁶. This guide helps stakeholders develop a monitoring system tailored to their needs by identifying indicators and metrics to monitor progress toward their set goals. It emphasizes the need to make choices and understand potential trade-offs and synergies when designing a restoration project.

Specific guidance documents for the project will be developed and shared with local project teams to ensure a common approach. Specific survey applications will be developed and disseminated to measure socio-economic and governance indicators impact. Relevant earth observation monitoring tools will also be selected to quantify biophysical progress.

The list of indicators in the following list is a menu of indicators that the project stakeholders can draw from.

⁵⁵ <https://auroramonitoring.org/#/>

⁵⁶ <https://www.fao.org/documents/card/en/c/ca6927en>

5. Risks and Mitigation related to the sector and proposed interventions

A series of internal and external risks linked to FLR activities could affect the project implementation and hinder its overall success and sustainability. FAO will employ adaptive risk assessment and management strategy to reduce or mitigate these potential risks. FAO and the partners will assess risks based on political, legal, economic, social and environmental concerns.

Environmental and social risks from the project

Based on past project experience the below overarching possible Environmental and social Standards (ESS) were triggered:

ESS 1 – Biodiversity conservation and sustainable management of natural resources: The project aims to support development of value chains and the implementation of FLR interventions prioritizing native useful species and efforts will be undertaken to ensure diversity in terms of species and planting material.

ESS 4 – Decent work: The project will promote the establishment/strengthening of restoration-positive value chains and enterprises and will ensure Local communities will not be disadvantaged and have equal access to information and opportunities that do not harm anyone.

ESS 8 – Indigenous Peoples: The project aims to provide local communities (including Indigenous Peoples) the financial solutions and the technical assistance to actively take part in the restoration movement. FPIC will be followed throughout the process.

As per FAO's Environmental and Social Management Guidelines, the projects' risk is classified as low.

Environmental and social Standard (ESS)	No, yes, TBD	Likelihood	Impact	Risk mitigation measures
ESS 1 – Biodiversity conservation and sustainable management of natural resources	Low	Low	Medium	The project will ensure participatory landscape approach to provide a multi-stakeholder space to interact and discuss cross-cutting issues such as biodiversity. The project will build the capacity of local communities to effectively take part in planning and implementation of restoration intervention in the targeted landscapes.
ESS 1.3 Could the project include any activity on the ground related to agroforestry, forest plantation, harvesting, or management of forest resources (native or planted) for timber and non-timber forest products uses (e.g., seeds collection, spices, honey, mushrooms, bush meat)?	Yes	High	N/A	The project will adhere to existing national forest policies and standards and will adhere to the Voluntary Guidelines on Planted Forests.
ESS 1.5 Could the project provide or lead to the use of non-native/non-local species, varieties, breeds, strains or farmed types of domesticated or wild plants or animals (terrestrial or aquatic)?	TBD	Unlikely	Low Impact	The project will prioritize the utilization of native local species followed by participatory consultation during the planning stage. In case a non-local species will be used, the project will ensure to follow appropriate phytosanitary protocols in accordance with International Plant Protection Convention
ESS 8.1 Could the project be located on or near lands and territories owned or claimed by Indigenous Peoples?	Yes	Likely	Moderate impact	The project will ensure FPIC process and ensure project teams are capacitated to guide the process. The local communities will be important stakeholders throughout the project.

Risks to the project

Risk description		Risk Score	Mitigating action
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	Worst case consequence for the project	Impact	Likelihood	
Changes in government can result in shifts in policy priorities which might negatively influence the scaling up of restoration by local actors.	Limited support from national and decentralized government to support local restoration action and monitoring	MH	MU	Implementing partners will work with the government through the national FLR platform/working group to mitigate this risk by building capacity of these cross-sectoral committees to guide the programme implementation.
Limited visibility at national level due to low integration of programme results into national monitoring framework and knowledge sharing mechanisms	No sharing of impact and results of the programme and zero visibility.	ML	ML	Implementing partners will work with national FLR platform and decentralized entities to ensure effective knowledge sharing and reporting. Communication strategy will be developed during inception phase to ensure effective dialogue and communication of progress and results take place.
Change of political leadership and staff turnover at both national government and sub-national government.	Staff assigned to coordinate the project at both national and sub-national level may change, leading to programme implementation delays. Also, loss of trained staff at local community and authority levels and other government partners, caused by job changes, may lead to lack of capacity to implement	MH	ML	Implementing partners will work with the government to mitigate this risk by building cross-sectoral steering committee to guide the programme implementation. In addition, the project will ensure that capacity is built for a broad range of actors across the sectors (government partner institutions, NGOs/CSOs, private sector actors, community members) to mitigate risk of staff turnover.
Low risk tolerance from community members and competing priorities of traditional authorities (chiefs) poses related challenges	Community members are grappling with serious, immediate needs related to income generation and food security. As such there is low risk tolerance, and limited human and financial resources available, at community level to implement new, sustainable land management approaches. Chiefs play an essential role in local governance and decision-making and are responding to their communities' immediate needs for food and income.	ML	ML	The project aims to find ways to respond to immediate needs from community members and to respond to (at least some of) traditional authorities' priorities. The project will need to include and go beyond participatory planning and implementation, to unlocking small-scale finance and delivering incentives to community members linked to restoration implementation.

6. Sustainability (environmental, economic and social)

The project will be based on the FLR policy priorities of the government of Fiji thus will be embedded in governmental frameworks, which may ensure the continuity after the project termination.

The knowledge and experiences on implementing FLR will be documented and presented on various platforms like the PANORAMA or the FAO/FLRM, and the existing national platforms to be accessed by practitioners, also beyond the project implementation period. This will ensure that lessons-learned are shared with projects and government initiatives to be conducted at a later stage. Specific technical knowledge is institutionalized by the development of training manuals and curricula. This information will be pertinent to inform and transform national budget-allocations, district level development plans and policies for wide-scale adoption, creation of cross-sectoral coordination and building local capacity in other districts.

At the local level, all restoring activities are done by farmers, pastoralists, forestry and agribusiness companies, based on their own, inherent interest. Restoration measures shall meet farmers' and other stakeholders' needs and be based, as much as possible, on sound economic assumptions.

Potential sources of funding identified related to each activity will facilitate mobilizing finance for restoration in the country beyond the project implementation. This includes mobilizing domestic public funding, international climate financing, investments through public-private partnerships, community development financial institutions.

Environmental sustainability

FLR improves resilience, productivity and socio-economic value of land and forests for the benefit of human well-being, local livelihoods and the environment. It seeks a balance between restoring ecosystem services (e.g., carbon sink, biodiversity, soil and water conservation, etc.) and productive functions of land for agriculture and other uses that provide food, energy and other products and services for sustainable livelihoods. IUCN estimates that the restoration of 150 million hectares of degraded and deforested lands in biomes around the world would create approximately USD 84 billion per year in net benefits that could bring direct additional income opportunities to rural communities (e.g., access to markets and trade, jobs creation, carbon sequestration). To this, should be added non-market benefits (e.g., resilience, biodiversity, water quality and recreation) as well as the whole potential of underdeveloped landscape value chains. Strengthening local institutions and organizations through the project will enhance these outcomes.

FLR restores the functionality of landscapes, improving their ability to provide a rich habitat, prevent erosion and flooding and withstand the impacts of climate change and other disturbances. This allows biodiversity to thrive. FLR participates to Global Biodiversity Framework Target 2 and promotes a wide diversity and appropriate choice of species to maximize biodiversity and resilience. FAO through its FLRM team is already partnering with the CBD Forest Ecosystem Restoration Initiative (FERI) supporting biodiversity-conscious restoration.

7. Expected impacts on Gender, Youth and Indigenous People / Minorities

Local Communities including Indigenous Peoples and Forest and farm producer organizations, and women are pillars of conservation and ecosystem restoration (Coello and Frey, 2023). Local communities and local level non-profit organizations including local community-based initiatives, civil society/ non-governmental organizations, or government-led initiatives and local communities (including Indigenous Peoples) hold critical knowledge about restoration needs and potential solutions (Coello and Frey, 2023). Participatory approaches and local restoration action are fundamental for achieving the needed restoration successes (Coello and Frey, 2023).

The UN Declaration on the Rights of Indigenous Peoples, International Labor Organization Convention 169 on Indigenous and Tribal Peoples and Convention 111 on the prevention of discrimination on the basis of employment and occupation, the VGGT and a number of other international conventions and agreements underlining the unique character and the clearly articulating the rights of Indigenous Peoples have now been enshrined. A few core principles including the right to Free, Prior and Informed Consent are now rightly required for fair and equitable relationships and for any kind activity which in any way affects Indigenous Peoples directly or indirectly.

The project recognizes the need to pay special attention to Indigenous Peoples who are often set aside during knowledge processes. The project aims to build the capacity of Local Communities including Indigenous Peoples to get equitable access to the resources (both financial and technical) to plan, implement and monitor FLR interventions at the local and landscape level.

The project is building on two of the eight key capacity- and knowledge-development initiatives of the Capacity, Knowledge and Learning Action Plan of the UN Decade which emphasize the need for community-based ecosystem restoration mechanism and Indigenous Peoples' Biocentric Restoration increasing the understanding of Indigenous Peoples territorial management, knowledge and food systems which enabled them to preserve, restore and live in harmony with unique ecosystems.

The project will use the Free Prior and Informed Consent (FPIC) approach for inclusive country and landscape planning and implementation of restoration interventions.

The project will have specific focus on rural youth and will address the challenges mentioned for them to grant access to skill development and education, access to necessary initial capital to develop small-scale businesses

and support them to grow sustainably and at the same time support the conservation and restoration of degraded farm and forest land in the targeted landscapes. Both outcome 2 and 3 will enhance the capacity of local forest and farm stakeholders to develop business cases and provide means (through access to finance solutions) to develop partnerships and grow sustainable business. At the same time capacity and skills these stakeholders will be developed to guide local beneficiaries in the process and actively contribute to national restoration efforts.

Achieving gender equality and women's empowerment is central to FAO's mandate of eradicating hunger, malnutrition and rural poverty. The FAO Policy on Gender Equality 2020–2030 lays out the guiding principles for attaining this goal. The policy ensures that gender mainstreaming is a standard practice in all of FAO's work and its regional, subregional and country-level projects.

The project will ensure specific focus to address the existing gender inequalities existing at local and national level to enable women and youth's important contribution to local landscape restoration.

8. Opportunities for capacity building

Capacity development is one of the primary functions of the project to ensure local communities have the required knowledge and access to information and resource for FLR on the ground and will focus on the three dimensions of individuals, organizations and the enabling environment with distinct focus on enhancing the capacity of Local Communities to influence restoration-positive policies, access necessary resources (financial and technical), and plan and implement restoration activities on the ground.

The identified capacity gaps at the decentralized and local level are many and diverse, hence the importance of knowledge sharing, adaptive learning and capacity development at the different levels. During the first months of the project, the project will build on past efforts and capacity needs assessments carried out by other projects and integrate the specific needs for local communities into the workplan.

At the landscape level, one important step of the restoration planning is the participatory multi-stakeholder approach to further define the concrete capacity development needs for and by local land-use actors and the project will bring in a variety of tools specific to the different outcomes of the project.

In parallel the capacity of decentralized entities will be assessed- and strengthened to ensure adequate guidance and facilitation by cross-sectoral FLR platforms is in place to ensure effective knowledge exchange and dialogue between local level and national level.

At the local community level, participatory multi-stakeholder approaches will be used to ensure inclusive restoration planning process. Local communities will be capacitated to undertake restoration action and to promote restoration-based value addition and business innovation. This includes equipping them with both knowledge and information to develop business plans to attract possible investment in the restoration and related value chains. They will also get access to catalytic funding through small grants and/or blended finance solutions. Different funding mechanisms will be identified to facilitate access to Local communities.

The Farmer Field School (FFS) approach

This approach to be used in this project is based on people-centered learning. Participatory methods to create an environment conducive to learning: the participants can exchange knowledge and experience in a risk-free setting. Practical field exercises using direct observation, discussion and decision making encourage learning-by-doing. The field is the space where local knowledge and outside scientific insights are tested, validated and integrated, in the context of local ecosystem and socio-economic settings. Community-based problem analysis is the entry point for a FFS group to develop a location specific curriculum. A growing range of technical topics are being addressed through FFS: soil, crop and water management, seeds multiplication and varietal testing, IPM, agropastoralism, aquaculture, agroforestry, nutrition, value chain, and link to markets, etc.

A Farmer Field School offers space for hands-on group learning, enhancing skills for critical analysis and improved decision making by local people. FFS activities are field based, include experimentation to solve problems, reflecting a specific local context. Participants learn how to improve skills through observing, analysing and trying out new ideas on their own fields, contributing to improved production and livelihoods. The FFS process enhances individual, household and community empowerment and cohesion.

In a typical FFS, a group of farmers/herders/fishermen meet regularly in a local field setting, under the guidance of a trained facilitator. They make observations on the local production system, focusing on the topic

of study and observe and compare the effects of two or more alternative practices aiming to address the problem, one following local practice, the other testing the proposed 'best practice'.

Participants discuss and take decision by conducting observations and analysis directly on the plots. Post FFS activities enhance community development. An essential element of good quality FFS programs is the training of facilitators who will support the process of FFS.

FFS have proved to strengthen not only technical skills and decision-making capacities of farmers, but also to significantly influence the community as well as intra-household dynamics. FFS strengthen community relations and the capacity of listening to others' opinion, to formulate and express personal points of view and to find together a common solution through the process of communication and learning.

9. Tools and useful methods to implement the project

FLR approaches and principles

10 Principles for ecosystem restoration from the UN Decade on Ecosystem Restoration:
<https://www.fao.org/documents/card/en/c/CB6591EN>

Standards of practice to guide ecosystem restoration: <https://www.fao.org/documents/card/en/c/cc9106en>

FAO SFM Toolbox: <https://www.fao.org/sustainable-forest-management/toolbox/background/en/>

Delivering tree genetic resources in forest and landscape restoration: <https://www.fao.org/in-action/forest-landscape-restoration-mechanism/resources/detail-publication/ru/c/1676141/>

The key role of forest and landscape restoration in climate action: <https://www.fao.org/in-action/forest-landscape-restoration-mechanism/resources/detail-publication/ru/c/1626341/>

FLR in Fiji and Asia-Pacific

Pacific forest sector outlook study 2023: <https://www.fao.org/3/cc6201en/cc6201en.pdf>

Monitoring FLR

Mapping together: A guide to monitoring forest and landscape restoration using Collect Earth mapathons :
<https://www.fao.org/in-action/forest-landscape-restoration-mechanism/resources/detail-publication/ru/c/1375785/>

The road to restoration: A guide to identifying priorities and indicators for monitoring forest and landscape restoration: <https://www.fao.org/in-action/forest-landscape-restoration-mechanism/resources/detail-publication/ru/c/1253837/>

Finance for FLR

Valuing forest ecosystem services: <https://www.fao.org/documents/card/en?details=CA2886EN/>

Sustainable financing for FLR : <https://www.fao.org/in-action/forest-landscape-restoration-mechanism/resources/detail-publication/ru/c/383443/>

Local financing mechanism for FLR : <https://www.fao.org/in-action/forest-landscape-restoration-mechanism/resources/detail-publication/ru/c/1382518/>

Developing bankable business plans: A learning guide for forest producers and their organizations:
<https://www.fao.org/in-action/forest-landscape-restoration-mechanism/resources/detail-publication/ru/c/1445558/>

10. Conclusions

Collaboration with countries in the region with successful experiences in the production of seedlings for climate change adaptation from similar type of species (e.g. Samoa, Vanuatu, etc.), in the sustainable management of forest and forest and landscape restoration in similar context and with international organizations and networks dealing with climate induced changes in forest ecosystems should be actively sought to bring the best available knowledge from the region to Fiji.

The experience from countries from all over world indicates that community involvement should be a greater priority in strengthening the management of local natural resources in Fiji. There have been a number of projects with an attempt to provide communities a voice on forest governance and management issues, and their past experiences are a valuable asset when developing local governance mechanism.

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Annex 1. Description of land use impacts on coral reefs through freshwater regulation, contaminant retention, and land-sea biological exchange.

Processes are categorized by impact on surface water and/or groundwater.

Source: Carlson, Foo and Asner, 2019

Type of land use	Vector of land-reef connectivity	Surface or groundwater connectivity	Land-reef process
Forest	Reduces coastal runoff as plants intercept, evapotranspire, and absorb rainwater.	Surface and groundwater	Freshwater regulation
	Forest litter creates natural dams, slowing overland flows and increasing absorption.	Surface and groundwater	Freshwater regulation
	Roots and burrowing animals improve soil porosity and groundwater infiltration. • Infiltration is typically higher under woody compared to herbaceous vegetation.	Groundwater	Freshwater regulation
	Reduces erosion as roots improve soil structure, arrest topsoil runoff, and stabilize riverbanks.	Surface	Contaminant retention
	Mangroves and seagrass filter sediment. • Sediment may be resuspended when mangroves are cleared and fragmented.	Surface	Contaminant retention
	Plants sequester heavy metals in tissues and transform/volatilize organic pesticides, selenium, and organo-mercury compounds.	Surface and groundwater	Contaminant retention
	Plants reduce nitrogen through root uptake or microbe-assisted denitrification. • Some plant species increase groundwater nutrient flux through nitrogen fixation (e.g., invasive <i>Myrica faya</i> in Hawaii).	Surface and groundwater	Contaminant retention
	Invasive vegetation can increase wildfire risk and sediment runoff.	Surface	Contaminant retention
	Deep-rooted species, wood substrate, and tussock grasses buffer anthropogenic erosion.	Surface	Contaminant retention
	Increased terrestrial habitat diversity, in-stream biodiversity and diversity of anadromous species on high islands.	Surface	Biological exchange
	Mangroves and seagrass serve as nurseries for keystone reef species.	Surface	Biological exchange

Annex 2: Description of the Natural Forest

Fiji's natural forests consists of a variety of vegetation and ecosystem types which are home to most of Fiji's terrestrial biodiversity.

Forest types according to elevation:

Cloud forest: mostly occurs on mountain tops and ridges above 850m and is typically shrouded in clouds. Precipitation can be very high, up to nearly 10 m per year on Devoeux Peak (Taveuni) and lower temperatures and generally stunted trees which are most heavily covered with bryophytes (Mueller-Dombois & Fosberg, 1998).

Upland rainforest: Mostly occurs between lowland rain forest and cloud forest at an elevation of around 650-850 m (Mueller-Dombois & Fosberg, 1998). This forest can be observed at a lower altitude of around 400m on the southeast coast of the main island of Viti Levu.

Lowland rainforest: Occurs mainly on flatland and gentle slopes ranging from near sea-level up to about 650 m elevation. Usually found on the windward side of the main islands with annual rainfall of around 2,500 mm.

Forest types according to ecological environment:

Dry forest: Once was common throughout the coastal fringes of dry zone areas, only 10% of the original area remains due to development pressure resulting in burning, grazing and conversion to agriculture. This vegetation type is also home to the critically endangered Fijian Crested Iguanas (*Brachylophus vitiensis*) and several endangered tree species, including *Cynometra falcata*, *Dacrydium nausoriense* and *Guettarda wayaensis*.

Talasiga (sun burnt) grasslands: Increasingly dominated by the introduced flammable grasses such as *Pennisetum polystachyon* (mission grass), giant thatching grass (*Hyparrhenia rufa*) and giant reed (*Arundo donax*), and *Sporobolus* spp. (wire grass). Native talasiga species include *Themeda triandra*, *Miscanthus floridulus* (gasau or reed), *Vitex trifoliata*, *Dodonea*, and ferns *Dicranopteris* spp., (qato or bracken ferns), *Pteridium esculentum*. This vegetation types covers one third of Viti Levu and Vanua Levu dry zone areas (Mueller-Dombois & Fosberg, 1998).

Freshwater/wetlands vegetation: Mostly located within the wet zones of the two main islands. In Viti Levu these areas can be found along the two major Navua and Rewa rivers, mostly dominated by native sedges such as *Eleocharis ochrostachys*, *E. dulcis* and *Scleria polycarpa*, while in some areas, it can be dominated by *Pandanus tectorius* savanna or *Metroxylon vitiensis* swamps.

Mangrove: Located mostly at the edge of the freshwater/wetland vegetation along coastal areas, and along banks of major rivers following a distinct zonation pattern. At the seaward edge is the *Rhizophora* zone comprised of *Rhizophora stylosa* and *R. samoense*. Following the *Rhizophora* zone is the *Brugiera* zone dominated by *Brugiera gymnorhiza* interspersed with *Xylocarpus granatum*, *Excoecaria agallocha* and *Lumnitzera littorea*.

Coastal strand vegetation: Occupies a narrow strip of land along coastal areas. Highly threatened by coastal development and is absent from the main islands and now restricted to uninhabited islands. On undisturbed areas exhibits clear herb-shrub-tree zonation greatly affected the natural disturbance of surf frequency and intensity.

Forest Classification

Classification of Fiji's natural forest had been changing over time reflecting the changing stakeholder values. From the 1960s up to the 1980s, forests were broadly classified into (1) production; (2) non-commercial, and (3) preserved forests mostly based from an economic viewpoint on the standing timber in the forest. The production forests have forest species of commercial timber value with relatively easy terrain, the non-commercial forests have very low stocking of commercially valuable timber trees including those on steep slopes. Preserved forests consists of areas identified for forest conservation purposes consisting of Forest Reserves, and Nature Reserves. During the 1990 forest inventory, the forest classification was changed, to reflect more on the environmental and ecological importance of the natural forest ecosystems.

The revised forest classifications are known as forest function classes, which includes (1) multiple use forests; (2) protection forests; (3) preserved forests; (4) mangrove forests; and (5) forest plantations, these

classifications are also used during the 2007 National Forest Inventory. On the latest forest inventory which started in 2020, the forest classification now added a more detailed description of the type of forests that occur at the various elevations.