



# **Verification Report**

## **Loru Forest Project The Nakau Programme**

**Prepared by Dr. Noim Uddin**

**April 26<sup>th</sup>, 2017**

**(Monitoring Period: 16 January 2015 to 15 January 2017)**

**Name of Reviewer:** Dr Noim Uddin, Senior Consultant, Climate Policy and Markets Advisory (CPMA) International AB

**Date of Review:**

Initial desk review Jan 2017; Field site visit 25 Jan 2017; Verification and Reporting 1-7 March 2017

**Project Name: Loru Forest Project**

An avoided deforestation project at Loru, Santo Vanuatu under the Nakau Program: An Indigenous Forest Conservation Program Through Payments for Ecosystem Services

**Project Description:**

The Loru Forest Project (with eligible forest area of 165.6 ha made up of 1 land parcels) in Luganville, Santo of Vanuatu employs the legal instrument of a Community Conservation Area to protect the tall coastal rainforest within the project boundary. The project seeks to manage the area through the implementation of the Loru Area Management Plan, which includes the removal of cattle from the area while also seeking to reduce the impact of invasive weeds within Project Area. The project will establish a tree nursery with the local clan to generate revenue and to promote forest conservation and the planting of productive tree species.

The project is divided into three management zones:

- **Zone A** – Avoided Deforestation where secondary forest is to be rehabilitated through the removal of cattle and through the agreement not to clear the area for gardens or copra during the project period.
- **Zone B** – Enhanced Forest Regeneration where the thicket is to be weeded of aggressive herbaceous vines and managed sustainably to enhance natural regeneration.
- **Zone C** – Agroforestry Non-Forestland currently infested with invasive vines.

No carbon revenues from Zone B and Zone C will be generated. Nevertheless, income for the local community will be generated from Zone C and from the rehabilitation of degraded areas under Zone B.

The Loru Forest Project aims 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. The project also aims to provide livelihood benefits for the Serakar Clan (landowners). The project further aims to provide training in nut processing for women in the whole Khole community as an additional income sources that relies directly on forest protection.

**List of Documents Reviewed:**

1. Loru Forest Project – Project Description (PD) Part A: General Description (D3.2a v1.0, 20151009)
2. Loru Forest Project – Project Descriptions (PD) Part B: PES Accounting (D3.2b v1.0,

20151009)

3. Technical Specifications Module: (C) AD-DtPF: Avoided Deforestation – Deforestation to Protected Forest V.10 for the Nakau Program (D2.2.1 V1.0, 20150815)
4. Nakau Methodology Framework: General Methodology for the Nakau Program – An Indigenous Forest Conservation Program Through Payments for Ecosystem Services (D2.1 v1.0, 20140428)
5. Loru Forest Project – PES Agreement (D1.3 v1.0, 20151009)
6. Loru Forest Project – Project Coordinator License Agreement between Live & Learn Environmental Education Vanuatu and the Nakau Program Pty Ltd (D1.4 v1.0, 20151009)
7. Loru Forest Project – Program Agreement between the Nakau Program Operator and Serthiac Business (D1.2 v1.0, 20151009)
8. Project Development Agreement between Live & Learn Vanuatu and Serakar Family of Khole, Espiritu Santo (16 January 2013)
9. Certificate of Incorporation of Committee of a Charitable Association, Live & Learn Environmental Education Society Association, Vanuatu Financial Services Commission, Republic of Vanuatu, 17 April 2001
10. Community Conservation Area Registration (CCA) Notice – Loru Protected Area 16 Nov 2015 (via email notification)
11. Draft Sale and Purchase Agreement
12. Loru Protected Area Management Plan, 2015
13. Loru Conservation Area – Education Program Report
14. Loru Carbon Budget and Pricing
15. Loru Forest Inventory
16. Serthiac Business Plan
17. Loru PIN (D3.3 v1.0, 20140606)
18. Ser-Thiac Business Name Registration Certificate, Vanuatu Financial Services Commission (Registration No. 013450, dated 07 Aug 2014)
19. Live & Learn Environmental Education Finance Manual 2014
20. Live & Learn Environmental Education Good Practice Manual 2010
21. Live & Learn Environmental Education Recruitment Policy
22. Annual Audit Report, Live & Learn Environmental Education Society Committee (Inc) Vanuatu Finance Statement 30 June 2014
23. Memorandum of Understanding between Live & Learn Environmental Education (LLEE Vanuatu) and the Vanuatu Department of Forests (2012)
24. Memorandum of Understanding between Live & Learn Environmental Education (LLEE Vanuatu) and Sanma Provincial Government
25. Live & Learn Environmental Education Vanuatu, Field Trip Reports (July, Aug, Sept, Oct 2014)
26. Mandate for Management of Loru Protected Area, Custom Landowners of Loru Protected Area, 20 Sept 2015
27. Climate Change and REDD+ Education Manual 2012
28. Agreement for Serthiac Board to Sign Loru PES Agreement, Custom Landowners of Loru Protected Area, 13 Nov 2015
29. PES Agreement and Program Agreement Participation Report, 13 Nov 2015
30. Agreement for Serthiac Board to Sign Loru PES Agreement and Loru Program Agreement, 12 Nov 2015
31. Acceptance of Loru Forest Project PD Part A D3.2a v1.0 20151009 and Loru Forest Project Part B D3.2b v1.0 20151009, 13 Nov 2015
32. PD Summary Report Signed
33. Nakau Program Management Report 2013
34. Project Owner Entity Participation Report, Loru Forest Project, Nov 2014
35. Nakau Sales Register

- 36. National Forest Act 2001
- 37. Shareholder Agreement to Conduct a Social Enterprise, The Nakau Program Pty Ltd and the Shareholders (Live & Learn and Ekos), 2015
- 38. Donna Kalfatak, Loru Protected Area Rapid Biodiversity Assessment Report, 17-18 Nov 2014
- 39. Khole Agroforestry Plot Design, Live & Learn Community REDD+ Project (draft)
- 40. Philemon Ala, Loru Conservation Area Terrestrial Biodiversity Assessment Report for REDD Project of Live & Learn 16-19 Nov 2014
- 41. Loru Forest Project – Monitoring Report 1-1b D3.3 (1) v1.0 20170228
- 42. Loru Livelihood Impact Monitoring Guide and Methodology for Socioeconomic Baseline
- 43. Loru Forest Project, Protected Area Boundary Coordinates
- 44. Plan Vivo Foundation, Validation of Methodology Elements of the Nakau Program 21 April 2015
- 45. VCS Monitoring Report Template
- 46. Director's Certificate – Monitoring 12 Dec 2015
- 47. Memo dated 12 Aug 2015, Proposed Audi Procedure (from Sean Weaver and Robbie Henderson of Nakau Program to Eva Schoof and Chris Stephenson of Plan Vivo)
- 48. Loru Protected Area Boundary Marking 2014
- 49. Contract Amendment, Amendment to Loru Project PES Agreement D1.3 v0.1, 20151009, dated 25 Jan 2016
- 50. Loru Forest Project, QGIS File

**Description of field visits (including list of sites visited and individuals/groups interviewed):**

The Verification of the Loru Monitoring Report 16<sup>th</sup> January 2015 to 15<sup>th</sup> January 2017 is performed as Part 2 of First Verification (which is the Second Issuance Request).

On 25 Jan 2017, Simson Lulu and Sero Isaiah conducted the field site visit and the inspection. The site visit inspection included a field visit into the eligible forest area and the conduction of interviews with the Project Owner (Ser Thiac).

Verification scope and arrangement of on-site inspection were organized as per discussion with Program Coordinator via Skype call. The field visit was conducted as per the on-site visit plan dated 17 Jan 2017. The field visit started with an inception meeting with the Project Owner on 25 Jan 2017 in Santo, Vanuatu. Following the inception meeting, interview was conducted with Project Owner. During second half of 25 Jan 2017, on-site inspection was carried at Loru Forest Project site. A follow up Skype call was performed in order to resolve any remaining issues after the on-site inspection.

Following table provides details of interview.

Date	Name	Position & Department	Topics
17.01.2017	Dr Sean Weaver	Ekos NZ, Nakau Program (via Skype call)	Nakau Methodology Framework, Carbon benefits, Accounting methodology, Baseline, Additionality, Permanence, Leakage, Traceability and double-counting, Monitoring
01.03.2017			
25.01.2017	Chief Skip Sar	Head of Serthiac Board & the Chief of Kole	As a landowner, what are some project activities you have been

		Community	
25.01.2017	Warakar Ser	Member of the Serthiac Board	involved in, in 2015 up until end of 2016
25.01.2017	Clarence Dan	Head of Serthiac Finance	What is your understanding about the bank account you and the Serakar Clan have been receiving on the sales of carbon?
25.01.2017	Riman Ser	Look after the nursery	
25.01.2017	Lenny Fred	Member of the Serakar Clan	<p>Have you ever make any regular visit to Loru Conservation Area and checked weather any activities such as logging is operating inside?</p> <p>Have you also participated in any of the agroforestry activities or any Management Activities that are associated with the Loru Forest Carbon Project?</p>

**Certification Statement:**

This verification refers to the reported Emission Reductions (ERs) for the Loru Forest Project as described in the “Loru Forest Project – Monitoring Report 16<sup>th</sup> January 2015 to 15<sup>th</sup> January 2017 is performed as Part 2 of First Verification (which is the Second Issuance Request). In the opinion of the Verifier, the GHG emissions reductions for the project in the monitoring report are fairly stated. The GHG emission reductions were calculated correctly on the basis of the approved monitoring methodology and of the monitoring plan contained in the PD. The Verifier is able to certify that the Emission Reductions (ERs) for the Loru Forest Project during the period 16<sup>th</sup> January 2015 to 15<sup>th</sup> January 2017 is performed as Part 2 of First Verification (which is the Second Issuance Request) amount to **4884 tCO<sub>2</sub>** equivalent.

*Table 1. Summary of major and minor Corrective Actions – NONE*

Theme	Major CARs	Minor CARs	Observations
Project Implementation			
Monitoring Plan			
Parameters monitored			
Risk management and quality assurance			

*Table 2 - Report Conformance*

Theme	Conformance of Draft Report		Conformance of Final Report
	Yes		Yes
<b>Project Implementation</b>			
<b>Monitoring Plan</b>	No		Yes
<b>Parameters</b>	Yes		Yes

<b>Monitored</b>		
<b>Risk Management</b>	Yes	Yes

<b>Theme</b>	<b>1. Project Implementation Status</b>
<p><i>Ensuring that the project is implemented in accordance with Project Description as per Plan Vivo Standard (2013) and meets requirements of 1, 2, 3, and 4 of Plan Vivo Standard (2013)</i></p>	
<b>A. Requirement</b>	<b>1.1 Project is implemented in accordance with Project Description</b>
<b>B. Findings (describe)</b>	<p>The Loru Forest Project (with an eligible forest area of 165.6 ha made up of 1 land parcels) in Luganville, Santo of Vanuatu employs the legal instrument of a Community Conservation Area to protect the tall coastal rainforest within the project boundary. A Community Conservation Area notice was verified via email communication /10/. The project seeks to manage the area through the implementation of the Loru Protected Area Management Plan /12/, which includes the removal of cattle from the area, and to reduce the impact of invasive weeds within the Project Area. The project has established a tree nursery with the local clan to generate revenue and to promote forest conservation while also increasing the planting of productive tree species, which was verified during on-site inspection on 25 Jan 2017.</p> <p>The project is divided into three management zones:</p> <p>Zone A - Avoided Deforestation, where secondary forest is to be rehabilitated through the removal of cattle and through the agreement not to clear the area for gardens or copra during project period.</p> <p>Zone B - Enhanced Forest Regeneration, where thicket is to be weeded of aggressive herbaceous vines and managed sustainably to enhance natural regeneration.</p> <p>Zone C - Agroforestry Non-forestland currently infested with invasive vines.</p> <p>The three management zones of the project are in accordance with PD /1/ and a further on-site inspection during 25 Jan 2017. Loru was surveyed and recognised as owned by the Serakar Clan through Vanuatu Department of Lands in 1994. The Chief of the family at the time of the court's decision, Chief Caleb Ser, has since passed and as local custom determines, his five children now manage the land. Customary law in this part of Vanuatu works through a patrilineal system. As such the male descendants of Chief Caleb Ser are the landowners of Loru Area.</p> <p>A further boundary marking was undertaken in 2014 with Government representatives present to witness the agreement between the Serakar and neighbouring landowners to confirm customary land ownership of the Loru Project Area /48/. Ownership of the Loru Project Area by the Serakar Clan is</p>

	<p>not disputed. Statements were taken and witnessed to agree to the boundary of the Loru Project Area being within Serakar clan land /43/.</p> <p>The constitution of Vanuatu places land in the hands of the customary owners of Vanuatu. Customary land is the dominant form of land tenure in Vanuatu with 90% being un-leased and 9% being leased. The Loru Protected Area has been legally registered as a nationally recognised community conservation area under the subsection 37 (3) of the EPC Act /10/.</p> <p>The Loru Forest Project generate ecosystem service benefits as the project falls under the 'carbon' Activity Class and is an Avoided Deforestation, Deforestation to Protected Forest (AD-DtPF) project. The Loru Forest Project also delivers co-benefits including maintaining biodiversity. /1//2//3//4/.</p> <p>Live &amp; Learn Environmental Education Society Committee is a Legal Entity /49//9/ and will act as the Project Coordinator for the Loru Forest Project /6/. Live &amp; Learn Vanuatu as coordinator of the Loru Forest Project ensured that individuals with resource user rights and people living or reliant on the project sites including customary landowner were appropriately informed about the project and were engaged in the planning, the maintaining and the monitoring of the Loru Forest Project /8/.</p> <p>Program Operator: the Nakau Program /4/.</p> <p>Project Coordinator: Live &amp; Learn Environmental Education Society Committee (Legal Entity) /49//9/</p> <p>Project Owner: Ser-Thiac (Landowner Business Entity) /18//16//7/</p> <p>Project's Sectoral Scope: AFOLU – Avoided Deforestation – Deforestation to Protected Forest (AD-DtPF)</p> <p>Project start date: 16<sup>th</sup> January 2013 /8/</p> <p>Project's crediting period: 30 years from 16<sup>th</sup> January 2013 to 15<sup>th</sup> January 2044</p> <p>Period verified in this verification: 16<sup>th</sup> January 2015 to 15<sup>th</sup> January 2017 is performed as Part 2 of First Verification (which is the Second Issuance Request).</p> <p>Adopted methodology: the Loru Forest Project has adopted two Nakau Program methodology elements</p> <ul style="list-style-type: none"> <li>• Nakau Methodology Framework: General Methodology for the Nakau Program – An Indigenous Forest Conservation Program Through Payments for Ecosystem Services (D2.1 v1.0, 20140428) /4/</li> <li>• Technical Specifications Module: (C) AD-DtPF: Avoided Deforestation – Deforestation to Protected Forest V.10 for the Nakau Program</li> </ul>
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	(D2.2.1 V1.0, 20150815) /3/			
<b>C. Conformance</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
<b>D. Corrective Actions (describe)</b>	None			

<b>Theme</b>	<b>2. Monitoring plan and monitoring methodology</b>
<i>Ensuring that the project meets requirements of monitoring methodology in accordance with Project Description as per Plan Vivo Standard (2013) and meets requirement of 5, 6 and 7 of Plan Vivo Standard (2013)</i>	
<b>A. Requirement</b>	<b>2.1 Compliance of monitoring plan with monitoring methodology</b>  Monitoring plan contained in the Project Description and in Technical Specification is in accordance with approved methodology as adopted by the project
<b>B. Findings (describe)</b>	This project applies two Nakau Programme methodology elements as demonstrated in the PD /1/:  1. Nakau Methodology Framework D2.1 v1.1 20150513 /4/ 2. Technical Specifications Module (C) 2.1 (AD-DtPF): D2.2.1 v1.0, 20150815 /3/  The Nakau Methodology Framework has been validated to the Plan Vivo Standard on 21 <sup>st</sup> April 2015 /44/  The Technical Specifications Module completed its first independent validation to the Plan Vivo Standard during current verification (5 <sup>th</sup> Dec 2015).  The review of the Technical Specifications Module will be completed by TAC (Technical Advisory Committee of Plan Vivo). Program Operator – the Nakau Program sent a Memo (dated 12 <sup>th</sup> Aug 2015) /47/ to the Plan Vivo Foundation Secretariat discussing the undertaking of a combined validation and verification audit process for the first verification. This process of concurrent validation and verification process was then approved by the Foundation. Under the Plan Vivo Standard, a project's Technical Specification (methodology) is incorporated in the Project Design Document (PDD) and is audited separately ahead of the validation of the PDD. Moreover, because Plan Vivo projects normally consist of afforestation activities, the start date is prior to validation is not generally compatible with the crediting period. However, REDD projects are compatible with it.  Part A of the PDD outlines how the project will be monitored. Part B of the PDD specifies a detailed monitoring plan and monitoring approaches

	<p>(monitoring during first project monitoring and subsequent periodic monitoring). The monitoring plan and monitoring approaches appear to be appropriate and as required by the adopted methodology elements.</p> <p>This is the first Project Monitoring for Loru Forest Project. A simplified Project Monitoring has been adopted in accordance with section 8.1.5 of the Technical Specifications Module (C) 2.1 (AD-DtPF).</p> <p>According to the requirement of 8.1 of Technical Specifications Module (C) 2.1 (AD-DtPF) /3/, the simplified Project Monitoring Report has adopted appropriate components of the latest VCS monitoring Report Template /45/.</p> <p>This monitoring report covers the period from 16<sup>th</sup> January 2015 to 15<sup>th</sup> January 2017 is performed as Part 2 of First Verification (which is the Second Issuance Request) /41/.</p>			
<b>C. Conformance</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
<b>D. Corrective Actions (describe)</b>	None			
<b>A. Requirement</b>	<p><b>2.2 Compliance of monitoring with the monitoring plan</b></p> <p>Monitoring has been carried out in accordance with the monitoring plan in the Project Description</p>			
<b>B. Findings (describe)</b>	<p>Loru Forest Project Monitoring Plan has been developed and demonstrated in Part B of the PDD /2/. Roles and responsibilities in regard to project monitoring has been demonstrated in Part B of the PD Table 8.1.6 /2/, which is consistent with the monitoring guidelines as per Technical Specification Module (C) 2.1 (AD-DtPF) /3/. Responsibility for monitoring tasks and required resources availability were cross-checked with the Project Coordinator, the Project Owner and the Program Operator during the on-site inspection and appeared appropriate as required by adopted methodologies.</p> <p>This is the first Project Monitoring for the Loru Forest Project. A simplified Project Monitoring has been adopted in accordance with section 8.1.5 of the Technical Specifications Module (C) 2.1 (AD-DtPF).</p> <p>According to the Nakau Methodology Framework (validated to the Plan Vivo Standard, 2013), all projects in the Nakau Program are required to prepare a Project Monitoring Plan as part of the Project Description in accordance with requirements of 5.4 of Nakau Methodology Framework and elements required in the relevant Technical Specifications Module/s applied. The adopted monitoring plan for the Loru Forest Project is detailed in Part B of the PDD (section 8.1.5) and Technical Specification Module (C) 2.1 (AD-DtPF) (section 8.1.5).</p> <p>According to Table 8.1.1 of the adopted Technical Specifications Module (C) 2.1 (AD-DtPF), following parameters will be monitored:</p>			

Notation	Parameter	Uni	Equation	Origin	Monitored
EFA	Eligible Forest Area	ha	-	PD	Monitored
TAL	Total Activity Leakage	tCO <sub>2</sub> e/yr	5.2.1	Derived from Activity Shifting Leakage Analysis	Monitored

A Director's Certificate dated 12<sup>th</sup> Dec 2015 /46/ confirms that the project started on 16<sup>th</sup> January 2013 and implemented according to the requirements of Nakau Methodology Framework and Technical Specification Module (C) 2.1 (AD-DtPF) as per requirement of 8.1.5 of Technical Specifications Module (C) 2.1 (AD-DtPF).

A simplified Standard Operating Procedure (SOP) has been developed in regard to Part 2 of First Verification (Second Issuance Request) of Loru Forest Project Project Monitoring during (from 16<sup>th</sup> January 2015 to 15<sup>th</sup> January 2017) as per 8.1.6 of Technical Specifications Module (C) 2.1 (AD-DtPF) during the first monitoring period.

As per simplified Standard Operating Procedure (SOP), parameters are reported as per adopted monitoring procedures. Assessments of monitored parameters are given in the following table:

Carbon		
Parameter	Adopted monitoring procedure for First Monitoring Report	Assessment/Observation
Eligible Forest Area	Inspections undertaken during PDD development and the forest inventory survey (2015); most recently available aerial imagery provided for PDD	This approach is consistent with procedure as detailed in Validated Technical Specification /3/ and PD Part B /2/  Eligible Forest Area (EFA) equals to 165.6 ha has been verified from the project QGIS files /50/
Activity Shifting Leakage	Inspections undertaken during PDD development and the forest inventory survey. Activity Shifting not possible due to all forest land owned by landowners is contained within the Project Area and would amount to a reversal if Reduced	This approach is verified from validated Technical Specification /3/, Forest Inventory /15/.  Activity Shifting Leakage under this methodology refers activities shifting within lands owned/controlled by the Project Owner. Because all indigenous forest owned by the Project Owner is contained within the Project Area, which in turn is protected as a Community Conservation Area, then no

			<p>Activity Shifting can occur. At present, there is some forest that is not included in crediting but included in the Community Conservation Area /10/. This area was not included in carbon crediting under this project at first verification because the Project Coordinator omitted to undertake a carbon stock inventory within this area during the project development. As such the Project Coordinator intends to provide an updated baseline at second verification that will include this area.</p> <p>This was verified by interviewing Project Coordinator and Program Operator.</p>
<b>Community</b>			
<b>Parameters</b>		<b>Adopted monitoring procedure for First Monitoring Report</b>	<b>Assessment/Observation</b>
Food, consumption, agriculture		Community Impact Monitoring baseline survey undertaken in 2015	This approach is consistent with the Loru Livelihood Impact Monitoring Guide and Methodology for Socioeconomic Baseline /42/. Survey documents were verified during the on-site inspection on 25 <sup>th</sup> Nov 2015 at Project Coordinator Location (Live & Learn Vanuatu). The baseline survey results as presented in PD Part A /1/ was verified during the on-site inspection at the project site by interviewing community representatives.
Water accessibility		Community Impact Monitoring baseline survey undertaken in 2015	This approach is consistent with the Loru Livelihood Impact Monitoring Guide and Methodology for Socioeconomic Baseline /42/. Survey documents were verified during the on-site inspection on 25 <sup>th</sup> Nov 2015 at the Project Coordinator Location (Live & Learn Vanuatu). Baseline survey results as presented in PD Part A /1/ were verified during on-site inspection at the project site by interviewing community representatives.
Household income		Community Impact Monitoring baseline survey undertaken in 2015	This approach is consistent with the Loru Livelihood Impact Monitoring Guide and

			Methodology for Socioeconomic Baseline /42/. Survey documents were verified during the on-site inspection on 25 <sup>th</sup> Nov 2015 at the Project Coordinator Location (Live & Learn Vanuatu). Baseline survey results as presented in PD Part A /1/ were verified during the on-site inspection at the project site by interviewing community representatives.			
	Participation	Community Impact Monitoring baseline survey undertaken in 2015	This approach is consistent with the Loru Livelihood Impact Monitoring Guide and the Methodology for Socioeconomic Baseline /42/. Survey documents were verified during the on-site inspection on 25 <sup>th</sup> Nov 2015 at the Project Coordinator Location (Live & Learn Vanuatu). Baseline survey results as presented in PD Part A /1/ were verified during the on-site inspection at the project site by interviewing community representatives.			
<b>Biodiversity</b>						
<b>Parameter</b>		<b>Adopted monitoring procedure for First Monitoring Report</b>	<b>Assessment/Observation</b>			
Presence of significant species		First Biodiversity Project Survey undertaken concurrently with Forest Inventory Survey in 2015. Forest Biodiversity Baseline Survey to be undertaken after first verification.	This approach is consistent with procedure as detailed in Validated Technical Specification /3/ and PD Part B /2/. Forest Inventory was completed in 2015 /15/. Biodiversity assessments were carried out accordingly /38//40/.			
<b>C. Conformance</b>	Yes	<input checked="" type="checkbox"/> X	No	<input type="checkbox"/>	N/A	<input type="checkbox"/>
<b>D. Corrective Actions (describe)</b>	None					

<b>Theme</b>	<b>3. Quantifying and monitoring ecosystem services</b>
<i>Ensuring that the project meets requirements 5 of the Plan Vivo Standard (2013)</i>	
<b>A. Requirement</b>	<b>3.1 Quantification of GHG emission reductions and removals</b>  Quantification of baseline emissions, project emissions and leakage
<b>B. Findings (describe)</b>	<p>Emission Reductions (ERs) from the Loru Forest Project (AD-DtPF) have been considered for the specific monitoring period from 16<sup>th</sup> January 2015 to 15<sup>th</sup> January 2017. These have been calculated in accordance with the adopted Nakau Methodology Framework and Technical Specification Module.</p> <p>Data and information presented in the Loru Carbon Budget and Pricing /14/ were assessed and cross-checked by reviewing all the relevant references, by conducting interviews with personnel and checking source documents. No significant reporting risks have been identified for the information and data reported. This has enabled the verifier to assess the accuracy and the completeness of reported monitoring results and to verify the correct application of the adopted methodology.</p> <p>Annual Baseline Emissions Avoided: 3520 tCO<sub>2</sub>e. The first Monitoring Period is 16<sup>th</sup> January 2015 – 15<sup>th</sup> January 2017 (i.e. 2 years) (Appendix 1, Sheet ‘Loru Carbon’ Cell E9).</p> <p>Baseline Emissions for the first monitoring period are 3452 tCO<sub>2</sub>e (i.e. 1726 x 2). Annual Baseline Removals: 34 tCO<sub>2</sub>e. Baseline Removals for the first monitoring period are 68 tCO<sub>2</sub>e (Appendix 1, Sheet ‘Loru Carbon’ Cell E10).</p> <p>Annual Net Baseline Emissions: 1726 tCO<sub>2</sub>e (Appendix 1, Sheet ‘Loru Carbon’ Cell E11).</p> <p>Annual Buffer (Net Baseline Emission Avoided): 345 tCO<sub>2</sub>e</p> <p>Annual Net Project Removals: 1326 tCO<sub>2</sub>e (Appendix 1, Sheet ‘Loru Carbon’ Cell E15)</p> <p>Annual Buffer (Net Project Removals): 265 tCO<sub>2</sub>e</p> <p>There has been no activity shifting leakage in this monitoring period. There has been no market leakage in this monitoring period (due to the insignificant volume of baseline timber harvesting in relation to the national domestic timber market). Leakage for this monitoring period is 0 tCO<sub>2</sub>e (Appendix 1, Sheet ‘Loru Carbon’ Cell E12).</p> <p>Net Carbon Credits: 2442 tCO<sub>2</sub>e during 16<sup>th</sup> January 2015 to 15<sup>th</sup> January 2016</p> <p>Net Carbon Credits: 2442 tCO<sub>2</sub>e during 16<sup>th</sup> January 2016 to 15<sup>th</sup> January 2017</p>

<b>C. Conformance</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
<b>D. Corrective Actions (describe)</b>	None		
<b>A. Requirement</b>	<p><b>3.2 Quantification of habitat hectare units</b></p> <p>Quantification of baseline habitat hectares, project habitat hectares, hectare leakage</p>		
<b>B. Findings (describe)</b>	<p>This project markets Habitat Hectare units that are mutually exclusive to carbon offsets. This is for the purpose of marketing this rainforest protection project to buyers not interested in carbon offsetting but interested in supporting rainforest protection through the purchase of payment for ecosystem service units.</p> <p>When a buyer purchases a Habitat Hectare unit from this project, the equivalent volume of carbon offsets are retired in the registry. In this manner, carbon offsets are used as a registered proxy of Habitat Hectare units.</p> <p>One Habitat Hectare unit equals one hectare of rainforest protected inside the eligible forest area for one year.</p> <p>Baseline hectares of rainforest protected inside the eligible forest area: 0ha (Appendix 1, Sheet 'Loru HH' Cell E4).</p> <p>Leakage for this monitoring period is 0 ha</p> <p>Buffer: 20%</p> <p>Coastal scrap: 36.6 ha</p> <p>The Gross Habitat Hectare: (Eligible Forest Area 165.6 ha – Coastal Scrap included in baseline 18.3 ha) 147.3 ha</p> <p>Project Habitat Hectares of rainforest protected inside the eligible forest area: EFA – 20% (Appendix 1, Sheet 'Loru HH' Cell E8) 118ha yr-1</p> <p>There has been no activity shifting leakage in this monitoring period. There has been no market leakage in this monitoring period (due to the insignificant volume of baseline timber harvesting in relation to the national domestic timber market).</p> <p>Net Carbon Credits per Habitat Hectares: (Net Carbon Credit Equivalent)/(Net Habitat Hectares): 20.72 tCO<sub>2</sub>e</p>		
<b>C. Conformance</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

<b>D. Corrective Actions (describe)</b>	None		
<b>A. Requirement</b>	<p><b>3.3 Quantification of Community Impacts</b></p> <p>Quantification of baseline community impacts, project community impacts and net community impacts enhancement</p>		
<b>B. Findings (describe)</b>	<p>During the first verification, the Loru Forest Project has undertaken a baseline community impact monitoring /42/. This is because the Loru Forest Project has only completed socio-economic baseline survey for the community and that there is no contrasting data to enable estimating project's impacts on the said community. This was verified by interviewing the community. A community impact measurement framework was developed by the Project Coordinator in consultation with the Project Owner. A total of 39 interviews was conducted as elaborated in Loru Livelihood Impact Monitoring Guide and Methodology for Socioeconomic Baseline /42/. Baseline data as presented in Part A of the PDD was cross-checked with interview response form (stored in Project Coordinator's Office) and interviews with communities. The results of the interview responses were found to be consistent with the baseline data.</p> <p>The first occasion where project community impacts can be measured and reported for monitoring will be at the second verification event. Net community impact enhancements will become available for the first time at the second verification event.</p>		
<b>C. Conformance</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
<b>D. Corrective Actions (describe)</b>	None		
<b>A. Requirement</b>	<p><b>3.4 Quantification of Biodiversity Impacts</b></p> <p>Quantification of baseline biodiversity impacts and project biodiversity impacts</p>		
<b>B. Findings (describe)</b>	<p>Measuring the impact of the Loru Forest Project on biodiversity requires a comparison between a biodiversity baseline survey and a biodiversity project survey.</p> <p>At first verification the Loru Forest Project has only undertaken the first Project Biodiversity Impact Monitoring survey.</p> <p>The Loru Forest Project has completed the first (project scenario) biodiversity impact monitoring survey recording significant species present inside the project boundary.</p> <p>During current verification, there is no information regarding biodiversity impacts in the Monitoring Report. This is because no biodiversity baseline survey was conducted. However, during interviews, the Project Coordinator and the Program Operator have confirmed that they aspire to undertake a baseline survey in a</p>		

	<p>reference area supporting the baseline scenario before the second monitoring and verification.</p> <p>It is in the opinion of Verifier that the proposed approach appears to be appropriate, i.e. to develop a planned baseline survey in a reference area before next verification and before a project biodiversity survey.</p>		
<b>C. Conformance</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
<b>D. Corrective Actions (describe)</b>	None		

<b>Theme</b>	<b>4. Climate services, risks management and quality assurance</b>			
<i>Ensuring that the project meets requirements 6 and 7 of the Plan Vivo Standard (2013)</i>				
<b>A. Requirement</b>	<p><b>4.1 Calculation of emission reductions (climate services) and assessment of data</b></p> <p>Spreadsheet formulas, conversion, aggregations, consistent use of factors in line with the monitoring plan, transcription errors between datasets, sources of data.</p>			
<b>B. Findings (describe)</b>	<p>The Emission Reductions (ERs) for the Loru Forest Project (AD-DtPF) have been considered for the monitoring period 16<sup>th</sup> January 2015 to 15<sup>th</sup> January 2017. These have been calculated in accordance with the adopted Nakau Methodology Framework and Technical Specification Module.</p> <p>This is the first Project Monitoring for the Loru Forest Project. A simplified Project Monitoring has been adopted in accordance to section 8.1.5 of the Technical Specifications Module (C) 2.1 (AD-DtPF).</p> <p>The data and information presented in the Loru Carbon Budget and Pricing /14/ were assessed and cross-checked by reviewing relevant references, interviewing with personnel and checking all the source documents. No significant reporting risks have been identified for the information and data reported. This has enabled the verification team to assess the accuracy and completeness of the reported monitoring results and to verify the correct application of the adopted methodology.</p> <p>All relevant formulas and factors used to calculate the net anthropogenic GHG emissions and removals in the Baseline Scenario, and to calculate the net anthropogenic GHG emissions and removals in the Project Scenario are in accordance with Technical Specification (AD-DtPF) and as demonstrated in PD Part B.</p> <p>All the factors used and sources of data are appropriately cited in both Part B of the PDD and in the Loru Carbon Budget and Pricing /14/.</p> <p>For the current verification, all data transcription was performed by responsible monitoring personnel and was carried-out appropriately.</p>			
<b>C. Conformance</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
<b>D. Corrective Actions (describe)</b>	None			
<b>A. Requirement</b>	<p><b>4.2 Assessment of buffer</b></p> <p>Has the project has allocated a proportion of climate services in a risk buffer?</p>			

<b>B. Findings (describe)</b>	<p>The Project Buffer Rating (PBR) is used to calculate the Buffer for the baseline timeline.</p> <p>The Project Buffer Rating (PBR) is equal to 0.2 in this Technical Specification Module. This is in accordance with Technical Specification and the adopted methodology elements.</p> <p>20% buffer is higher than minimum buffer (10%) as recommended by the Plan Vivo Standard (2013).</p>
<b>C. Conformance</b>	<p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p>
<b>D. Corrective Actions (describe)</b>	<p>None</p>
<b>A. Requirement</b>	<p><b>4.3 Quality of evidence to determine emission reductions and climate services</b></p> <p>The discussion, findings and conclusion related to that the evidence is off sufficient quantity and appropriate quality, the reliability of evidence and nature of evidence</p>
<b>B. Findings (describe)</b>	<p>The data presented in the monitoring report and in the Loru Forest Carbon Inventory &amp; Budget were assessed by reviewing all project documentation in detail, by interviewing the Project Owner, the Project Coordinator and the Program Operator as well as by direct observations of established monitoring and reporting practices during field visit inspection. This has enabled the verification team to assess the accuracy and the completeness of the reported monitoring results and to verify the correct application of adopted methodology elements and Technical Specifications. All necessary documentation has been appropriately collected, referenced and aggregated and is easily accessible in electronic format as well as hard copies.</p> <p>Monitoring and reporting of data is in accordance with the adopted methodology elements and Technical Specification and as demonstrated in Part B of the PDD. The Verifier has been able to confirm that a complete set of data is available for the purpose of calculating the of Emission Reduction units for the current monitoring period.</p>
<b>C. Conformance</b>	<p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p>
<b>D. Corrective Actions (describe)</b>	<p>None</p>
<b>A. Requirement</b>	<p><b>4.4 Management system and quality assurance</b></p> <p>The discussion, findings and conclusions in regard to the suitability of the management system for monitoring and reporting.</p>

<b>B. Findings (describe)</b>	<p>The Loru Forest Project has developed a Standard Operating Procedure (SOP) for Monitoring Carbon benefits as demonstrated in Part B of the PDD and in the Monitoring Report. The demonstrated SOP is in accordance with adopted methodology elements and Technical Specification.</p> <p>Against each activity to be monitored (under carbon, community and biodiversity) relevant frequency, responsibility, human resources and financial resources have been demonstrated under SOP as detailed in Part B of the PDD.</p> <p>The Verifier can confirm that the responsibilities and the authorities for the monitoring and the reporting are in accordance with the responsibilities and authorities as stated in Part B of the PDD.</p> <p>This is the first Project Monitoring for the Loru Forest Project. A simplified Project Monitoring has been adopted in accordance with section 8.1.5 of the Technical Specifications Module (C) 2.1 (AD-DtPF) and, as such, a simplified monitoring and reporting methodology has been adopted.</p> <p>The Loru Forest Project's monitoring management includes data management systems, Standard Operating Procedure (including monitoring and reporting tools, templates, appropriate training to monitoring personnel dispatched in the forest) and Quality Assurance (accessibility of data by nominated personnel and storage of data in multiple sites). The Nakau Program has developed an Information Management Systems where the Loru Forest Project data are stored electronically. Hard copies of the data are stored at the Project Coordinator's Office and at the Project Owner's field office. The implementation of the data management systems was verified during the field visit inspection and interviews with the Program Operator, the Project Coordinator and the Project Owner.</p> <p>The data presented in the monitoring report and in the Loru Forest Carbon Inventory &amp; Budget was assessed by reviewing all project documentation in detail, by interviewing the Project Owner, the Project Coordinator and the Program Operator as well as by direct observations of the already established monitoring and reporting practices during the field visit inspection. This has enabled the Verifier to assess the appropriate implementation of the data management systems and completeness of the reported monitoring results and to verify the correct application of the adopted methodology elements and of the Technical Specification. All the necessary documentation is appropriately collected, referenced and aggregated and is easy accessible in electronic format as well as hard copies.</p>		
<b>C. Conformance</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
<b>D. Corrective Actions (describe)</b>	None		

Activity	
Time	
<b>17 January 2017</b>	
20.00 – 21.00	<p><b>Skype meeting with Dr Sean Weaver, Nakau Programme Operator</b></p> <ul style="list-style-type: none"> <li>• Verification Scope</li> <li>• On-site inspection – on-site auditor, audit plan</li> <li>• Reporting and scheduling</li> </ul>
<b>On-site audit date 25 Jan 2017</b>	
10.00 – 10.30	<p><b>Opening and Initial meeting with Project Owner</b></p> <ul style="list-style-type: none"> <li>• Objective and scope of on-site audit</li> <li>• Review plan for on-site visit (interview, forest site visit, document/information record)</li> </ul>
10.30 – 12.30	<p><b>Interview with Project Owner</b></p> <ul style="list-style-type: none"> <li>• Questionnaire survey as per on-site audit schedule</li> </ul>

<b>Activity</b>	
<b>Time</b>	
13.30 – 15.30	<p><b>On-site Inspection – Loru Forest Project</b></p> <ul style="list-style-type: none"> <li>• Check the project boundaries to determine that the protected forest still exists. This is the forest included in Zone A of the Project Area Map (Annex 1)</li> <li>• Check whether there is any evidence of logging or clearing of forest in the protected forest</li> <li>• Check where there have been any changes in project boundaries</li> <li>• Has there been any forest clearance in the area shown in Zone B of the project Area Map (Annex 1)</li> <li>• Has the Serakar Clan managed the land in a way that is consistent with the Land Use Map produced by members of the Serakar Clan and included in the Nakau Management Plan Report (Annex 2))</li> </ul>
<b>01 March 2017</b>	
20.00 – 21.00	<p><b>Skype meeting with Dr Sean Weaver, Nakau Programme Operator</b></p> <ul style="list-style-type: none"> <li>• Verification Scope and Communication with Plan Vivo</li> <li>• Status and Update on On-site Audit (carried out in conjunction with this verification)</li> <li>• On-site audit Reports and On-site audit records</li> <li>• Communication with Plan Vivo regarding current scope of Verification</li> <li>• Monitoring, Reporting and Verification – process, management and inventory</li> </ul>

**The Verifier: Noim Uddin, PhD**

**Signature:**



**Date: 26 April 2017**