



Loru Forest Project – Annual Report 2017-2018

An avoided deforestation project at Loru, Santo, Vanuatu.

The Nakau Programme:
An indigenous Forest Conservation Programme
through Payments for Ecosystem Services

A Nakau Programme project in collaboration with Live & Learn Vanuatu and the Ser-thiac indigenous landowner enterprise

Report prepared by: Anjali Nelson

Cover Photo: Nelson, A - Natangura fruit

The Nakau Programme
Ross House, 4th Floor
247–251 Flinders Lane
Melbourne 3000 Victoria, Australia
Tel: +61 3 9650 1291
Email: anjali.nelson@nakau.org
Web: www.nakau.org

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Loru Forest Project: Annual Report 2017 & 2018

Submitted by: The Nakau Programme Pty Ltd (Programme Operator)

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Summary

Project overview	
Reporting period	16 January 2017 – 15 January 2019 (2 years)
Geographical areas	Loru, Santo, Vanuatu
Technical specifications in use	TS Module (C) AD-DtPF D2.2.1 v1.0 20150815

Project indicators	Historical	Added/ Issued this period 2017 - 2018	Total
No. smallholder households with PES agreements	Not applicable	Not applicable	Not applicable
No. community groups with PES agreements (where applicable) by Dec 2014	1	0	1
Approximate number of households (or individuals) in these community groups	50	0	50
Area under management (ha) where PES agreements are in place	165.6	0	165.6 ha
Total PES payments made to participants (USD)	\$9,648	\$27,650	\$37,298
Total sum held in trust for future PES payments (USD)	\$7372	\$11,680	\$11,680
Plan Vivo Certificates (PVCs) issued	4884	4884	9768
Allocation to Plan Vivo buffer to date	1220	1220	2440
Unsold Stock at time of submission (PVC)			25
Plan Vivo Certificates (PVCs) requested for issuance this reporting period	Request to be made in January 2020. Please see statement below for this period.		

Statement of tCO2 reductions available for issuance as Plan Vivo Certificates based on activity for reporting period 16 January 2017 – 15 January 2019

Area ID	Total area (ha)	Tech. Spec	Saleable ER's (tCO ₂) available from previous periods*	Total ER's (tCO ₂) achieved this period**	% Buffer	No. of PVCs allocated to buffer from ER's achieved this period	Saleable ER's (tCO ₂) from this period	Issuance request (PVCs)	ER's (tCO ₂) available for future issuances
Zone A 2017	165.6	TS Module (C) AD-DtPF	0	3,052	20	610	2,442	2,442	0
Zone A 2018	165.6	TS Module (C) AD-DtPF	0	3,052	20	610	2,442	2,442	0
TOTAL				6,104		1,220	4,884	4,884	0

* Number of tCO₂ sequestered or avoided emission through participants' activities in previous reporting periods which have not yet been issued as PVCs

** Number of tCO₂ sequestered or avoided emission through participants' activities this reporting period.

Introduction & Background

The aim of the project is to protect the Loru coastal rainforest (one of the last stands of lowland rainforest on the East Coast of Espiritu Santo) from deforestation and forest degradation. It also aims to provide livelihood benefits for the Serakar Clan (landowners). Loru holds great cultural significance to the clan but they were under increasing pressure to develop the land for non-forest land uses common in the surrounding area such as coconut plantations and cattle grazing.

The project objective is to generate income through the sale of carbon offsets from the protected forest area. This income replaces the opportunity cost for landowners who have given up the right to log and clear their forests under this project, and addresses a core economic driver for deforestation. The project employs the legal instrument of a Community Conservation Area to protect the tall coastal rainforest within the project boundary. The project area is managed through implementation of the Loru Conservation Area Management Plan, which prohibits and restricts certain activities such as land clearing. Active management also includes exclusion of cattle and removal of invasive weeds to facilitate forest regeneration.

The project has also established a tree nursery to generate revenue and promote forest conservation and increased planting of productive tree species. The project further aims to provide training in nut processing for women in the whole Khole community as an additional income source that relies directly on forest protection. These initiatives aim to address drivers of deforestation but are not currently included in carbon accounting.

The Project Area is divided into three management zones.

- Zone A Avoided Deforestation. Mature secondary forest to be rehabilitated through the removal of cattle and agreement not to clear the area for gardens or copra. The landowners to receive carbon payments to compensate for lost income from deforestation. Zone A is monitored by means of regular forest inspections to ensure that it remains protected in practice.
- Zone B Enhanced Forest Regeneration. Secondary degraded tall forest / thicket is weeded to control aggressive herbaceous vines (*Merremia peltalta*) and managed to enhance natural regeneration. No harvesting of nut trees allowed (clan enforced decision). There are currently no carbon revenues from this zone, however plans to include this zone on future carbon accounting.
- Zone C Agroforestry. Non-forest land currently infested with invasive vine *Merremia Peltalta*. The clan actively develops land through agroforestry in this zone using a mix of tree crops (e.g. fruit, nuts), timber crops and root crops producing agroforestry cash crops, timber and subsistence food. There are no carbon revenues from this zone but income is generated through sale of agroforestry crops.

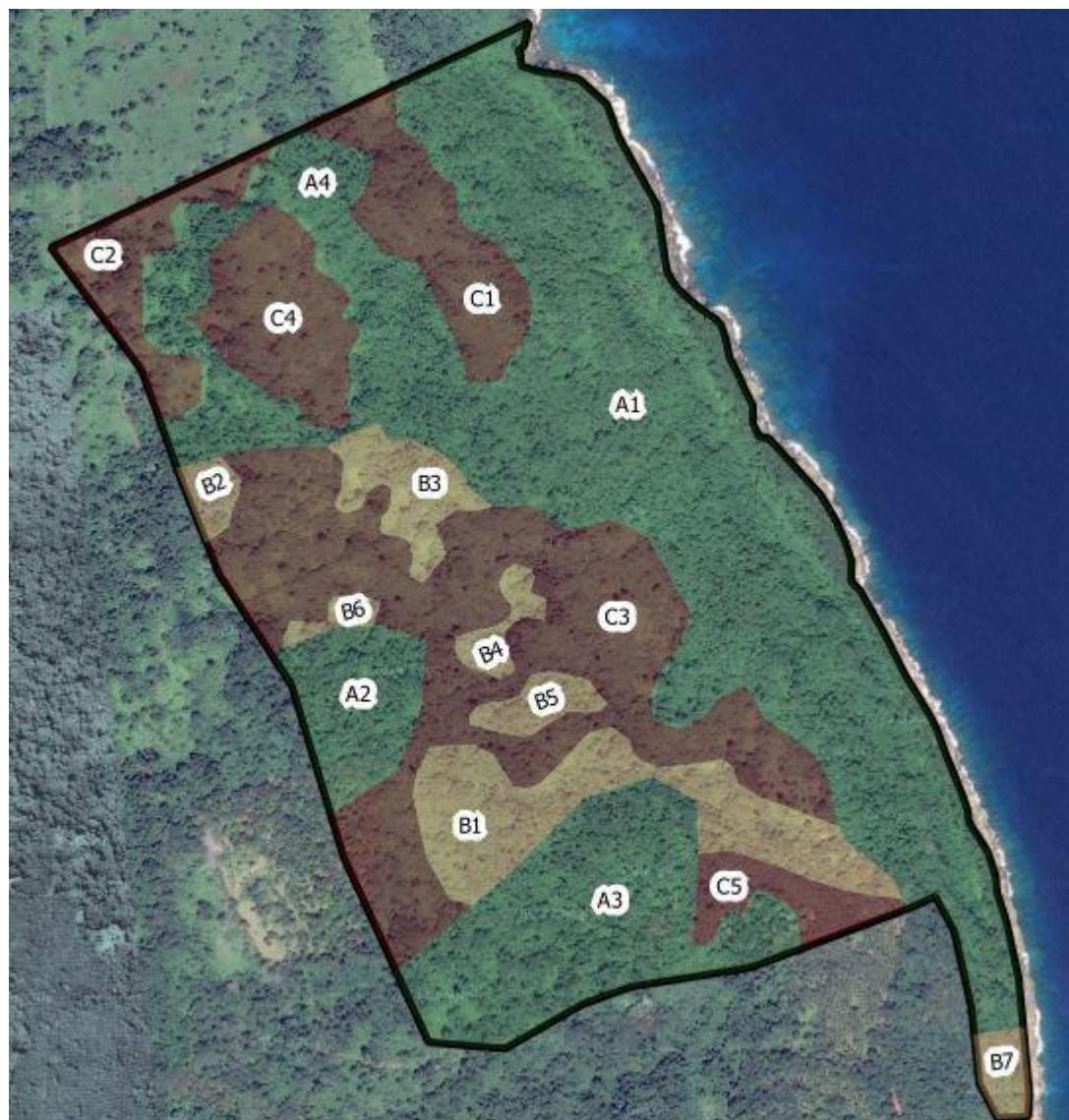


FIGURE 1: Loru Community Conservation Area Map

- Black line = Project Area boundary and boundary of the Loru Community Conservation Area.
- Zone A (165.6 ha) = Tall Forest Eligible Forest Area; Management Areas: A1-A4
- Zone B (35ha) = Tall forest to be included in Eligible Forest Area following Zone B inventory; Management Areas: B1-B6
- Zone C (91ha) = Non-forest allocated for agroforestry; Management Areas: C1-C5

Project updates

Throughout 2017 and 2018, the Serakar clan managed the Loru Forest Project through the Serthiac Family Business. As the landowners of Loru, the Serakar clan employ rangers to undertake a range of tasks as outlined in their Loru Land Management Plan. Activities include maintaining fences in the forest area and removing any cattle or invasive species from the intact rainforest area. Rangers also monitor biodiversity and perform transect walks through the forest to monitor disturbance. In zones of Loru that are degraded or non-forest, the Rangers are responsible for the revegetation of the land through agroforestry and assisted natural regeneration through removal of invasive vines.

Overseeing the project activities is the Land Management Committee. This committee signs off on ranger activities each month as a way to monitor progress. The Land Management Committee then reports to the Serthiac Board every quarter. The Serthiac Board consist the heads of the five major families within the Serakar Clan. Financial management of the business is overseen by a Finance Committee made up of senior females in the clan. They manage the Administration Officer who undertakes all financial transactions for the business as well as regular reporting.

The Serthiac Business is supported within Vanuatu by local NGO, Live & Learn Vanuatu. Live & Learn provide support through semi-regular site visits, fundraising for additional community development initiatives and support in business activities.

The project falls under the Nakau Programme, a regional entity providing quality assurance and demand-side support to indigenous-owned forest carbon projects in the Pacific. The Loru Project is Nakau's Flagship project and has such been the first project to adopt systems of reporting and financial management.

With the project reaching full implementation in 2016, the two years covered by this report have been a time of testing project designs established in the project development phase. New systems of reporting have been adopted and regular interaction between Serthiac and its project partners, The Nakau Programme and Live & Learn Vanuatu, have enabled the ongoing tweaking and minor adjustments required to ensure the project is sustainable and practicable for all partners. Given the innovative nature of Loru, the project has been of interest to many national and international visitors. This has led to a decision by the family to try and develop ecotourism within the area in coming years as a way of accommodating visitors and providing further education on opportunities to finance conservation and forest regeneration in the Pacific.

Key events in 2017 and 2018

- May 2017 – Visit from Plan Vivo Unit Buyer; Opus Bilprovning and Zero Mission; tour of Loru area and presentation on the Money Story.*
- July 2017 – Information sharing visit from Oceanswatch, Temotu Province, Solomon Islands*
With funding from the Critical Ecosystems Partnership Fund, Edward Pae, an OceansWatch Solomon Islands Volunteer and Environmentalist travelled to Loru on a fact finding mission to see how forest carbon trading was working. Edward developed a report and is now pursuing funding for forest carbon project activities with the Nakau Programme in the Solomon Islands.
- August 2017 – Community planting day*
All clan members planted crops within agroforestry zones (Zone C) and undertook ring weeding of young trees to support the weekly activities of the Rangers. By planting their own crops, the clan members committed to maintaining their area of the agroforestry site within Loru. Children on holidays from school spent the day in Zone B of the forest removing invasive vines to support the growth of new seedlings. The children received education from the Rangers through the day.
- November 2017 – Introduction of new reporting templates*
The Nakau Programme operator introduced new reporting templates for Serthiac to improve quarterly reporting.
- December 2017 – Fencing of second Agroforestry Plot in Zone C*
Revenue from the sale of carbon went towards fencing a second agroforestry plot for the clan in Zone C of the Loru Protected Area. Horses were introduced to clear the area ahead of tree planting in 2018.
- April 2018 – Planting of new seedlings in Agroforestry plots*
Sandalwood and Natapoa trees were grown from seed, raised in the project nursery and transplanted into the new agroforestry site using carbon revenue.
- June 2018 - Zone B inventory*
A team consisting of six community members, two Department of Forestry staff and led by one Live & Learn Vanuatu staff member undertook an inventory of Zone B of Loru. Data from the inventory is now being used to develop a Technical Specifications for assisted natural regeneration.
- September 2018 - Samoan Delegation tour to Vanuatu*
A delegation of senior government official from the Government of Samoa visited Loru as an information gathering trip with interests to develop forest carbon projects in their country. The visit resulted in a Call for Proposals for replication of Loru using the Green Climate Fund.
- December 2018 – Family Day and Community Benefits Sharing*
The Serakar Clan celebrated the project hosting a large celebration for the entire clan and providing community benefits payments to each family group. The impacts of these payments for the community have been tabulated on page 16.

Successes and challenges

- *Community benefit delivery*

The project has implemented a Community Benefits Sharing plan, which creates rules around project spending. Funds from the sale of carbon are deposited into a project operational account until those funds reach a target amount. This account is used to pay employees of Serthiac and fund the activities set out in the Loru Land Management Plan such as agroforestry, fencing and forest monitoring.

Funds are also deposited into a safety (savings) account and these funds are not used at all unless the operational account has no funds. Once the safety account has reached its target amount, funds start to flow to a community benefit account, which the Serthiac Board distributes for the benefit of the entire clan. In 2017 the Board decided to use some of the funds raised in the Community Benefit Account to support the costs of a family wedding and to support education costs. With improved financial monitoring in 2018, the Board decided to allocate a set amount to each of the five families in the Clan and to pay a smaller amount to a sixth family that has been adopted by the clan for many years and contributes to the project.

Table 1 on page 14 shows impacts of the community benefit delivery across key indicators such as education and water security. Funds were also spent on household items, planting materials, livestock and for home building materials.

The decisions made by the Board to spend the Community Benefit Account have displayed both the self-determination of the Board and their desire to ensure the entire Serakar Clan realise the benefits of the project. It is also proof of sound financial management by the project as the evidence of funds being available in the Community Benefits Account means that the Operating and Safety Accounts were satisfactorily allocated to and expended in line with budgets set out for the project. A Community Livelihoods Assessment in 2019 will measure the impacts of the project on the community.



FIGURE 1 Water tank bought with carbon income

Staffing sustainability

The Loru project budget allows for the employment of two Rangers to manage Loru Protected Area and one Administration Officer to oversee finances and reporting.

It took most of 2017 to establish a strong team of employees for the project. With the employment of family member, Lenny Warlele in 2017, the administration of the project improved. Many community members living in the community do not have the literacy or IT resources to provide regular reporting and financial management. Lenny has been able to provide key administrative support to the project generating quarterly reports, calling quarterly meetings and managing all financial payments for the business.

In addition, the employment of Kaltapang Ser in 2017 has led to steady improvement in land management under the project. An experienced agricultural entrepreneur, Kaltapang has reduced his time spent on his own cattle business to support the project in Loru. Kaltapang and junior ranger, Caleb Ser, maintain fences in the Protected Area as well as ensuring there are no disturbances. They take the lead on the development of agroforestry plots in the degraded non-forest areas within the project as well as managing weeds and invasive species in throughout the forest area.

While the current staffing under Loru is providing for positive project outcomes, the Board is aware that a succession plan is required and that trainees need to be learning from the current staff. This will be an ongoing challenge in the following years.

RECONCILIATION REPORT	
QUARTER: 4 th	
Income	
Operational Account	200,000 vt
Safety Account	107,000 vt
Community Benefit Account	150,000 vt
Expenditures	
Operational Account	159,500 vt
Safety Account	0
Community Benefit Account	126,150 vt
Total Expenditures	285,650 vt
Actual bank balance as of 31st of December 2018	
Operational Account	94,896 vt
Safety Account	1,046,193 vt
Community Benefit Account	540,391 vt
Total Funds	1,681,440 vt

FIGURE 2: Sample excerpt from landowners Reconciliation report prepared by administration officer, Lenny Ser

<p>Monthly Land Management Meeting Date: 01-03-2018 Attendees: Kaltapang : First Ranger Kaltapang : Second Ranger Loru : Chairman</p> <p>Tok tok to land bio performance blong of ranger:</p> <ul style="list-style-type: none"> - Gunungan Blong Gunungan (Jawatan) Re-Planting - Gunungan of Pating (Gebu-citara) at Conservation area - Raking of dead trees - Raking of dead trees by old plots - Raking of dead trees by new - Fixing up Paling Blong / Raking off with the existing area - Banching up old tree and Gunungan Blong (i.e. under-grow) - Soil Lopong with Paling Blong - Work Blong new area - Raking Weeding area in old-plot - Cleaning up area in old-plot - Cutting of invasive
<p>Pliko miu utopian sendemi lg finance?</p> <p>Sign bio agri bio pens Ranger nextis mants Name: STEVE SER Signature: </p>

FIGURE 3: Sample excerpt from monthly LMC report with signature from Board Chairman

Monitoring & land management

While financial and administrative reporting improved greatly in 2018, formalised forest monitoring through transects and aerial imagery will increase in focus in coming years. Rangers are undertaking regular informal monitoring the forest area, undertaking activities in line with the Land Management Plan for Loru Community Conservation Area. Boundaries are regularly walked as well to ensure no disturbances are found. Given Loru is a small land parcel, regular monitoring is not a great challenge for the rangers. They report all of their activities monthly to the Land Management Committee but do not have GPS skills to use a GPS to undertake formal transect walks as per monitoring requirements. So while the forest area remains intact and undisturbed, formal GIS mapped monitoring remains a project gap. In addition to this formal biodiversity monitoring needs to occur. Live & Learn have plans to provide biodiversity training to the Loru Rangers in 2019 as well as improving the transect reporting technology ahead of a planned 2020 verification event. A copy of the field report prepared by Live & Learn Vanuatu is at Annex 2.



*FIGURE 4 Forest junior ranger, Riman, removes *Merremia peltata*, an invasive vine, during forest monitoring walks*



FIGURE 5 Serge (Live and Learn and Ser-Thiac family member) with a forest protection 'tabo' sign in the Loru Community Conservation Area.

Agroforestry Plot Development

The expansion of agroforestry plots in the degraded non-forest area of the project, Zone C, is an activity that the community can develop as they see fit under the project's Land Management Plan. Zone C sits outside the current crediting area but contributes to restoring degraded land and thus providing a buffer to the forest area.

Developing the agroforestry plots is expensive due to fencing costs and requires regular labour inputs. All of these costs are borne by the community. Using a project nursery and operating finances, the community has established a new plot to add to its original plot in 2015 and is planning on fencing out a third site. Plots have been planted with productive tree species such as nut species and timber trees for selective harvesting as part of a thinning process.

Women in the Serakar clan have planted out vegetable gardens within the agroforestry crops. As they tend to the crops they also ring weed the new trees being planted. The agroforestry sites provide multiple benefits for food security and additional income through the sale of vegetables, fruits and nuts. The Serakar's motivation to expand their agroforestry business through the project is a great success that will provide short, medium and long-term benefits to the project.



FIGURE 6 Rhonda Ser shows her vegetable garden in the plot that provides her main income



FIGURE 7 Impressive growth of agroforestry plot trees planted in 2015

Future Developments

- Technical Specifications for Zone B (degraded secondary forest) are to be developed in coming years as a result of the inventory conducted in 2018. This will enable the restoration of this area of forest to be included in carbon accounting. The 2018 inventory contributes to the description of the zone B baseline and will enable backdating to account for management activities that are currently being applied (e.g. Merremia removal) to facilitate regrowth.
- Funding has been sought for biodiversity training for Rangers in Loru as part of a national program.
- Training in the use of GPS and other applications (e.g. Avenza maps) is needed to build capacity of rangers to record and report monitoring data.

Ecosystem services monitoring

The following comments were noted from the Loru Monitoring Assessment in January 2017:

- Zone A & Zone B was well maintained – no forest been disturbed.
- Merremia has been cleared inside both zones with signs of forest regrowth
- There is a significant reduction in the number if cartlle and frequency of cattle incursions into Zone A & B
- Seedlings (Sandalwood) were sold from the project nursery in 2017 with the nursery producing seedlings for agroforestry plots in 2018.



FIGURE 8 Representatives from the Samoan Government delegation visiting Loru hold an endangered coconut crab. Future project developments will include improved systems to collect and report data on significant species observations.

Community Impacts

Table 1 describes the benefits that were a direct result of payments made to Serthiac for ecosystem services in 2017 and 2018. In December each year the Serthiac Board meet to determine how monetary benefits will be spent or distributed for broader community benefit. This takes into account the funds available in the Community Benefits Account, and community level priorities (e.g. need for increased household water security or assistance to households for school fees etc.).

Table 1: Quantitative benefits to community from project in period

Benefit	2017	2018
Number of children with school fees subsidised by project	N/A	19
Number of water tanks installed due to project	N/A	2
Percentage of revenue shared as a community benefit	~26%	~22%
Number of paid positions for community members through the family business	3	3
Target for Safety Account reached	Yes	Yes and Exceeded
Size of area planted and managed for Agroforestry	1 hectare	2 hectares

Indirect Benefits

- Training and capacity building – The Serakar employees, Finance Committee, Board and Land Management Committee all received training from the Nakau Programme in 2017 on project reporting.
- Regional sharing for duplication – Loru became an example of community-led rainforest protection in the Pacific receiving visitors from the region seeking to replicate its success.

Annex 1 : Financial Data (confidential)

Plan Vivo Certificate Sales Data from project start date to 15 January 2019

Buyer / sale	Invoice date	Units	Wholesale Price*	Sale value*
ZeroMission	June 2016	3357		
ZeroMission	June 2017	4179		
Ekos	July 2017	1330		
Ekos	July 2017	557		
Ekos	July 2017	21		
		9444		
		Total units sold	Average price	Total value of sales (USD)

*Used for internal reporting purposes only

Payments Distribution from Sales to Project Partners from project start date to 15 January 2019

Project entity		Income (\$USD)	Planned income (\$USD)	Percentage share
Project owner	Serthiac	\$37,298.09	\$11,680.28	48.44%
Project coordinator	Live & Learn	\$17,994.83*	\$7,533.23*	25.25%
	Nakau	\$27,240.49**	-\$645.04**	26.31%
TOTAL		\$82,533.41	\$18,568.47	

*Payments to Live & Learn withheld to cover costs for next issuance and verification as agreed.

**Nakau overpaid due to increased audit costs. Overpayment to be adjusted in next distribution.

Payments made to Serthiac from project start date to 15 January 2019

Date	Actual paid (USD)- Serthiac	Exchange rate used
3/10/16	\$ 3,002.36	0.787401575
21/12/16	\$ 6,645.67	0.787401575
9/3/17	\$ 3,251.18	0.787401575
9/6/17	\$ 3,251.18	0.787401575
19/7/17	\$ 1,023.62	0.787401575
3/10/17	\$ 3,997.31	0.787401575
16/3/18	\$ 3,855.47	0.825300064
11/4/18	\$ 4,068.83	0.825300064
30/7/18	\$ 4,140.61	0.825300064
14/11/18	\$ 4,061.85	0.825300064
	\$ 37298.09	

Average Annual Expenditure by project partners from project start date to 15 January 2019

Project entity		Average Annual Expenditure (\$USD)	Percentage of Average Annual Income for period
Project owner	Serthiac	\$7453.31	61%
Project coordinator*	Live & Learn**	\$13386.31	210%
	Nakau	\$9191.99	138%
TOTAL (average)		\$30,031.47	119%

*Co-financing has been used to cover the additional costs of project management above and beyond what is costed here

**This expenditure incorporates the increased costs of VVB verification which triples the cost of first and second verification events.

Annex 2 Live & Learn Monitoring Field Work report

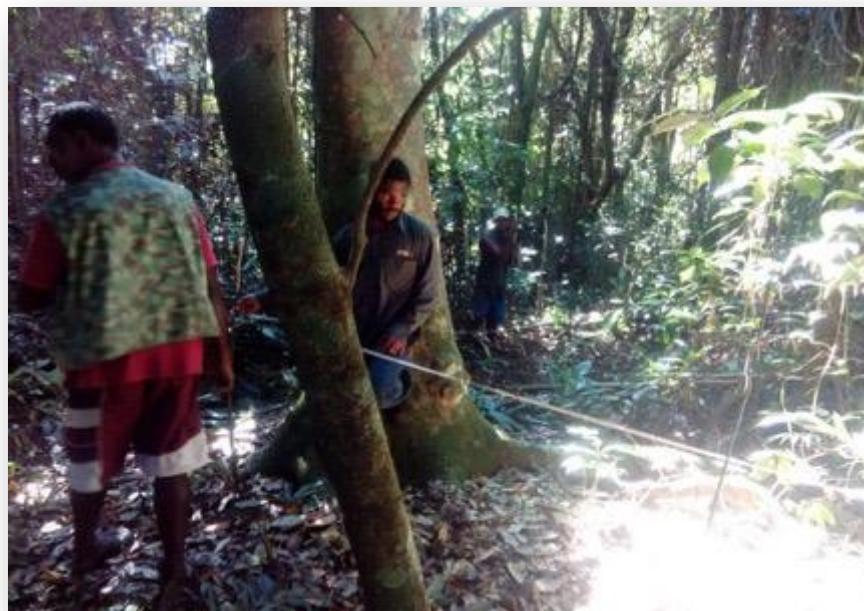
Loru Biodiversity and Transect work Assessment Results

This report principally summarises the results of the biodiversity monitoring and the transect walk at Loru in 2018 – 2019. In Mid-June 2018, a team comprised of two forest extension officers (James Toa & Frank Joel), one LLV staff member (Serge Warakar) and two community representatives (Kasakau Ser & Kaltabang Ser) undertook a forest carbon inventory and biodiversity assessment of species abundance and distribution in Loru Community Conservation Area.

TRANSACTION WALK # 1: 11 – 20 June 2018

Date: 11 – 20 June 2018	Number of Plots (transect walk) and GPS Location:
	<ol style="list-style-type: none"> 1. Plot 1 – E 167.16045° & S 15.20449° 128M elevation 2. Plot 2 – E 167.16092° & S 15.20417° 137M elevation 3. Plot 3 – E 167.16219° & S 15.20583° 136M elevation 4. Plot 4 – E 167.16483° & S 15.20683° 100M elevation 5. Plot 5 – E 167.16818° & S 15.20729° 85M elevation 6. Plot 6 – E 167.15848° & S 15.19922° 121M elevation 7. Plot 7 – E 167.15846° & S 15.20157° 140M elevation 8. Plot 8 - E 167.16124° & S 15.20472° 122M elevation
Plot Measurement	25M X 25M – Zone B
Name of the observer	Roles of the observer
James Toa	Forest Extension officer, Department of Forestry
Frank Joel	Forest Extension officer, Department of Forestry
Serge Warakar	Project Officer, Live & Learn Vanuatu

Kalsakau Ser	Chairperson, Loru CCA
Kaltabang Fred	Ranger, Loru CCA
Remarks on abundance & distribution	<ul style="list-style-type: none"> ▪ An increasing number of Megapods observed within the CCA ▪ Cattles were kept out allowing regeneration to grow ▪ Coconut crab were observed in day time, given that the last 5 – 10 years you hardly seen coconut crabs at day time. ▪ Regular cutting of meremia in zone A & B ▪ Strip line planting – trees are planted using strip line planting in Zone B ▪ An increasing number of birds observed during the transect walk ▪ All cattle were kept out of CCA boundary ▪ No major forest destruction observed ▪ Flying foxes also observed in zone A ▪ More number of trees were planted in Zone C



Monitoring team measuring the plot. Photo: Serge Warakar



Monitoring team measuring the plot. Photo: Serge Warakar