



Forestry Focus

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National Forest Inventory to provide **valuable insight** into Fiji's Forests

The Ministry of Forestry has started conducting a National Forestry Inventory (NFI) to capture accurate information about the size, distribution, composition and condition of Fiji's forests and trees.

A National Forestry Inventory (NFI) is an assessment regularly conducted to take stock of the existing forests, both natural and planted, and is done through the systematic collection data collection of forest information.

Essentially, the NFI involves the measurement of tree heights and diameters to calculate the different elevations and locations, assess the health of the forests, count the trees and structure of the forest and the important parameters measured including the species, diameter at breast height, tree height, site quality, age and defects.

The data analysis calculates the number of trees in a given area (acres, hectares), the volume in a given area and the basal area.

It is a common procedure to establish Permanent Sample Plots - of a standard size - in randomly selected locations, which are revisited each year for the collection of tree measurement data for calculating annual tree growth rates.

In order for a National Forest Inventory to be carried out, it is important that a methodology and guideline is developed. To this effect, the Ministry of Forestry through the REDD+ Unit sought assistance from the German consultancy firm - Unique Forestry who together with local forestry technical experts helped to create a methodology and guideline for the 2021 NFI.

The projected NFI methodology and guideline came about following an assessment of raw processed data and procedures from Fiji's 2005 NFI and the last measurements of the PSPs that were conducted in 2016.

Permanent Secretary for Forestry Pene Baleinabuli said the last NFI was conducted in 2006 and with the onset of changes to land use through various forms including but not limited to

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agriculture, infrastructure development and natural disasters, it is important for Fiji to carry out another inventory of its forests.

"A NFI is essential for the collection of comprehensive information and for developing and monitoring policies and guidance that support the sustainable management of Fiji's forests," he said.

Mr. Baleinabuli said that Fiji has conducted 3 inventories of the country's forests – in 1969, 1991 and 2005. The findings of these inventories are documented in official reports.

"All three previous NFIs were focused on the availability of commercial timber in Fiji's natural forests so the current data has limited use in a broader context which could include having information on non-timber forest products and even on the value of carbon."

He said that for this year's NFI, field data collection will also include forest carbon measurements and biodiversity.

The NFI, he said will also define policy and trade decisions, national and international reporting and the direct and indirect contribution of forests to reducing the effects of climate change and alleviating poverty.

The collation of information of our forests is also critical in a COVID-19 era with the

general expectation that resource-based sectors like forestry could help re-ignite economic growth.

"The NFI will also look at other related forestry sectors such as the Greenhouse Gas (GHG) inventory as part of the Intergovernmental Panel on Climate Change (IPCC) requirement of completeness and will look at the integration of agriculture, land use, land-use change and forestry (LULUCF) sectors from previous guidelines (2003 GPG-LULUCF) into one sector called the agriculture, forestry and other land use (AFOLU)," PS Baleinabuli said.

The AFOLU involves six land use categories which covers emissions and removals from the terrestrial biosphere and provides carbon and GHG estimation methodologies for carbon pools in land-use categories. The six land use classifications include Forest land, Cropland, Grassland, Wetland, Settlement and Other land.

For REDD+ (Reducing Emissions from Deforestation and Forest Degradation, Forest Conservation, Sustainable Forest Management and Carbon Stock Enhancement) work, an NFI is essentially to estimate carbon stock change that meets the United Nations Framework Convention on Climate Change (UNFCCC) requirements and to capture biodiversity.

Conducting an NFI is also one of the key sources of relevant data for national Green House Gas (GHG) reporting, Forest Reference Emissions Level and Forest Reference Level (FREL/FRL) construction and reporting at international level.

NFIs are a key information source for modern approaches to forest management and associated planning processes.

This NFI 2021 will provide necessary information and insight into the condition of Fiji's forests because keeping the forests healthy is important for sustainable forestry management.

Mr. Baleinabuli said the NFI will be conducted over the next six months and it is likely that the updated information on Fiji's forests will be publicly available by December 2021.

He acknowledged the assistance of the World Bank through the Forests Carbon Partnership Facility which has supported Fiji's REDD+ programme since 2013, and the German Technical Cooperation which helped establish Fiji's REDD+ programme in 2009.



Ministry of Forestry staff hike up mountains and cross rivers and streams while carrying out NFI.



Ministry of Forestry staff in discussion mode during the National Forest Inventory.



Forest Guard Sigatoka Mr Lekima Bose inspecting the soil during the National Forest Inventory.

Nairai Villagers Embark On Tree Planting Initiative

WITH the adage that 'Climate Change is Real' five villages on the island of Nairai in the Lomaiviti Province have joined forces for a good cause and that is to redress their island home by planting more trees. Villagers of Nataulua, Tovulailai, Lawaki, Vutuna and Waitoga have first-hand experience of the drastic impacts brought about by this natural phenomenon as they are located along the coast.

After hearing the Minister for Forestry Honourable Osea Naiqamu on air talking about the 30MillionTreesIn15Years tree planting initiative and how it can combat climate change, the five village headmen met and decided to reach out to the Ministry of Forestry.

Vutuna village headman Mr Sitiveni Rogowale said after hearing about the initiative they all agreed it was a worthwhile project to support as they would only be helping themselves and their future generations.

"We decided to call the Ministry for advice and we were fortunate that on the second week of December they sent a representative who visited all the villages," Mr Rogowale said.

"We were also fortunate the Ministry sent us a son of Nairai who managed to convince us that what we were about to embark on is a worthy cause. We may not see the fruits of trees we planted today but our future generations will bear witness to it."

Mr Rogowale said this year the five villages agreed to plant 10,000 trees per village.

"At the end of the year we expect to have planted 50,000 trees but if we can exceed our target then it is a bonus for us."

Ministry of Forestry's Forest Guard Mr Etuate Kotoiwasawasa who hails from Waitoga Village said villagers spoke at length about the 30MillionTreesIn15Years initiative they heard on the radio and wanted to know more.



Villagers of Nairai transporting their sandalwood seedlings

"What they heard on air generated a lot of interest as that was the first time they heard about the initiative and large scale tree planting," Mr Kotoiwasawasa said.

Mr Kotoiwasawasa spent a week in his district of Nairai from December 7th, 2020 to December 11th, 2020 advising villagers on what tree species would grow well on slopes, flat land or on coastal areas.

"For me personally, I have been on a few tours around the Lomaiviti Province with Minister Naiqamu but to receive news that villages in Nairai wanted to plant trees and that I was going to be sent here to serve them was a proud moment for me."

"In order for me to spread the gospel of the 30MillionTreesIn15Years initiative, I have to first own it and believe in it as this will make it easier for me to relay the same message to the villagers."

Mr Kotoiwasawasa said during his trip to Nairai he took 1000 sandalwood seedlings which were supplied by a couple from Sigatoka.

"Upon my consultation with villagers I told them the sandalwood seedlings travelled almost 70 miles by boat and this was an indication that they needed to make a move on tree planting."

"I also advised them they could start their own village nurseries whereby the Ministry could purchase seedlings from them to plant on their land instead of bringing seedlings all the way from Viti Levu."

Nataulua village headman Eremasi Uluiviti said all five villages in Nairai have set goals to build their own village or community nurseries which the men, women and youth in their own groups would take turns in looking after it.

"Come August or September this year we expect to be planting seedlings that we have raised in our nurseries."

Mr Uluiviti said this would be a source of economic empowerment for them in the village apart from waiting for the usual seven years for their 'yaqona' plants to mature.

"We believe in the 30MillionTreesIn15Years and we think this is one of the best Government initiatives by far."

According to the United Nations Sustainable Development Goals Report 2020, forest loss remains high despite growing efforts to manage them sustainably.

The report states the world's forest area continues to shrink, although at a slightly slower pace than in previous decades.

From 2015 to 2020, the annual rate of deforestation was estimated at 10 million hectares, down from 12 million hectares over 2010 to 2015. The proportion of forest area globally declined from 31.9 per cent in 2000 to 31.2 per cent in 2020. This represents a net loss of almost 100 million hectares, primarily due to agricultural expansion. These lost forests mean the disappearance of livelihoods in rural communities, increased carbon emissions, diminished biodiversity and the degradation of land.

While forest loss remains high, 2020 data show that the proportion of forests in protected areas and under long-term management plans, as well as certified forest area, increased or remained stable at the global level and in most regions of the world.

Drawa Village Sets Platform For Carbon Trade



Villagers of Drawa in Cakudrove are one of first in Fiji to be engaged in carbon trading.

With the vision, Sustainable Forests, our Future, the Ministry of Forestry is grateful to its stakeholders, corporate organisations, individuals and communities for their collective efforts in championing this objective.

This week, we highlight the sustainable and conservation efforts of Drawa Village through the Drawa Forest Conservation Project and the Drawa Block. The Drawa Block is located in Central Vanua Levu, within the provinces of Cakaudrove and Macuata and which is made up of mountainous terrain, covered with indigenous old-growth and secondary forest.

Working in partnership with Live and Learn Fiji, the Drawa Forest Conservation Project, with support from the Nakau Programme, addresses climate change mitigation, ecosystems-based adaptation to climate change and rural livelihoods and provides a solution to the challenge of financing long-term maintenance of protected areas.

The Drawa project aims to reduce carbon-dioxide emissions by changing forest management from timber extraction to forest protection. The communities within the Drawa block voluntarily gave land for this project almost 20 years ago and making it the first REDD+ carbon trade project to be implemented in Fiji. Championing the cause for sustainability and conservation, the Drawa landowners

gave up their rights to logging timber on 1549.29 hectares of their land in exchange for the opportunity to sell rainforest carbon offsets as a way of generating revenue for local economic development.

In a talanoa session last month at the Grand Pacific Hotel, former school teacher and Drawa Block Forest Community Cooperative (DBFCC) board member, Mr Aminiasi Veisaci reflected on the community experience of the Drawa Project.

"I know our forefathers made the right decision 20 years ago, when they gave some of our land for the Project and I thank our village leaders at the time for their foresight," Mr Veisaci said.

"Our forests have not been touched since that decision was made to have our village be a model for forest reserve". Proving that sustainable forests is definitely for the future, the current generation of Drawa villagers were able to reap the rewards of their forefathers conservation efforts when in May 2018, they became the first village in Fiji to trade carbon under the voluntary carbon market. The eight landowning units received \$20,700 in proceeds from the trade. Mr Veisaci said that since 2018, they have continued to be receive

payments for eco-system services (PES) for their steadfast efforts in conserving their forests.

In January 2021, Fiji became the first small island developing state (SIDS) to sign an Emission Reductions Payment Agreement (ERPA) with the Forest Carbon Partnership Facility (FCPF).

FCPF is a global partnership of governments, businesses, civil society, and Indigenous Peoples focused on reducing emissions from deforestation and forest degradation, forest carbon stock conservation, the sustainable management of forests, and the enhancement of forest carbon stocks in developing countries, activities commonly referred to as REDD+.

The FCPF works with 47 developing countries across Africa, Asia, and Latin America and the Caribbean, along with 17 donors that have made contributions and commitments totaling \$1.3 billion. The FCPF supports REDD+ efforts through its Readiness and Carbon Funds. Minister of Economy Aiyaz Sayed-Khaiyum had signed the landmark agreement with FCPF a global partnership housed at the World Bank, that will unlock up to US\$12.5 million (approx. FJ\$26 million) in results-based payments for increasing carbon sequestration and reducing emissions from deforestation and forest degradation.

The five-year agreement will reward efforts to reduce carbon emissions from deforestation and forest degradation under Fiji's ambitious emission reductions programme and both the Ministry of Economy and the Ministry of Forestry will have lead roles in this initiative.

In signing the agreement, Minister Sayed-Khaiyum said the emission reduction programme area includes over 37,000 hectares spread over 20 districts on

the islands of Viti Levu, Vanua Levu and Taveuni, with the potential to expand to other areas that express interest.

"The contracted volume of greenhouse gases that Fiji is expected to sequester from these forest activities in the next five years is 2.5 million tonnes, for which a result-based payment of USD 12.5 million will be paid upon verification by the World Bank," Mr Sayed-Khaiyum said.

Typical approaches to forest protection often fail if they do not address the need for income generation that can replace the 'opportunity cost' of rejecting unsustainable developments. As part of the Nakau Programme, the Drawa project demonstrates the potential to finance forest protection and all of its associated co-benefits through production and sale of carbon credits.

Bolatoro Sacrifices Her Christmas To Serve The Public

CHRISTMAS last year has been an exceptionally meaningful one for 27-year-old Suliana Bolatoro.

Suli as she is commonly known is a forester with the Ministry of Forestry and hails from Drawa Village in the district of Wailevu West in Cakaudrove. In the past few days, she has been assisting her colleagues and other Government officials with the Tropical Cyclone Yasa rehabilitation in the Northern Division.

Also a qualified drone pilot, Suli's assignment during this rehabilitation phase is to capture drone images of the cyclone-ravaged areas.

"My role is specifically to provide aerial information of the damages in the districts of Wailevu, Cakaudrove and in Koroalau which consists of Vunivesi Village right up to Nakama Settlement."

Other drone teams from the Ministry and other agencies are also assigned specific areas. "We are part of the 'eyes in the sky' team that informs the divisional disaster management coordination led by the Commissioner Northern Uraia Rainima," she said.

The use of technology like drones is new to the Ministry, but it certainly has made her work easier.

"Our work in the Ministry in normal times has become more efficient with the use of technologies such as drones, computer tablets and online systems. Drones are now used for forest monitoring and assessments and digital maps can be made available to harvesting

planners through the ministry's webmap application."

Suli described TC Yasa which made landfall over Vanua Levu on Thursday 17 December 2020 as one of the strongest cyclones since TC Winston in 2016 causing heavy destruction to infrastructure, buildings and agricultural areas.

There were widespread power outages and no phone network after winds of 240kilometres per hour with gusts as high as 345kilometres per hour that brought Vanua Levu to a standstill.

"TC Yasa hit the three provinces really bad especially Bua and what hits me the most is seeing the smiling faces of people that we have visited and seeing them offer us a cup of tea or food."

"They have already lost their homes and belongings yet people are still generous enough to share what little they have," Suli said.

"I know for a fact we Fijians are very resilient people. We bounce back no matter how hard the situation is and we just pick up the pieces and move on."



Forester Suliana Bolatoro meeting villagers in Cakaudrove who have lost their homes and belongings.

Suli said the response from Fijians is that they are just fortunate they are alive.

Her role as a forester is to carry out field verification of harvesting applications within her beat area and monitor all harvesting applications.

"I work with two forest guards and together we ensure the compliance of Fiji Forest Harvesting Code of Practice and the Forest Act," Suli said.

"This post is really challenging for me as a female in terms of carrying out awareness in the communities and also attending and inspecting illegal logging, solving complaints lodged by individuals in my area of work."

Suli said her role is to also compile Harvested Area Reports for all logged areas in the Northern Division and submit it to the Forest Reserves Assessment and Conservation division (FRAC).

"These reports are done quarterly and I also compile weekly reports of the work that has been carried out by my team."

"Even though I work in a male dominated field, I am accepted by my male



Suli reaches out to a villager and assures them of Government's support in their time of need.

colleagues and I enjoy my work very much."

Under the Government's Open Merit Based Recruitment Selection (OMRS) the Ministry of Forestry's work policy is based on merit and not on gender and Suli is one of 72 female staff that make up about 30 percent of the Ministry's

workforce.

With the Ministry of Forestry taking a key role in the TC Yasa Rehabilitation providing aerial support and clearing debris using their chainsaw skills, the role of civil servants like Suli will have a great impact on the cyclone-affected communities.

An only child, Suli who resides in the village said her parents and relatives were surprised when she told them she would be spending Christmas at work.

"When I told my family that I will not be spending Christmas at home in the village, my parents were quite emotional," Suli said.

"I reminded them that some of us are lucky our homes were not damaged and we were safe during the TC Yasa but there are many unfortunate people out there that need help."

"From the few places I have visited I heard tragic stories of families sheltering under their homes, beds or tables while seeing their roofs blown away."

"I know I have to sacrifice my holidays and time with my family this Christmas but it is all worth the sacrifice," she said.

Forestry Commits to Helping Fijians Build Back Better and Stronger

Holding true to Government's commitment to helping Fijians build back better and stronger following the onslaught of Tropical Cyclone Harold amidst the ongoing impact of COVID-19, the Ministry of Forestry has so far produced pine posts, poles and timber packs for more than 300 homes in Kadavu.

During his recent visit to Kadavu in November, the Minister for Forestry Honourable Osea Naiqamu was delighted to know that after 27 weeks of operation in the province, the Ministry has managed to complete the structures of 315 houses covering 36 villages. The number of completely damaged houses in Kadavu after Tropical Cyclone Harold struck in April this year was assessed at 596 of which over 300 are within the Pine Schemes. Minister Naiqamu said timber treatment



Ministry of Forestry staff hard at work in Kadavu

started again and the ministry has managed to treat 19.38m3 of sawn timber at H3 level bringing the total timber treated to 187.4 m3.

The number of post and poles that have been treated at H5 level stands at 938 with a volume of 66.15m3.

"I am reaching out to the Ministry of Rural and Maritime Development and the Ministry of Housing and Community Development to see how we can start rebuilding cyclone resilient houses as the timber is ready," Minister Naiqamu said. "Collectively, we are responsible for the

housing rehabilitation."

Minister Naiqamu also visited Tawava village in the district of Yawe where he took the time to inspect the completed village store – a village project by the Tawava Youths.

"These youths did not wait for further Government assistance as they already had their roofing iron given by the Ministry of Youth & Sports and other building materials ready."

"The youths had reached out to our Ministry staff that spent a week in the

village to construct the 24feet x 16feet house structure for the village store.” Tawava village chief, Ratu Malakai Masi said their village store was completely destroyed during TC Harold and the youths were temporarily using the kitchen in the village community hall to store food supplies, sanitary goods and other products generally consumed by the villagers.

Mr Masi said the community hall was open to all the villagers during village meetings and at times not safe to keep things stored there.

“The fittings for our solar freezer that we used to store fish and frozen goods had also been destroyed during TC Harold and now with the new store constructed, we will seek assistance and ensure it is repaired,” Mr Masi said.

“One of the challenges we face here in the village is that we are far away from Vunisea and it costs us \$200 one-way by fibre boat so you can imagine spending \$400 on transport costs to buy basic necessities that will cost us far less,” Mr Masi said.

“I am very grateful to the Ministry of Forestry who sent their carpenter over to spend a week in the village to guide the youths in the construction of the village store.”

“Now we have our basic necessities right here at our doorstep and this is such a relief for us.”

Minister Naiqamu said timber for home construction is one of the main products

derived from trees that have for time immemorial become a basic necessity for humankind and this emphasises not only just the importance of trees, but also of entire forests and nature in providing innumerable benefits from ecosystem services right through to food security.

“In Fiji, community-based forest plantations were initiated by Government in the 1970s to transform barren grass lands or ‘talasiga’ landscapes with the hope that the trees could provide benefits such as the restoration of ecosystem services, enhancing biodiversity, and supplying timber for the construction of homes, with trade being an option for any surplus.”

Apart from the timber structural packs awaiting the construction of new houses in Kadavu, the Ministry of Forestry in collaboration with Fiji Pine Trust has also assisted villages that fall under the pine schemes to trade off their surplus timber as another source of economic empowerment.

He added the planting of mostly pine trees was accomplished largely through traditional community practices or ‘solesolevaki’ where work was done in groups on a voluntary basis.

“The pine plantations were managed under the concept of community-based or ‘vanua’ schemes to strengthen governance issues and the coordination of community support.”

The majority of pine plantations in the maritime islands had matured and were ready for harvesting. However,

numerous attempts to harvest the mature pine trees and to ensure optimum returns to the landowners have been largely unsuccessful due mainly to the geographical disposition of the islands which meant exorbitant harvesting, processing and transportation costs.

“In fact, over the years, several ‘giants’ of the logging industry went to the islands well resourced, but returned empty handed,” Minister Naiqamu said.

“The cost of operations right through to shipment were the main challenges.” These setbacks, Minister Naiqamu said resulted in some resource-owners becoming doubtful of their chances to gain maximum returns from their resources.

“Many were just able to harvest trees for their homes, but again the lack of technical know-how and the absence of proper treatment facilities meant the houses were not durable.”

Today, the Ministry of Forestry is working collaboratively with Pine Scheme Owners to support the availability of housing structure material by harvesting and processing fallen and damaged pine trees on the islands.

The Ministry has purchased additional portable sawmills to assist with this operation and is also carrying out the housing rehabilitation work in Vatulele, Matuku, Totoya and Ono-i-lau and hope to move to other islands or districts.



One of the roadside portable sawmills in operation in Kadavu.



Forestry Sector Injects Over **\$66 Million** Net Income into the Economy

Fiji's forestry sector injected about \$66 million net income into Fiji's economy in 2020. This included export earnings of \$76 million and an import value of \$9.3 million.

And, out of the \$76 million of export earnings, 74 percent or \$56.7 million was injected within five months from August 2020 when the Ministry introduced its on-line export and import license permitting system.

The Ministry of Forestry, on behalf of Government, wishes to thank the stakeholders in the sector for their efforts to reignite the economy and create employment opportunities.

Permanent Secretary Pene Baleinabuli said the export revenue generated in the 12 months to December 2020 is largely from the sale of pine chips to Japan, and pine timber of all sizes by the Fiji Pine Group of Companies. The revenue also includes mahogany products like sawn timber, decking and flooring which are exported to the Dominican Republic, New Zealand, Australia and the United States of America. They also include some native and exotic timber species.

Mr. Baleinabuli said last year's export revenue is a promising sign for the sector because it far outweighed imports by over \$66 million.

"The preference for any country is to increase exports and decrease imports. And the forestry sector is showing that it can do this through downstream processing, and by importing only the products that we cannot produce locally due to technical specifications and the need to use specialised machines like those for certain thickness of ply-board," he said.

He said in keeping the exports high and the imports low, the stakeholders in the forestry sector are doing all they could to keep local jobs afloat and reignite the economy, especially given the impacts of COVID-19 and the series of natural disasters.

"The results of the past year are hugely encouraging because it is an increase of net income over the past decade when the net income was less than \$40 million annually, which in turn constituted about 0.2 percent of Fiji's annual Gross Domestic Product. Last year's results should see

an increase in the forestry sector's contribution towards the national GDP," he said.

He commended the efforts of the Fiji Pine Group of Companies, the leading player in the sector.

"We are greatly encouraged with the Fiji Pine Group of Companies for its efforts to keep the economy growing. They did not lay off any staff during the difficult financial period and continued to maintain its markets while exploring new markets. And we are now seeing very positive results – the group has secured a market for pine chips in China while also maintaining its Japanese market," he said.

He said the Fiji Hardwood Corporation Limited is also picking up quite well given that a significant amount of products exported were mahogany products. He also acknowledged the private companies and individuals who have made the effort to promote Fiji's forestry products.

Companies like Yavutu ni Vanua Investment Pte Ltd which exported 26 cubic metres of kiln dried mahogany products with a value of \$37,552 to New

Zealand in August of last year. It was the first company to use the on-line export license permitting system.

A World Bank Report in 2020 compared business regulations in 190 economies, and revealed that Fiji ranked 102 in the Ease of Doing Business category. The report stated that among the 10 economies that advanced the most, efforts were focused on the areas of starting a business, dealing with construction permits, and trading across borders. In general, economies that scored the highest shared several features, including the widespread use of electronic systems and online platforms to comply with regulatory requirements.

Mr. Baleinabuli said that the Ministry of Forestry is making some progress in the area of electronic systems through its online application for export and import permits.

He said the online export and import permit application process enables decisions to be made within 24 to 48 hours.

Since introducing its online system in August 2020, the Ministry facilitated over 200 export licenses which fetched over F\$56.7 Million. So, out of the \$76 million of export revenue, 74 percent was generated within five months of the on-line system.

"This goes to show that the introduction of the online application system has been of great help," Mr. Baleinabuli said.

"This is part of Government's reform efforts especially in facilitating the ease of doing business across all sectors."

He said the Ministry is continuing to invest in electronic systems and technology and hopes to extend the online system for harvesting licenses. This is work in progress and we hope to launch this in next few weeks.

Mr. Baleinabuli said it is vitally important to be able to provide an enabling environment for the private sector as it is the engine of economic growth.

"The private sector employs people and pays taxes. So, the thinking in the Ministry of Forestry is to shift quickly towards facilitating the work of the stakeholders in the forestry sector," he said.

He said another important development in the Ministry now is to help Fiji have a better appreciation of its forest resources.

"This is happening now through a National Forest Inventory which is crucial to informing Government and the stakeholders on how we can better manage our resources to cater for the immediate period and also for the future." The NFI is scheduled to be completed by July with the report ready towards the end of this year.

Whilst the Ministry is coordinating the NFI, it is also continuing to work with stakeholders in reforesting degraded lands and forest areas.

"It is pleasing to note that on this count, Fiji's tree-planting revolution is helping to balance the use of our forests for timber and our replenishment to help address climate change, protect the environment, enhance ecosystem services and biodiversity, while also facilitating our need for socio-economic development.

"It is absolutely logical to be planting and growing trees for the myriads of benefits they provide, and Fiji's signing of the carbon trade arrangements with the World Bank provides another opportunity for the country," he said.

Fiji's national tree-planting and growing initiative which was launched by His Excellency the President in January 2019 has seen the planting of about 6.5 million trees. These include the trees planted by the communities, civil society organisations, and faith-based organisations in coordination with the Ministry of Forestry and trees planted by key stakeholders in the forestry sector especially Fiji Pine Limited.

The number of trees planted by the various stakeholders is another hugely encouraging sign that our Nation is on the right path towards addressing climate change while also trying to grow our economy," he said.

"The act of growing the economy from the forestry sector and maintaining a strong balance with nature is something that the Government holds very seriously. And we thank all stakeholders out there who are helping with the national efforts," he said.

Lesser Known Species As An Alternative For Timber Use

The high demand for common valuable timber species such as mahogany and pine from consumer markets both local and internationally will mean they will become commercially extinct one day.

Therefore in order to have sustainable forest management in the long term, markets must be developed for lesser known timber species (LKTS) for the other 100 prominent tree species found in Fiji's diverse native forests.

Lesser known timber species are a group of species which grow in our forests but are not harvested due to unavailability of information regarding their wood properties and potential uses.

Given the relatively low-level stocking of our native forests, expanding our current

list of commercial species to also include the lesser known species will enhance stocking and reduce some of the pressure on our natural forests.

In Fiji, the commercial harvesting of native forests began to gain momentum soon after independence in 1970 as the resource was viewed as a springboard for rural development, employment and foreign exchange earnings.

Log production increased over the years reaching a peak of 250,000 cubic meters a year before stabilizing at around 150,000 cubic meters per annum.

By 2006, native log production recorded a total volume of only 79,480 cubic meters and decreased to 35,516 cubic meters in 2012.

This has further decreased in the last five years, with our native log production now averaging around 30,000 cubic meters per annum. Majority of our logs are sourced from the 22 (twenty-two) obligatory species which are also classified as commercial species.

The pressure on our native forests to produce timber has prompted the Ministry of Forestry Timber Utilization & Research Division (TUD) to conduct research on the properties and potential uses of our lesser known species (LKS).

Ministry of Forestry's Director Timber Utilisation Division (TUD) Mr Tevita Bulai said they have embarked on a new project - 'Research and Development of Wood and Non-wood Species' which it aims to

provide accurate and technical quality information on both wood and non-wood properties for LKTS.

"The research into lesser known timber species started in 2012 with an annual budget of \$150,000 to fund some of the required research activities and also the engagement of an overseas consultant to develop a 5-year Timber Research Strategic Plan, detailing the priority areas for further research," Mr Bulai said.

"The Ministry of Forestry has identified thirty (30) lesser known timber species, and research work is focusing on species that are available from their forest research block located at Nakavu village in the province of Namosi."

So far, eleven (11) species have been extracted from the forest and delivered to Nasinu where the required laboratory testing is being carried out. The results of these tests will be published once they have been finalized.

"In 2014, two lesser known timber species, including kuluva (*Xylopia pacifica*) and dulewa (*Dillenia biflora*) were studied. The tests conducted on these two species included the determination of their wood densities, evaluation of their sawmilling and treatment properties, and their natural durability classes."

"Results of this study indicated that both species are classed as medium light hardwoods and are suitable for end uses such as light construction and furniture," he said.

He said that as part of the testing, graveyard and service trials had been established in Nasinu, Korotari and Drasa to assess the natural durability classes of the eleven (11) species.

"The eleven (11) lesser known species currently under observation in graveyard trials are; Sole (*Schefflera seemanniana*), Kaunigai (*Haplilobus floribundus*), Bausa (*Planchonella grayana*), Bulu M (*Garcinia pseudoguttifera*), Damabi (*Endiandra*

gillespiei), Vutukana (*Barringtonia edulis*), Kuluva (*Dillenia biflora*), Marasa (*Storckia vitiensis*) Maqo ni Veikau (*Buchanania attenuata*), Tomanu (*Emmenosperma micropetalum*), Dalovoci (*Hernandia olivacea*), and 5 species as weatherboards (Bausa, Kaunigai, Kuluva, Vutukana, Dulewa (*Xylopia pacifica*)) while in Korotari, Labasa, there are 9 species as stake (Bausa, Bulu M, Damabi, Maqo ni Veikau, Kuluva, Kaunigai, Sole, Tomanu, Vutukana) and 4 species as weatherboards (Bausa, Damabi, Kaunigai, Kuluva) and in Drasa, Lautoka, there are 6 species as stakes and 3 species as weatherboards," he said.

These trials, Mr Bulai added will be assessed on a quarterly basis.

The World Wildlife Fund's (WWF) Global Forest Trade Network (GFTN) Guide to Lesser Known Tropical Timber Species 2013 state that the heavy exploitation of a few commercially valuable timber species has led to many of the tropical forests being plundered for these highly prized species.

For instance the *Dalbergia nigra* commonly known as Brazilian Rosewood is one of the most highly prized wood in the world and due to its heavy exploitation this species has been listed on Convention on International Trade in Endangered Species (CITES) since 1992 and is now illegal to trade.

The guide states that even in forests where there are good levels of sustainable forest management, there is a risk of a shift in species composition in natural forests stands.

It further adds that this over-exploitation can discourage forest resource owners from obtaining Forest Stewardship Council (FSC) certification.

In Fiji, WWF is the focal point for FSC certification after it developed its Certification Assessment Tool (CAT) to test the strength of certification systems and

their standards. Certification standards have an important role to play in forest conservation, by enabling customers to choose products from forests that are managed in an economically, socially and environmentally responsible way.

To be effective, certification schemes need to have operational standards that are strong enough to deliver real positive impacts on the ground. And they need to have a strong governance structure and systems in place to ensure that the standards are applied.

It states the benefits of using and promoting LKTS are;

- LKTS can often act as a substitute for more traditionally used species in terms of performance and artistic beauty of a product in most applications but they are generally more cost effective because they are often abandoned and underutilized.
- Many species available have rich, truly beautiful colours and textures which can provide new design opportunities for many industry sectors.
- The use of lesser known species can alleviate pressure on the over-exploited timber species and increase the economic viability of sustainable forest management.

The markets are hard to change as buyers from consumer countries often aren't willing to switch from purchasing the traditional species which they know do the job for the products that they are used in and for which there is already a healthy market.

To enable the market for LKTS there is an urgent need to influence and educate buyers in consumer countries of the benefits of sourcing these alternative timber species.





Minister Naiqamu (green shirt and far right) with Ministry staff meets Mr Tamanitoakula and his family.

Tamanitoakula Empowered By Nature

BEING the eldest in the family, Viliame Tamanitoakula had big shoes to fill after his father passed away three years ago. The Nadogo villager in the district of Saqani in Cakaudrove had his mother and three younger brothers and a sister looking up to him for advice and support and carrying on his father's legacy in tending to their 'yaqona' plantation.

"After my father died, my mother decided that we move away from the village to our piece of land known as Navoa which is located on the outskirts of the village," Mr Tamanitoakula said.

"My brothers and I are certified chainsaw operators so we cleared the piece of land ourselves and built a thatched 'bure' to live in."

A former logging planner, Mr Tamanitoakula said it was hard starting from scratch and with their 'yaqona' to be harvested in the next four to five years, he had to find other alternative source of income.

"I heard and read about the 30 Million Trees In 15 Years (30MT15Y) initiative along with the Ridge to Reef (R2R) Project through the media so I decided to make further enquiries."

In August 2019, Mr Tamanitoakula travelled 76 kilometers to the Ministry of Forestry office in Labasa to enquire about Fiji's tree planting revolution and other projects that he could venture into as a source of economic empowerment.

"Staff at the Ministry shared with me success stories of seedling vendors across Fiji that have earned a decent amount of money selling seedlings to the Ministry which they use for the 30MT15Y initiative," Mr Tamanitoakula said.

It was after this visit, Mr Tamanitoakula took a bold step in establishing his nursery and started potting seedlings consisting of sandalwood, fruit trees and mostly native trees.

"I was encouraged to raise native tree species as this is in demand and most of the vendors here in Vanua Levu do not have them."

Raising seedlings along with his yaqona plantation, Mr Tamanitoakula said he was also encouraged to venture into agro-forestry practices.

"I really appreciate the holistic support and assistance rendered by the Ministry and the outcome of that is, in just seven months I have managed to build a house for myself and three more houses for my three younger brothers."

Mr Tamanitoakula received his first payment of \$11,000 in March last year and another payment of \$9,000 in November last year which enabled him to proceed with their home construction.

These payments were for seedlings purchased by the Secretariat of Pacific Communities (SPC) through the R2R Project carried out within the Labasa and Tunuloa catchment areas.

Mr Tamanitoakula said he never dreamt he would be able to achieve so much in such a short span of time.

He added that the icing on the cake was the fact that the Minister for Forestry Honourable Osea Naiqamu visited his family on 16 December, 2020 to see firsthand the outcome of various Government initiatives and projects undertaken by his Ministry.

"Our new home here at Navoa is very difficult to reach considering we have yet to make proper footpaths and crossings but the fact that Minister Naiqamu made it here with his team speaks volumes of Government's commitment to the people," Mr Tamanitoakula said.

Minister Naiqamu said he was happy to finally see the outcome of Government's initiatives and that Fijians are being economically empowered.

"As the Minister for Forestry, I preach about various initiatives that we carry out in Parliament and in various consultation forums. It is so good to see people like Mr Tamanitoakula and what he has achieved through these initiatives," Minister Naiqamu said.

He further encouraged Mr Tamanitoakula to continue raising native tree species like the 'dakua makadre' and 'dakua salusalu' as they are becoming extinct.

Minister Naiqamu said the Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora— remains

one of the world's most powerful legally binding tools for biodiversity conservation through the regulation of trade in wild fauna and flora.

He said thousands of species are traded internationally and used by people in their daily lives for food, housing, health care, ecotourism, cosmetics or fashion, among other uses.

CITES regulates international trade in over 35,000 species of plants and animals,

including their products and derivatives, ensuring their survival in the wild with benefits for the livelihoods of local people and the global environment.

As for the former logging planner, Mr Tamanitoakula's mindset has changed and that is something very hard to do.

"I previously used to see the economic gains from cutting down trees, but my perspective has now changed to seeing the economic gains derived from standing trees," Mr Tamanitoakula said.

"I used to encourage villagers to cut down trees for a living but now- just like I have been practicing - I will go out and preach about sustainable forest management."

Mr Tamanitoakula's advice to resource owners during these trying times is not to underestimate the power of nature as, like him, it can support people economically, physically and socially, and further support a stable environment.

Forestry Values **Collaboration** with Stakeholders



The Ministry of Forestry works in collaboration with the Secretariat of Pacific Communities in its Ridge to Reef (R2R) Programs nation wide.

The Ministry of Forestry continues to value the partnership with stakeholders to renew our respect for nature.

One such partnership and collaboration saw the recent opening of the Lololo Nursery in Lautoka under the Ridge-to-Reef (R2R) programme which is jointly implemented by the Secretariat of Pacific Communities (SPC) and the Ministry of Forestry.

While opening the nursery in November, Minister for Forestry Honourable Osea Naiqamu said the Ministry is taking a new strategic direction towards achieving real sustainable forest management.

"It is no longer treating forestry in isolation from the national interest, but through collaboration, integration, and developing synergies with key stakeholders to achieve our national development goals and the

United Nations Sustainable Development Goals," he said.

"As a result of this collaboration, I am told that the Lololo Nursery, which costs \$40,000, is one of three nurseries that supply seedlings for the R2R project catchment areas here in the West and will continue to support Government's tree planting revolution."

Minister Naiqamu said that the Fiji's tree-planting initiative that was launched by His Excellency the President in January last year, has now seen the planting of over 2.8 million trees and mangroves covering over 2000 hectares of land across Fiji in the past 23 months.

"With Fiji now viewed around the world as a respected advocate on global issues such as climate change, I commend every Fijian and most importantly our forestry stakeholders present here today for the combined efforts

in our national tree planting initiative. Without your help and support, our fight against climate change will be very extremely challenging," Minister Naiqamu said.

The Lololo Nursery has a holding capacity of 50,000 seedlings for native, fruit, and plantation tree species. This will add to the 35,000 seedling capacity at the Ministry of Forestry nursery in Lautoka.

The nursery will also ensure the Ministry of Forestry continues to support tree planting in the catchment areas after the R2R Project phases out in October next year.

The SPC has over the years supported its member countries in the sustainable management and utilisation of their land and forest resources and products. In collaboration with the United Nations

Development Programme (UNDP), SPC was engaged to facilitate the implementation of a number of activities under the Fiji Global Environment Facility (GEF) 5 STAR R2R project. Locally, SPC works with the Ministry of Forestry and Ministry of Agriculture through the R2R project in creating awareness on the sustainable management of our forests and landscapes.

“This means identifying areas that need to be protected, areas that need to be set aside for infrastructure, agriculture and economic development and areas to rehabilitate or restore,” Minister Naiqamu said.

Minister Naiqamu said the R2R project has developed in leaps and bounds in its efforts to preserve biodiversity, eco-system services, sequester carbon, improve climate resilience and sustain livelihoods through a ridge to reef management of priority water catchments on Viti Levu and Vanua Levu.

“It will bolster Fiji’s marine protected areas (MPAs) through an enhanced, representative and sustainable system of Locally Managed Marine Area (LMMA) including greater protection of threatened marine species.” The selected priority catchments are Ba

River, Tuva River and Waidina River in Viti Levu and Labasa River, Vunivia River and Tunuloa District in Vanua Levu. The protected areas help conserve threatened ecosystems such as lowland tropical rainforest and moist forests and species such as endangered plants, amphibians, reptiles and freshwater vertebrates and invertebrates. The R2R project aims to cover all activities within a catchment and out to the sea to ensure natural resource sustainability and biodiversity.

Minister Naiqamu said that the negative impacts of land-based activities in these areas will be reduced through the development and implementation of integrated catchment management plans including mangrove protection, the adoption of appropriate sustainable land use practices and river bank restoration in adjoining upstream water sheds as well as restored and rehabilitated forests.

In October this year, the R2R project planted over 100,000 seedlings covering an area of 385 hectares. Out of this, 119 hectares were planted in the Ba catchment, 134 hectares in Waidina, 82 hectares in Labasa and 50 hectares in Tunuloa. The total seedlings

planted included over 40,000 fruit trees, 50,000 of native inland coastal species, and 17,000 of exotic species.

The SPC’s R2R project has so far invested \$1.3million for this calendar year with its objective to encourage stakeholder collaboration, providing technical advice, monitoring and implementing the approved R2R Project work plans and ensuring compliance with national protocols and SPC and UNDP’s rules and regulations.

Next year SPC is looking at injecting \$1.1million for the R2R project and this is to ensure that our future generation will continue to have a sustainable future and assist Government in the development, utilisation and management of Fiji’s forest resources, which covers more than 60% of Fiji’s landmass.

Minister Naiqamu added with the Ministry’s vision of **Sustainable Forests, Our Future**, it is a mammoth task for the ministry to manage this natural wealth alone, which is why Government is grateful to their partners and stakeholders for their assistance in being good stewards of forests.

Alternative Livelihood Project Empowers Communities, Supports **Alternative Livelihood**



The ITTO Alternative Livelihood Project has reignited Mrs Tinaibilosiliva’s passion for sewing.

For almost 30 years Nunia Tinaibilosiliva has been depending on the coastal and mangrove wetland resources around her village as a source of income generation. Mrs Tinaibilosiliva and other villagers earn their living from the sale of fuel wood, fish, mud crabs, mud lobster and many local delicacies gathered from the mangrove forests.

Now the 60-year-old Waicoka villager in the district of Bau in Tailevu said she sold these delicacies at the Nausori Market so that her family – consisting of her husband and five children could make ends meet at the time.

“Back in the days my children – three daughters and two sons were in high school and we had to pay school fees. At the time education was not free like we have today,” Mrs Tinaibilosiliva said.

“My children attended prominent boarding schools here in Tailevu and I told my husband that whatever the cost, we needed to give our children a good education. My children were my number one priority and we needed to ensure we met all their various school requirements and obligations.”

In the 1970’s, Mrs Tinaibilosiliva decided to give fishing a rest and find other means of earning an income while her husband continued to fish.

“I attended sewing classes with other women at the Methodist Leadership Training Centre in Davuilevu and the aim was to enable

us to sew clothes like sulu jaba or shirts and dresses as a source of income generation."

"After the sewing classes I was able to find a job as a shoe maker at Footwear International which used to be located at Laucala Beach."

A few months into her job at the factory Mrs Tinaibilosiliva realized that her earnings was not sufficient to cater for her family's needs so she decided to go back to the village to gather fish and other delicacies from the mangrove swamps as it raked in twice or three times her salary.

"I earned \$300 a week from selling fish and other delicacies compared to \$80 a week at the shoe factory," Mrs Tinaibilosiliva said. "Today all my children – the youngest at 27-years old, have good jobs and are supporting my husband and I back in the village so we only go out to fish every once in a while. But we only get enough for us to consume and not to sell."

Mrs Tinaibilosiliva said she never heard about sustainable forest management before until the International Tropical Timber Organization (ITTO) visited their village last year.

"I didn't realize that frequently catching fish and other delicacies from the mangrove swamps threatened the lives of other marine life and biodiversity that rely on the mangrove swamps," Mrs Tinaibilosiliva said.

Mrs Tinaibilosiliva was one of the 11 participants chosen for the Basic Sewing Skills Training held at Fiji National University (FNU) Nabua Campus two weeks ago. The two-weeks training which was funded by Government's ITTO Project is aimed at providing alternative livelihoods for women so that pressure on our mangrove forests is eased.

"I had learnt how to sew back in the 1970's but I made no progress because at the time financial pressures of having to pay school fees saw me going back to the mangrove swamps to earn my living."

"Now that I realize I was harming the environment, I intend to put my Basic Sewing Skills learnt here today to good use. I will also be imparting these skills to other village women so that together we have an alternative source of livelihood instead of exploiting our mangrove resources."

For centuries, mangrove forests have sustained the traditional cultures of coastal populations as a source of fish and game, fuelwood, medicines, tannins and fodder for livestock. And they have supported the development of industries that use them as a source of raw materials for paper, chipboard, charcoal and construction.

Research indicated that Fiji has the third largest mangrove area in the Pacific with an estimated mangrove area of about 46,600 hectares, most of which are on the two main islands of Viti Levu and Vanua Levu.

The Rewa Delta has the largest strands of mangrove eco-system complex in Fiji however it is under constant pressure as well as degradation through firewood harvest as most these communities are still largely dependent on these vulnerable mangrove forests for a wide range of subsistence and commercial forestry and fisheries products.

Rehabilitation and restoration of these mangrove eco-systems along the Rewa Delta have important ecological, economic and social advantages many of which are taken for granted until mangroves systems are severely degraded and effects of coastal erosion and marine life depletion are encountered.

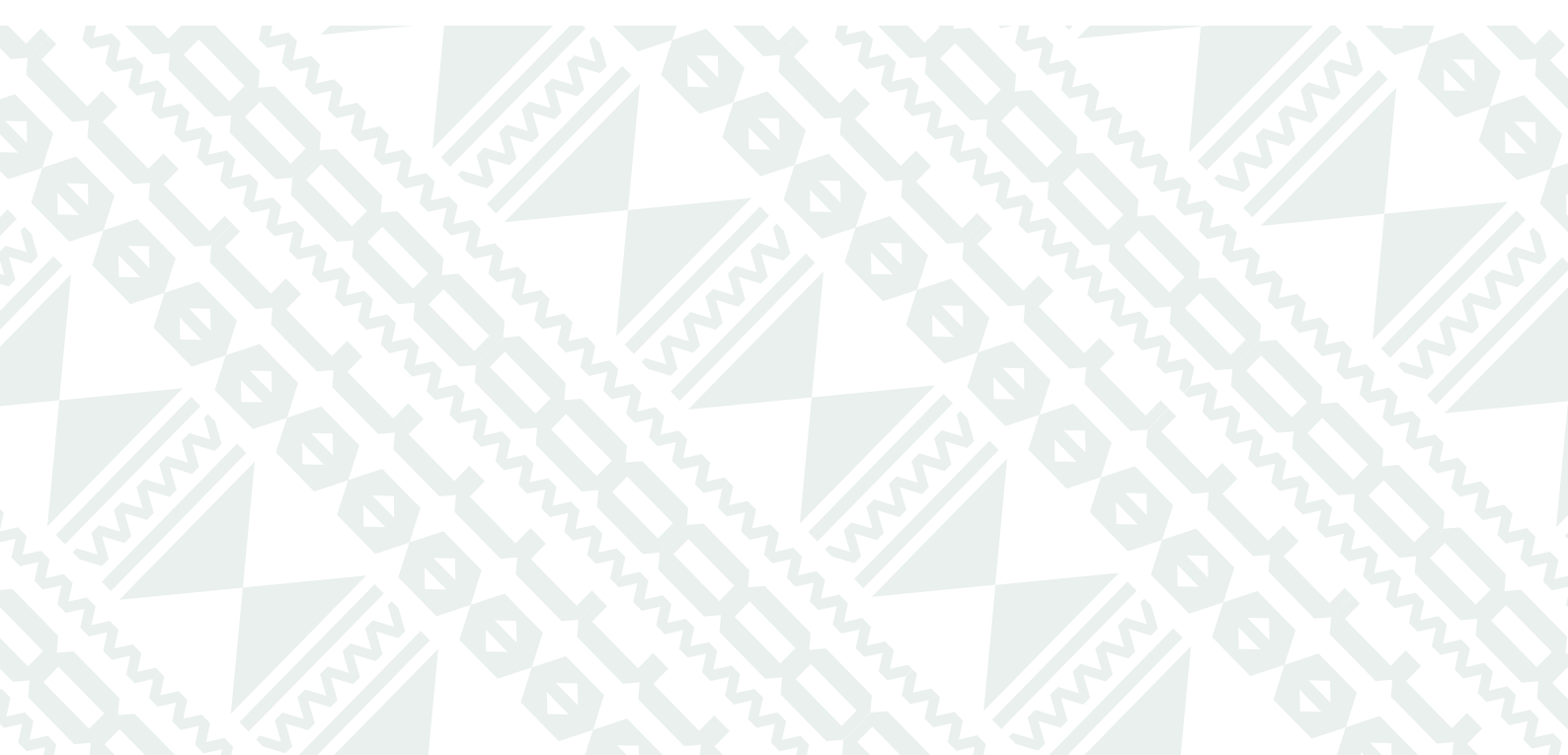
Six villages in the Rewa Delta namely Nasilai, Muana-ira, Narocake, Naivakacau, Waicoka and Natila have less alternative sources of livelihood to support them and their families as they have limited land for subsistence farming so they are heavily dependent on the mangrove eco-system.


The Fiji Government's ITTO project addresses mangrove management and rehabilitation in the Rewa Delta and has made available provisions for alternative livelihoods such as the establishment of nurseries, shrimp ponds, piggeries, training and capacity building in sewing, raising seedlings and overall awareness on the importance of mangroves and the ecosystems they support.

ITTO promotes the conservation, restoration and sustainable management and use of mangrove forest resources in the tropics. It does this through both policy development and projects aimed at optimizing the contributions of mangrove restoration and sustainable management to the Sustainable Development Goals and the Paris Agreement on climate change.

Minister for Forestry, Honourable Osea Naiqamu, whilst addressing Parliament this week said Government is doing all it could to support alternative livelihoods for the communities who are depended on mangroves.

He also said that Government is very focused on its endeavours to provide alternative livelihoods especially under the current COVID-19 environment. We are working towards a triple win for the economy, for the environment and for the stakeholders who are dependent on natural resources.






We need your help in ensuring we achieve our tree planting target. We are also encouraging communities to establish nurseries to economically empower you because Government will purchase your seedlings as the tree planting initiative progresses.

Members of the public are encouraged to log onto the Ministry's website www.forestry.gov.fj each time they plant and to record their tally of trees planted with the Ministry as everyone's contribution to the **30MT15Y campaign counts.**

Protect Our Future, Plant a Tree



***And support the 30 million
trees in 15 years initiative***

Your contribution counts

Simply

- 1. Download a QR Code reader app.***
- 2. Scan this QR code every time you plant a tree so it adds to our national tally.***
- 3. Log onto www.forestry.gov.fj for updates.***



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