Drawa Rainforest Conservation Project Monitoring Report 1, 2015

An Improved Forest Management project at Drawa, Vanua Levu, Fiji D3.3 (1) v1.0 20151009

The Nakau Programme: An Indigenous Forest Conservation Programme Through Payments for Ecosystem Services

EUROPEAN UNION

Report prepared by

Sean Weaver, Nakau Programme Pty Ltd, October 2015.

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DRAWA FOREST PROJECT MONITORING REPORT 1

Document Prepared By Sean Weaver, Nakau Programme Pty Ltd

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Project Title	*Drawa Rainforest Conservation Project*
Version	*1.0*
Report ID	*N/A*
Date of Issue	*9 October 2015*
Project ID	*N/A*
Monitoring Period	*1 January 2012 to 15 January 2015.*
Prepared By	*Live & Learn Fiji (Project Coordinator) and the Nakau Programme Pty Ltd (Programme Operator)*
Contact	*Sean Weaver sean@ekos.org.nz Ph +64 35256073*

1. Project Details

1.1 SUMMARY DESCRIPTION OF THE IMPLEMENTATION STATUS OF THE PROJECT

Provide a summary description of the implementation status of the project, including the following (no more than one page):

- *A summary description of the implementation status of the technologies/ measures (e.g. plant, equipment, process, or management or conservation measure) included in the project.*
- *The relevant implementation dates (e.g. dates of construction, commissioning, and continued operation periods).*
- *The total GHG emission reductions or removals generated in this monitoring period.*

Project implementation began on 1 January 2012. This is the first verification event.

1.2 SECTORAL SCOPE AND PROJECT TYPE

Indicate the sectoral scope(s) applicable to the project, the AFOLU project category and activity type (if applicable) and whether the project is a grouped project.

AFOLU Improved Forest Management – Logged to Protected Forest (AD-DtPF). First activity instance of a grouped project.

1.3 PROJECT COORDINATOR

Provide contact information for the project proponent(s). Copy and paste the table as needed.

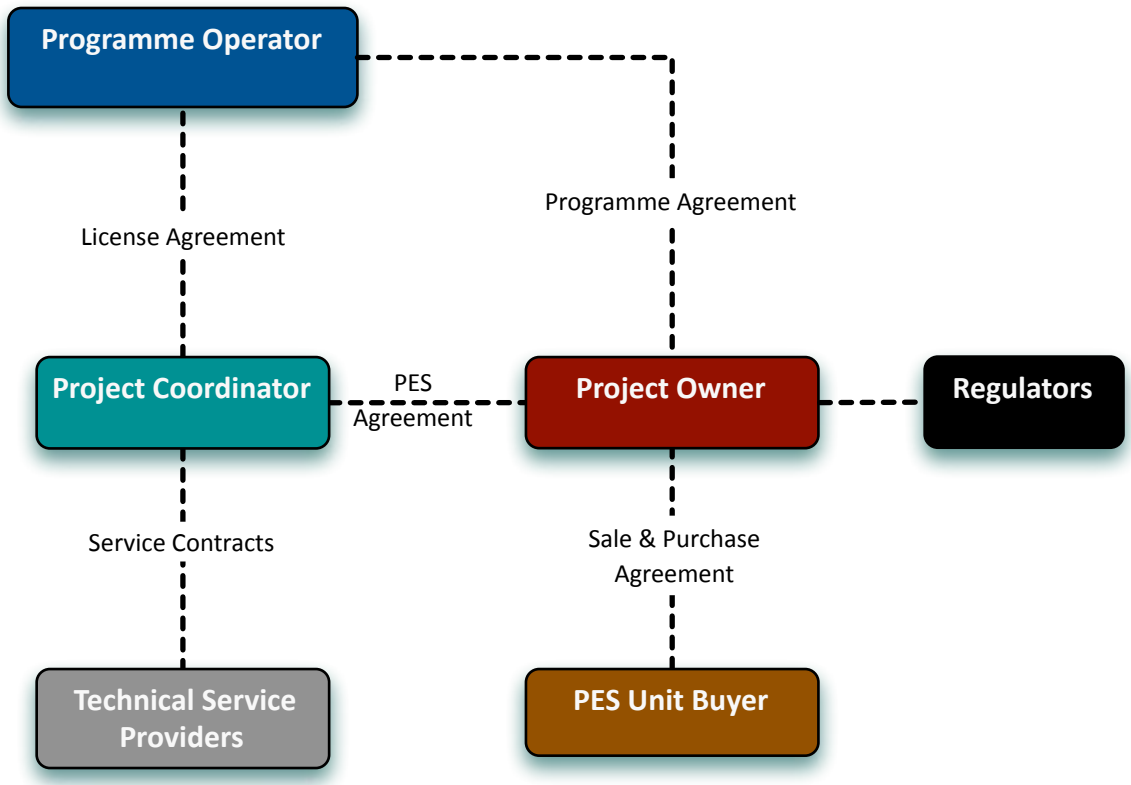
Organization name	Live and Learn Fiji
Contact person	Josefa Lalabalavu
Title	Manager PES & Forest Livelihoods Projects
Address	52 Imthurn Rd, Suva, Fiji
Telephone	Tel: +679 3315868 , Fax: +679 3305868
Email	fiji@livelearn.org, josefa.lalabalavu@livelearn.org

1.4 OTHER ENTITIES INVOLVED IN THE PROJECT

Provide contact information and roles/responsibilities for any other project participant(s). Copy and paste the table as needed.

Organization name	The Drawa Block Forest Communities Cooperative Ltd.
Role in the project	Project Owner
Contact person	Mr. Peni Maisiri
Title	DBFCC Chairman
Address	24 Sagar Street, Naodamu, Labasa, Fiji Islands. P.O. Box 4641, Labasa
Telephone	
Email	

Figure 1.4 Nakau Programme Legal Structure (from Section 2.13.2 of the Drawa PD Part A)



1.5 PROJECT START DATE

Indicate the project start date, specifying the day, month and year.

1 January 2012

1.6 PROJECT CREDITING PERIOD

Indicate the project crediting period, specifying the day, month and year for the start and end dates and the total number of years.

1 January 2012 to 31 December 2043 (30 years).

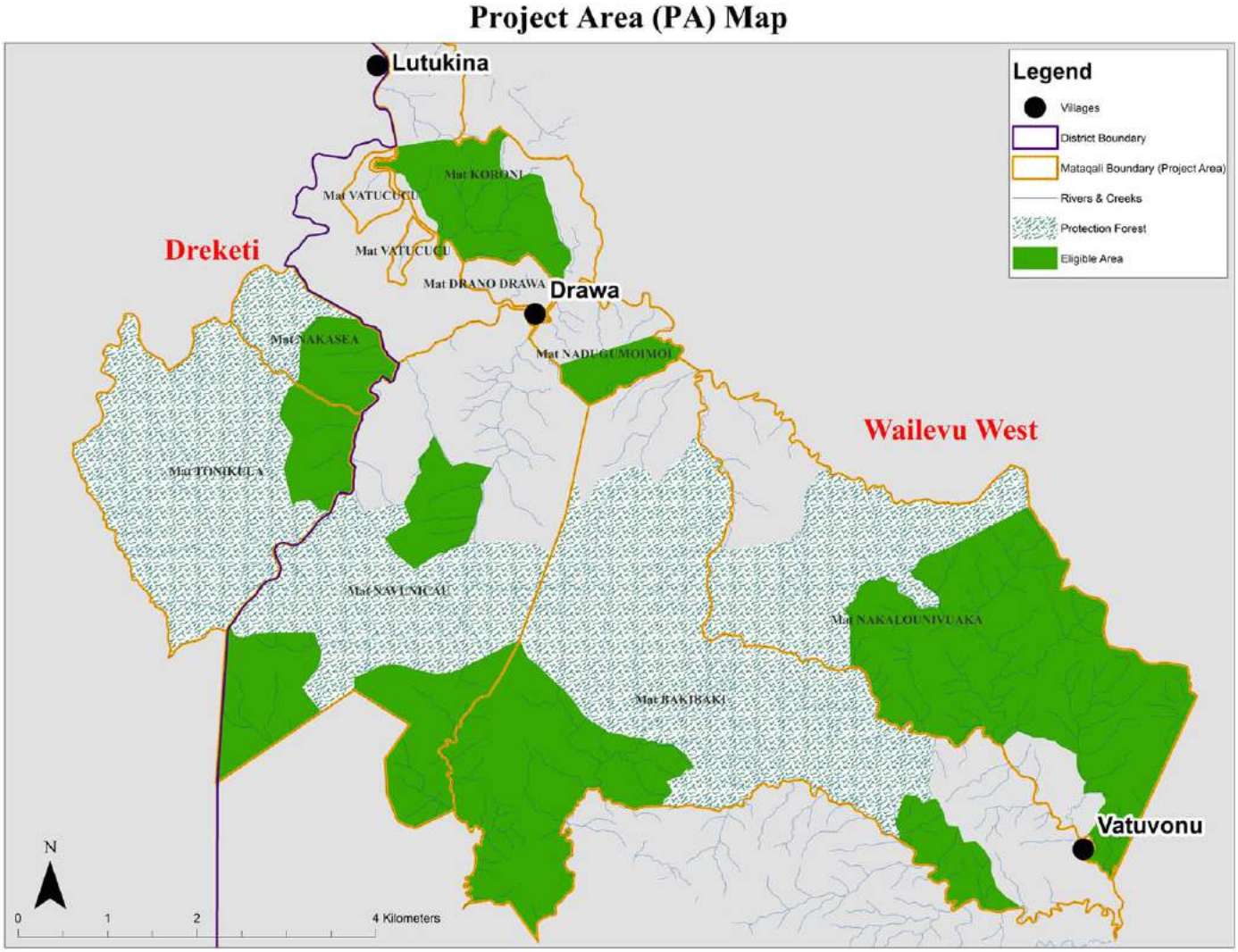
1.7 PROJECT LOCATION

Indicate the project location and geographic boundaries (if applicable) including geodetic coordinates. For grouped and AFOLU projects, coordinates may be submitted separately as a KML file.

Project Location: Drawa, Vanua Levu, Fiji.

Project boundaries: Depicted in Figure 1.7 below:

Figure 1.7 Map showing the Project Area, which is comprised of the Protection Forest (green speckled shading) and the Eligible Forest Area (depicted in dark green shading).



Georeferencing data is provided in Appendix 2.

1.8 TITLE AND REFERENCE OF METHODOLOGY

Provide the title, reference and version number of the methodology or methodologies applied to the project. Include also the title and version number of any tools applied by the project.

This project applies two Nakau Programme methodology elements:

1. Nakau Methodology Framework D2.1 v1.1 20150513
2. Technical Specifications Module (C) 1.1 (IFM- LtPF) D2.1.1 v2.0 20151009.

1.9 OTHER PROGRAMMES

Include the following information, as applicable:

- *Emission Trading Programmes and Other Binding Limits: Where the project reduces GHG emissions from activities that are included in an emissions trading program or any other mechanism that includes GHG allowance trading (as identified in the project description, or where such programs or mechanisms have subsequently emerged) demonstrate that net GHG emission reductions or removals generated during this monitoring period have not be used for compliance under such programs or mechanisms. Examples of appropriate evidence are provided in the* VCS Standard.
- *Other Forms of Environmental Credit: Indicate whether the project has sought or received another form of GHG-related environmental credit, including renewable energy certificates, during this monitoring period. Include all relevant information about the GHG-related environmental credits and the related program. Additionally, provide a list of all and any other programs under which the project is eligible to create another form of GHG-related environment credit.*

Participation under Other GHG Programmes: Indicate whether the project is registered under any other GHG programs and, where this is the case, provide the registration number and details. Provide details of any GHG credits claimed under such programs.

No other programmes apply.

2. Implementation Status

2.1 IMPLEMENTATION STATUS OF THE PROJECT ACTIVITY

Describe the implementation status of the project activity(s), include information on the following:

- *The operation of the project activity(s) during this monitoring period, including any information on events that may impact the GHG emission reductions or removals and monitoring.*
- *Where applicable, describe how leakage and non-permanence risk factors are being monitored and managed for AFOLU projects.*
- *Any other changes (e.g. to project proponent or other entities).*

The Drawa Forest Project was implemented starting on 1 January 2012. This monitoring report represents project implementation results for the first verification event, representing three vintages (1 January 2012 to 31 December 2014 inclusive).

This is the first Project Monitoring Report for this project and is presented as a Simplified Project Monitoring Report as provided for in Section 8.1.5 of the PD and Section 8.1.5 of the Technical Specifications Module applied: Technical Specifications Module (C) 1.1 (IFM- LtPF) D2.1.1 v2.0 20151009. The reason for presenting a Simplified Project Monitoring Report for the first verification is due to the fact that although the project start date was 1 January 2012 the methodology and PD were not available until immediately prior to issuance of this first Project Monitoring Report. This is because the Nakau Programme methodologies and the PD for this project were in development between the project start date and the present (i.e. methodology and PD validation took place immediately prior to verification of this first monitoring report). Pursuant to Section 8.1.5 of the PD and Technical Specifications Module Applied this project supplies the equivalent of a Director's Certificate asserting that the material components of the Project Monitoring Plan have been executed (Appendix 3).

2.2 DEVIATIONS

2.2.1 Methodology Deviations

Describe and justify any methodology deviations applied during this monitoring period. Include evidence to demonstrate the following:

- *The deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.*
- *The deviations relates only to the criteria and procedures for monitoring or measurement, and do not relate to any other part of the methodology*

There are no methodology deviations in this monitoring report.

2.2.2 Project Description Deviations

Describe any project description deviations applied during this monitoring period and explain the reasons for the deviation. Identify whether the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario and provide an explanation of the outcome.

Describe and report on any project description deviations applied in previous monitoring reports.

There are no deviations from the Project Description in this monitoring report.

2.3 GROUPED PROJECT

For a grouped project, provide relevant information about new instances of the project activity(s) and demonstrate and justify how each new instance of the project activity(s) meets the eligibility criteria set out in the project description. Address each eligibility criteria separately.

This is the first activity instance for a grouped project under the activity type: Improved Forest Management - Logged to Protected Forest for the Nakau Programme.

3. Monitoring Plan

Describe the process and schedule followed for monitoring the data and parameters, set out above, during this monitoring period, include details on the following:

- *The organizational structure, responsibilities and competencies of the personnel that carried out the monitoring activities.*
- *The methods used for generating/measuring, recording, storing, aggregating, collating and reporting the data on monitored parameters.*
- *The procedures used for handling any internal auditing performed and any non-conformities identified.*
- *The implementation of sampling approaches, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures. Where applicable, demonstrate whether the required confidence level or precision has been met.*

Where appropriate, include line diagrams to display the GHG data collection and management system.

This section replicates Section 8 in the Drawa PD Part B D3.2b v1.0 20151009 with the only difference being that section numbering in this section replaces 8.x with 3.x.

The purpose of project monitoring is to measure, report, and verify ecosystem service outcomes delivered by the project. While a project may generate multiple ecosystem service and social outcomes, the scope of project monitoring is restricted to the specific outcomes represented by PES units.

Two PES unit types are produced by this project: Carbon Offsets and Habitat Hectare units. Both of these unit types are mutually exclusive to each other and cannot be double counted. The core PES unit for purposes of project monitoring is carbon offsets. Habitat Hectares are a proxy for general rainforest protection whereby the assertion of value delivered in project implementation is dominated by project implementation activities associated with the creation of carbon offsets.

The particular type of carbon offset produced by this project is a Plan Vivo Certificate issued as a Verified Emission Reduction unit (VER) but imbued with biodiversity and community co-benefits as required by the Plan Vivo Standard. These co-benefits are integral attributes of the carbon offsets produced under this standard and for this reason, project monitoring requires measurement, reporting and verification of the following project outcome attributes:

- Carbon benefits
- Community benefits
- Biodiversity benefits

Project measurement requirements set out in the PD are broken down into these three categories. Similarly, project monitoring is also broken down into the same three categories. The Project Monitoring Plan is the annual standard operating procedure for measuring project outcome delivery according to these three project benefit types.

3.1 CARBON MONITORING

Carbon offsets are issued to this project as a result of 3rd party verification of each Project Monitoring Report, which contains data sufficient to provide evidence to support a GHG assertion for the Project Monitoring Period in question.

Project Monitoring reports will be produced using the latest VCS Monitoring Report Template at a maximum of 5-yearly intervals covering each Project Monitoring Period. The Project Monitoring Report will be produced in the year following the final year of the Project Monitoring Period.

3.1.1 Monitored And Non-Monitored Parameters - Carbon

Some data parameters are derived from default values or are measured at one time only. These are non-monitored parameters. Other data parameters are monitored during each Monitoring Period.

Monitored and non-monitored data are listed in Table 3.1.1 below, and presented in the sequence in which measurement of GHG emissions and emission reductions are calculated.

Table 3.1.1 Monitored and Non-Monitored Parameters (monitored parameters in green)

Notation	Parameter	Unit	Equa-tion	Origin	Monitored
EFA	Eligible Forest Area	ha	-	PD	Monitored
LF/ULF	Forest stratification (logged/unlogged forest)	ha	-	PD	Area calculated in PD
HR	Harvest Rate	$m^3\ yr^{-1}$	4.1.1	Calculated from inventory	Not monitored Updated each Baseline Revision
TWH	Total Wood Harvested	$m^3\ yr^{-1}$	4.1.2	Default factor applied	Not monitored Updated each Baseline Revision
CD	Collateral Damage	$m^3\ yr^{-1}$	4.1.3	Root-shoot ratio (proportion of AGBE)	Not monitored Updated each Baseline Revision
AGBE	Above Ground Biomass Emitted	$m^3\ yr^{-1}$	4.1.4	Sum of TWH and CD	Not monitored Updated each Baseline Revision
BGBE	Below Ground	$m^3\ yr^{-1}$	4.1.5	Root-shoot ratio (proportion of	Not monitored

	Biomass Emitted			AGBE)	Updated each Baseline Revision
TM3	Total Emissions in m^3	$m^3\ yr^{-1}$	4.1.6	Sum of AGBE and BGBE	Not monitored Updated each Baseline Revision
GTCO2	Gross Total Emissions in tCO^2e	$tCO_2e\ yr^{-1}$	4.1.7	Conversion factors from wood volume to emissions	Not monitored Updated each Baseline Revision
GBER1	Gross Baseline Emissions Rotation 1	$tCO_2e\ yr^{-1}$	4.1.8	Conversion factors from wood products calculation	Not monitored Updated each Baseline Revision
ltWP	Long Term Wood Products	$tCO_2e\ yr^{-1}$	4.1.9	Calculated through conversion factors based on volume of wood harvested.	Not monitored
NBEARx	Net Baseline Emissions Avoided	$tCO_2e\ yr^{-1}$	4.1.10	Default factors based on GBE	Not monitored Updated each Baseline Revision
ER	Enhanced Removals	$tCO_2e\ yr^{-1}$	5.1.1	Default values derived from mean sequestration rates for relevant forest types and subsequently derived from project-specific data	Not Monitored Updated each Monitoring Period
TAL	Total Activity Shifting Leakage	$tCO_2e\ yr^{-1}$	5.2.1	Derived from Activity Shifting Leakage Analysis	Monitored Updated each Monitoring Period

3.1.2 Monitored Parameters – Carbon

Complete the table below for all data and parameters monitored during the project crediting period (copy the table as necessary for each data unit/parameter). Data and parameters determined or available at validation are included in Section ***Error! Reference source not found.*** *(Data and Parameters Available at Validation) above.*

Monitored data and parameters are summarized in the tables below.

Data Unit / Parameter:	**Eligible Forest Area (Eligible Forest Area)**
Data unit:	Ha
Description:	Forest area included in baseline and project scenario, and area upon which crediting is based (EFA_{LF} &/or EFA_{ULF})
Source of data:	Aerial imagery and Project Boundary Inspection
Description of measurement methods and procedures to be applied:	Aerial imagery (sub-meter accuracy) to define Eligible Forest Area boundary; boundary survey inspections (sub-meter accuracy) using GPS. Measure any reversals occurring in the Eligible Forest Area. Monitored by means of Eligible Forest Boundary Inspections that record any reversal incident occurring within the Eligible Forest Area. The area of any reversal above and beyond the *de minimis* threshold is measured using GPS units set up for sub-meter accuracy and

	measuring tapes. Area subject to reversal is removed from the Eligible Forest Area until the reversal has recovered the carbon volume lost in the reversal. This is calculated by means of sequestration rates and the estimate of the forest age for the area subject to the reversal. Forest age of the area subject to the reversal is calculated by: • Dendrochronology on stumps in the case of a timber harvest reversal • Dendrochronology on adjacent living trees of equivalent size of burnt stumps
Frequency of monitoring/recording:	Aerial imagery: 5-yearly Eligible Forest Boundary inspections: annually
Value monitored:	Area
Monitoring equipment:	Aerial imagery/satellite data to sub-meter accuracy Hand held GPS unit, photography
QA/QC procedures to be applied:	Maximum periodicity of 5-yearly 3rd party verification of Project Monitoring Reports.
Calculation method:	Subtract reversal area from the Eligible Forest Area and recalculate the Net Carbon Credits by means of the Buffer Account Rules (Section 5.5.2 this document).

Data Unit / Parameter:	**Total Activity Shifting Leakage**
Data unit:	tCO_2e/yr
Description:	Leakage caused by activity shifting
Source of data:	Project Area Inspection (outside Eligible Forest Area)
Description of measurement methods and procedures to be applied:	Site visit of indigenous forest lands owned and controlled by the Project Owner to assess commercial timber harvesting activity in comparison with the Baseline Activity and Project Activity as stated in the PD. Where commercial indigenous timber harvesting is occurring on lands owned and controlled by the Project Owner but lying outside the Eligible Forest Area, and where such harvesting has been declared in the PD, the following assessment will be undertaken: • Records of timber harvesting activity are inspected and verified against the timber harvesting plan stated in the PD. • Timber harvesting sites are inspected to verify that they are occurring in the areas specified in the PD. Where commercial indigenous timber harvesting is occurring on lands owned and controlled by the Project Owner but lying outside the Eligible Forest Area, and where such harvesting has not been declared in the PD (i.e. and thereby constitutes Activity Shifting Leakage), the following assessment will be undertaken: • Records of timber harvesting activity are inspected and annual timber harvesting volumes and species are recorded. • Timber harvesting sites are inspected to determine area of harvesting activity. • Calculations are made using the baseline GHG emissions

	measurement methodology in the Technical Specifications Module 2.1 (C) (AD-DtPF), to determine the volume of Activity Shifting Leakage. • Net Carbon Credits are recalculated to account for Total Activity Shifting Leakage (TAL) • The Project Owner is notified of the consequence of any continuation of Activity Shifting Leakage in terms of the reduction in Net Carbon Credits for the Project. The Project Owner is instructed to terminate Activity Shifting timber harvesting or risk suspension or termination from the Nakau Programme.
Frequency of monitoring/recording:	Annual Leakage Inspection and results incorporated into the annual Project Management Report. 5-yearly 2nd party verification of Project Management Reporting by the Programme Operator.
Value monitored:	m^3 yr^{-1}
Monitoring equipment:	GPS unit, measuring tape, photography
QA/QC procedures to be applied:	Maximum periodicity of 5-yearly 3rd party verification of Project Monitoring Reports.
Calculation method:	Activity Shifting Leakage method specified in Section 5.2.1 of the Technical Specifications Module (C) 2.1 (AD-DtPF): D2.2.1 v1.0, 20150815.

3.1.3 Monitoring Roles And Responsibilities - Carbon

Specific project monitoring roles for projects applying this Technical Specifications Module are summarised in Table 7.1.3. Project Owners and Project Coordinators are required to assign specific roles to specific stakeholders in the PD, and use this convention in the implementation and monitoring of the Project Activity.

Specific project monitoring roles for this project is presented in Table 3.1.3 below:

Table 3.1.3 Project Monitoring Roles/Responsibilities	
Task	Responsibility
Eligible Forest Area Boundary Inspections	Project Owner with assistance from the Project Coordinator where needed
Eligible Forest Area Inspections	Project Owner with assistance from the Project Coordinator where needed
Project Management Reporting	Project Owner with assistance from the Project Coordinator
Aerial imagery/mapping	Project Coordinator
Project Monitoring data management	Project Coordinator

3.1.4 Information Management Systems - Carbon

This project uses the information management system described in Section 7.1 of the Nakau Methodology Framework.

3.1.5 Simplified Project Monitoring Report Methodology - Carbon

This project has submited a simplified Project Monitoring Report for its first verification. Monitoring activities equivalent to those required in the monitoring were undertaken during project development provided and fulfilled the material requirements of the Monitoring Plan contained in this PD but did not fulfil the procedural requirements. This is because the monitoring plan was being developed towards the end of project development, which coincided with the end of the first monitoring period. Pursuant to Section 8.1.5 of the PD and Technical Specifications Module Applied this project supplies the equivalent of a Director's Certificate asserting that the material components of the Project Monitoring Plan have been executed (Appendix 3).

3.1.6 Standard Operating Procedure: Project Monitoring – Carbon

All projects applying this Technical Specifications Module are required to develop a Standard Operating Procedure (SOP) for Monitoring. Projects have the option to submit a simplified SOP for Monitoring when submitting the PD for validation and/or for first verification. Projects electing to supply a simplified SOP for Monitoring for PD and first verification are required to establish a simplified SOP for Monitoring for first verification and then follow the full monitoring SOP thereafter. The simplified SOP for Monitoring requires the Project Coordinator to prepare the first Project Monitoring Report based on the requirements of the Nakau Methodology Framework and this Technical Specifications Module.

The Standard Operating Procedure (SOP) for Monitoring Carbon benefits is presented below.

Table 3.1.6 Monitoring Schedule - Carbon

Carbon				
Activity	Frequency	Responsibility	Human Resources	Financial Resources
Eligible Forest Area	6-monthly inspection 3-yearly aerial imagery	Landowner (rangers); Project Coordinator	Rangers employed by the project from the landowner community; Project Coordinator staff	PES unit price accounts for employment of rangers and Project Coordinator staff*
Eligible Forest Boundary	6-monthly inspection 3-yearly aerial imagery	Landowner (rangers); Project Coordinator	Rangers employed by the project from the landowner community; Project Coordinator staff	PES unit price accounts for employment of rangers and Project Coordinator staff
De minimis timber harvesting inspections	6-monthly inspection 3-yearly aerial imagery	Landowner (rangers); Project Coordinator	Rangers employed by the project from the landowner community; Project Coordinator staff	PES unit price accounts for employment of rangers and Project Coordinator staff
Activity	Annual	Project	Rangers employed by the	PES unit price accounts for

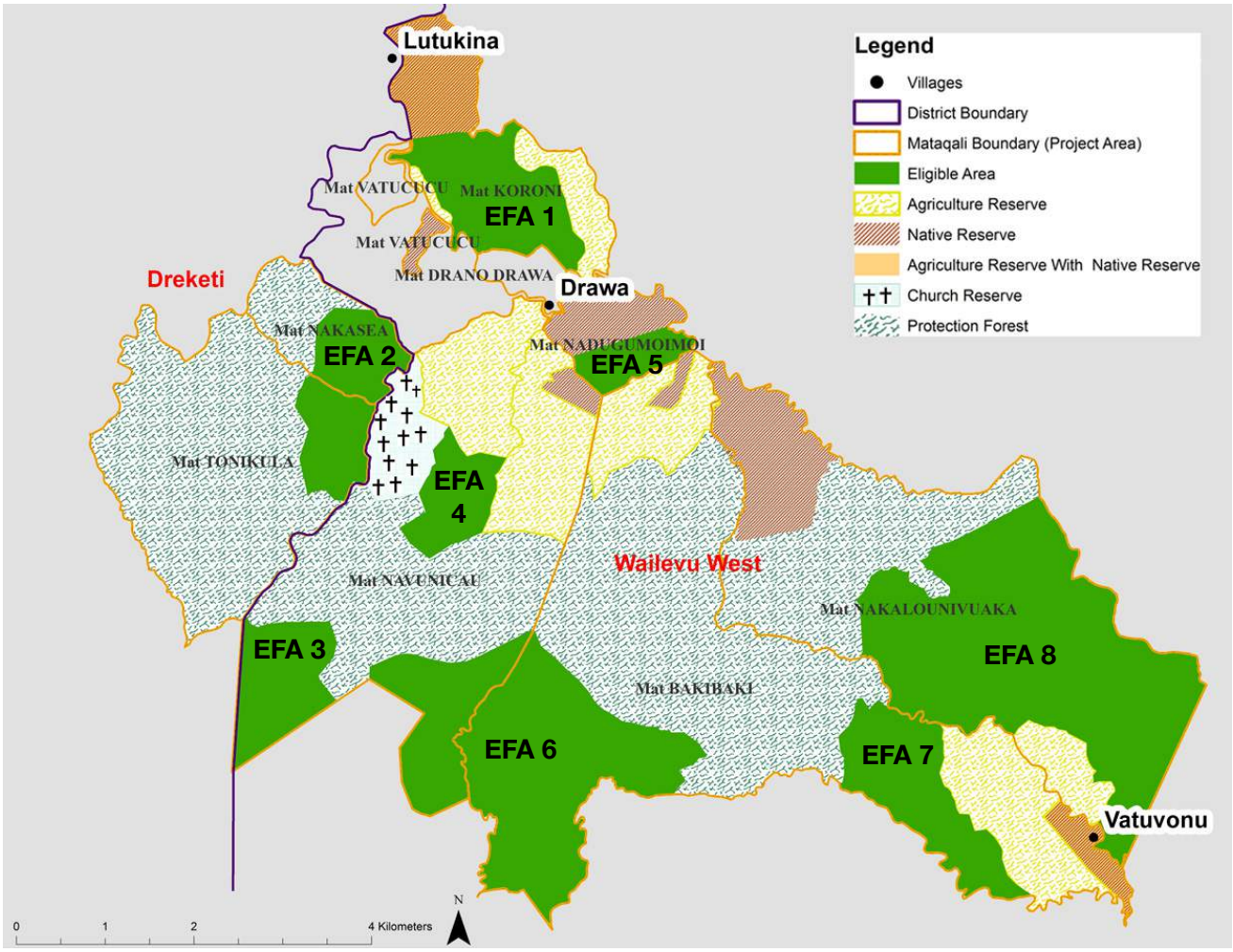
Shifting Leakage	inspection 3-yearly calculation	Coordinator and Landowner	project from the landowner community; Project Coordinator staff	employment of rangers and Project Coordinator staff

* Evidence to support the assertion of the unit price accounting for monitoring costs can be found in Appendix 1 (Sheets 'Drawa Pricing' and 'Drawa Budget').

3.1.6.1 Forest Management Areas

The Eligible Forest Management Areas for the Drawa Rainforest Conservation Project are presented in Figure 3.1.6.1 (in solid green shading).

Figure 3.1.6.1 Drawa Rainforest Conservation Project management zones



The Eligible Forest Area management zones are depicted in Figure 3.1.6.1 above.

3.1.6.2 Eligible Forest Boundary Inspections

Description: The Eligible Forest Area boundary is inspected annually to record the status of this boundary.

Purpose: Monitor and manage any reversals occurring at the boundary.

Method:

Make observations of the Eligible Forest Area boundary during the course of the 6-monthly Eligible Forest Area Inspections. This is conducted during the walking of line transects from one side of an Eligible Forest Area boundary to another, and by viewing the Eligible Forest Area boundary in both directions along the boundary from the point on each transect line as it meets the Eligible Forest Area boundary. If reversals at the Eligible Forest Area boundary are observed at points along the boundary that do not coincide with the line transect then the reversal is recorded using the Eligible Forest Boundary Inspection Template (Appendix 6 of Drawa PD Part B D3.2b v1.0 20151009).

Recurrence: 6-monthly inspections.

Responsibility: Project Owner with supervision support from the Project Coordinator until such time as Project Coordinator supervision support not required (as determined by Project Owner and Project Coordinator by mutual agreement). Project Coordinator to supervise Eligible Forest Boundary Inspection at leas once during each 3-yearly monitoring period.

3.1.6.3 Eligible Forest Area Inspections

Description: Descriptive survey of forest condition within Eligible Forest Area boundary.

Purpose: Monitor any reversals occurring within Eligible Forest Area, and ensure that any timber harvesting lies within the *de minimis* limit imposed by the Technical Specifications Module applied.

Method:

Large Area Transect Method: For each Forest Management Area, permanently mark a Transect Base Point with a boundary peg (this can be a boundary peg used for forest inventory and/or permanent sample plots). Define a Transect Datum Line using a compass bearing and orient the transect datum line along the long axis of the Forest Management Area (see Figure 8.1.6.3). Use the last two digits from random numbers and convert to meters, to select a transect starting point along the Transect Datum Line. Use a compass bearing to mark out parallel transect lines through the Forest Management Area, with transects located between 100m and 500m intervals and orientated perpendicular to the Transect Datum Line.

Medium Area Transect Method: For forest management areas that are too small to undertake two or more transects using the Large Area Transect Method, use the same method as the Large Area Transect Method but select the last single digit from the random numbers to locate the first transect line, and locate the transects between 20m and 100m intervals along the transect datum line.

Small Area Transect Method: For forest management areas less than 100m long, start with the Transect Base Point, then locate a single transect running through the longest axis of the

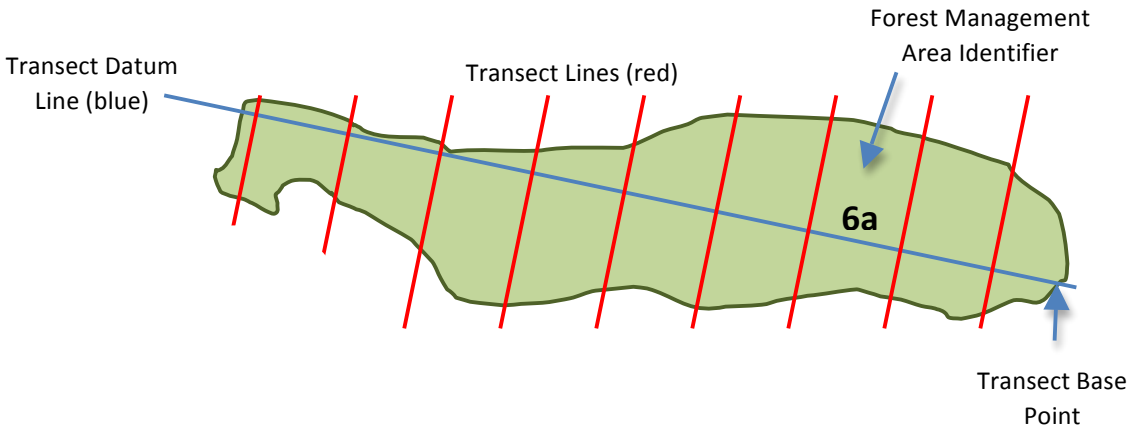
forest patch (and curving the transect where necessary in order to keep the transect within the forest boundary).

Transect Survey Procedure: Walk the full length of each transect line and on the Project Area Inspection Template (Appendix 7, Drawa PD Part B D3.2b v1.0 20151009) record the following Reversal Events:

a. Evidence of timber harvesting
b. Evidence of fire
c. Evidence of detrimental changes in forest health (e.g. browsing, pest infestation, disease, snow-break, dieback)

For each Reversal Event record the location with a GPS unit and describe the event using the Eligible Forest Area Inspection Checklist. For each timber harvesting Reversal Event record the stump diameter, the species of harvested tree where possible, any evidence of on-site timber processing, log hauling, and collateral damage.

Figure 3.1.6.3 Eligible Forest Area Inspection Transect Location



Recurrence: 6-monthly inspections.

Responsibility: Project Owner with supervision support from the Project Coordinator until such time as Project Coordinator supervision support not required (as determined by Project Owner and Project Coordinator by mutual agreement). Project Coordinator to supervise Eligible Forest Boundary Inspection at leas once during each 3-yearly monitoring period.

Note: Use a different random number to generate the transect starting point along the transect datum line for each subsequent annual monitoring cycle.

3.1.6.4 *De Minimis* Timber Harvest Inspection

De minimis timber harvesting inspections will be undertaken 6-monthly in conjunction with the 6-monthly Eligible Forest Area Inspections described in Section 3.1.6.3.

The *de minimis* timber harvesting volume for the Drawa Rainforest Conservation Project is 407m^3 per year. This amounts to <5% of the total allowable annual commercial timber harvest in the Baseline Scenario in the Eligible Forest Area as provided for in the Technical Specifications Module applied.

There has been no *de minimis* timber harvesting in this monitoring period.

3.1.6.5 Activity Shifting Leakage Inspection

Activity Shifting Leakage Inspections will be undertaken annually following first verification. These inspections will be undertaken in conjunction with the 6-monthly Eligible Forest Area Inspections described in Section 3.1.6.3.

The project will record Activity Shifting Leakage events using the template supplied in Appendix 9 Drawa PD Part B D3.2b v1.0 20151009.

3.1.7 Monitoring Resources and Capacity - Carbon

According to Section 5 of the Plan Vivo Standard (2013, p17):

5.9. A monitoring plan must be developed for each project intervention which specifies:

5.9.6. Resources and capacity required

According to the Technical Specifications Module (C) 2.1 (AD-DtPF): D2.2.1 v1.0, 20150815:

The Project Monitoring Plan must identify (and provide evidence for) the resources available to undertake monitoring, including:

- *Financial resources and the source of such finance (e.g. unit pricing, grants, fees)*
- *Human resources and capability required.*

The financial and human resources allocated to project monitoring are presented in Table 3.1.6 above.

3.1.8 Community Monitoring - Carbon

According to Section 5 of the Plan Vivo Standard (2013, p17):

5.9. A monitoring plan must be developed for each project intervention which specifies:

5.9.7. How communities will participate in monitoring, e.g. by training community members and gradually delegating monitoring activities over the duration of the project

5.9.8. How results of monitoring will be shared and discussed with participants

5.10. Where participants are involved in monitoring, a system for checking the robustness of monitoring results must be in place, e.g. checking a random sample of monitoring results by the project coordinator.

According to the Technical Specifications Module (C) 2.1 (AD-DtPF): D2.2.1 v1.0, 20150815:

The Project Monitoring Plan must include:

- *A description of how the Project Owner and/or other local people will participate in monitoring in compliance with the Project Participation Protocol specified in Section 3.1 of the PD (applying Section 3.1 of the Nakau Methodology Framework).*
- *A description of how the results of monitoring will be shared and discussed with participants with reference to the Project Monitoring Workshops specified in Section 3.1.7 of the PD (applying Section 3.1.7 of the Nakau Methodology Framework).*
- *A description of the quality controls used to safeguard the integrity and accuracy of data gathered from monitoring activities involving Project Owners and/or other local people.*

Community involvement in monitoring is set out in Table 3.1.6 above.

3.1.8.1 Community Participation In Monitoring

The Project Owner will recruit rangers with responsibilities to undertake project monitoring tasks described in Table 3.1.6. The Project Owner will be responsible for recruitment and management of rangers for this project. The Project Coordinator will provide supervision and support for ranger activities with this role scaling downwards through time at a rate determined by mutual agreement between the Project Coordinator and the Project Owner.

3.1.8.2 Sharing Results of Community Monitoring

Community monitoring outputs are recorded in annual Project Management Reports prepared and approved by the Project Owner with the assistance of the Project Coordinator. Project Management Reports are submitted for approval to the Project Coordinator and the Programme Operator on an annual basis. The Project Coordinator collates the content of annual Project Management Reports into three-yearly Project Monitoring Reports. The Project Owner and the Project Coordinator approves each Project Monitoring Report before being submitted to the Programme Operator for approval. Once approved by the Programme Operator the Project Monitoring Report is submitted for a verification audit.

3.1.8.3 Quality Controls for Community Monitoring

Quality controls for community monitoring are described in Section 3.1.8.2.

3.2 COMMUNITY IMPACT MONITORING

Carbon offsets are issued to this project as a result of 3rd party verification of each Project Monitoring Report, which contains data sufficient to provide evidence to support a community impact assertion for the Project Monitoring Period in question. This is a requirement for the carbon offsets to be issued as Plan Vivo Certificates under the Plan Vivo Standard.

3.2.1 Monitored And Non-Monitored Parameters – Community

Monitored and non-monitored community impact data are listed in Table 3.2.1 below.

Table 3.2.1 Monitored and Non-Monitored Parameters – Community Impacts				
Notation	Parameter	Unit	Origin	Monitored
FA	Food & Agriculture	Various	Community Impact Survey	Monitored
W	Water accessibility	%	Community Impact Survey	Monitored
H	Household Income	Vatu	Community Impact Survey	Monitored
P	Participation	Number & %	Community Impact Survey	Monitored

3.2.2 Monitored Parameters – Community

Monitored data and parameters are summarized in the tables below.

Data Unit / Parameter:	**Food & Agriculture**
Data unit:	Various
Description:	We want to know: • If the forest products continue to be used indicating the continuation of traditional practices • If access to land for gardens diminishes to a point that it affects access to food • If project owners begin to purchase food more often indicating increased income but also creating possible negative unintended impacts (i.e. health) • If income is still sought through the sale of food and how this income changes over time.
Source of data:	Community Impact Survey
Description of measurement methods and procedures to be applied:	Structured interviews pursuing the following questions: 1.1 How often do you buy food? 1.2 How big is your family garden? 1.3 How often do you eat free food from your garden? 1.4 How often do you run out of food? 1.5 How often do you eat food from the forest? 1.6 How much do you make selling food?
Frequency of monitoring/recording:	3-yearly
Value monitored:	Various
Monitoring equipment:	Social survey equipment
QA/QC procedures to be applied:	3-yearly 3rd party verification of Project Monitoring Reports.
Calculation method:	Compare responses with previous survey

Data Unit / Parameter:	**Water Accessibility**
Data unit:	Various
Description:	Access to water has been a key issue for project owners in Drawa. We want

	to know if improved access to water results from the project. Further, access to water being such a basic need, is another indicator of overall wellbeing. The impact of this on women deserves special attention by interviewers.
Source of data:	Community Impact Survey
Description of measurement methods and procedures to be applied:	Structured interviews pursuing the following questions: 1.1 Do you run out of water? 1.2 Are there days when you can use as much as you like?
Frequency of monitoring/recording:	3-yearly
Value monitored:	Various
Monitoring equipment:	Social survey equipment
QA/QC procedures to be applied:	3-yearly 3rd party verification of Project Monitoring Reports.
Calculation method:	Compare responses with previous survey

Data Unit / Parameter:	**Household Income**
Data unit:	Various
Description:	Increased income can demonstrate increased wellbeing although it can also be damaging. While we measure income over time, we also measure changes in livelihoods or time spent on activities every day such as housework, gardening etc. This will help us to see if project owners have more time to give to non-core activities and therefore, perhaps their lives are made easier by the project. We will also monitor if the money is causing social decay via its use for negative pursuits (i.e. alcohol). Education is also used to determine whether increased income is creating greater wellbeing.
Source of data:	Community Impact Survey
Description of measurement methods and procedures to be applied:	Structured interviews pursuing the following questions: 1.1 Access to Education 1.2 Personal Monthly Income (VUV) 1.3 Travel to town (times per week) 1.4 Hours spent cooking (per day) 1.5 Hours spent Gardening (Per day) 1.6 Hours spent resting
Frequency of monitoring/recording:	3-yearly
Value monitored:	Various
Monitoring equipment:	Social survey equipment
QA/QC procedures to be applied:	3-yearly 3rd party verification of Project Monitoring Reports.
Calculation method:	Compare responses with previous survey

Data Unit / Parameter:	**Project Participation**
Data unit:	Various
Description:	We want to use this monitoring as a chance to assess how well the 'REDD+ Enterprise' (i.e. the cooperative or family business) is doing at engaging the project owners and earning local trust. This indicates resilience and overall wellbeing if the faith in this institution is high.

Source of data:	Community Impact Survey
Description of measurement methods and procedures to be applied:	Structured interviews pursuing the following questions: 4.1 How many youth do you know that are engaged with the REDD+ Enterprise? 4.2 Are you given the opportunity to access information about the REDD+ Enterprise's finances and activities? 4.3 Do you trust the REDD+ Enterprise?
Frequency of monitoring/recording:	3-yearly
Value monitored:	Various
Monitoring equipment:	Social survey equipment
QA/QC procedures to be applied:	3-yearly 3rd party verification of Project Monitoring Reports.
Calculation method:	Compare responses with previous survey

3.2.3 Monitoring Roles And Responsibilities - Community

Specific project monitoring roles for projects applying this Technical Specifications Module are summarised in Table 7.1.3. Project Owners and Project Coordinators are required to assign specific roles to specific stakeholders in the PD, and use this convention in the implementation and monitoring of the Project Activity.

Community Impact Monitoring surveys are the responsibility of the Project Coordinator. Surveys are to be conducted with the consent of the Project Owner.

3.2.4 Information Management Systems - Community

This project uses the information management system described in Section 7.1 of the Nakau Methodology Framework.

3.2.5 Simplified Project Monitoring Report Methodology - Community

This project will submit a simplified Project Monitoring Report for its first verification.

3.2.6 Standard Operating Procedure: Project Monitoring – Community

The Standard Operating Procedure (SOP) for Monitoring Community Impacts is presented below.

Table 3.2.6 Monitoring Schedule – Community Impacts				
Community				
Activity	Frequency	Responsibility	Human Resources	Financial Resources
Food, consumption, agriculture	3-yearly	Project Coordinator	Project Coordinator staff	PES unit price accounts for employment of Project Coordinator staff*

Water accessibility	3-yearly	Project Coordinator	Project Coordinator staff	PES unit price accounts for employment of Project Coordinator staff
Household income	3-yearly	Project Coordinator	Project Coordinator staff	PES unit price accounts for employment of Project Coordinator staff
Participation	3-yearly	Project Coordinator	Project Coordinator staff	PES unit price accounts for employment of Project Coordinator staff

* Evidence to support the assertion of the unit price accounting for monitoring costs can be found in Appendix 1 (Sheets 'Drawa Pricing' and 'Drawa Budget').

3.2.6.1 Baseline Community Impacts

Baseline community impacts were measured during project development and have been measured and presented in Section 5.2.2.2 of the Drawa Rainforest Conservation Project PD Part A D3.2a v1.0 20151009.

3.2.6.2 Project Community Impacts

Project community impacts will be measured by means of a 3-yearly community impact survey to quantify change in the community impact indicators described in Section 3.2.2 above. Project Community impacts will be presented at second verification due to this first Project Monitoring Report applying a simplified Project Monitoring Report as provided for in Section 8.2.5 of the Drawa PD Part B.

3.2.6.3 Net Community Impact Enhancements

Tabulation of baseline and project community impacts, and net community impact enhancements will be presented in summary using the following format.

	Baseline community impacts	Project community impacts	Net community impact enhancements
Impact 1			
Impact 2…			

3.3 BIODIVERSITY MONITORING

Carbon offsets are issued to this project as a result of 3rd party verification of each Project Monitoring Report, which contains data sufficient to provide evidence to support a biodiversity impact assertion for the Project Monitoring Period in question. This is a requirement for the carbon offsets to be issued as Plan Vivo Certificates under the Plan Vivo Standard.

3.3.1 Monitored And Non-Monitored Parameters – Biodiversity

Monitored and non-monitored community impact data are listed in Table 3.2.1 below.

Table 3.3.1 Monitored and Non-Monitored Parameters – Community Impacts				
Notation	Parameter	Unit	Origin	Monitored
SSA	Significant species - Animals	Presence/absence	Biodiversity Survey	Monitored
SSP	Significant species - Plants	Presence/absence	Biodiversity Survey	Monitored

3.3.2 Monitored Parameters – Biodiversity

Monitored data and parameters are summarized in the tables below.

Data Unit / Parameter:	**Significant Species - Animals**
Data unit:	Presence/absence
Description:	
Source of data:	Biodiversity Survey
Description of measurement methods and procedures to be applied:	Record significant species during Eligible Forest Area Inspections.
Frequency of monitoring/recording:	3-yearly
Value monitored:	Presence/absence
Monitoring equipment:	Animal identification table, binoculars, mobile phone, itracker software (or equivalent)
QA/QC procedures to be applied:	3-yearly 3rd party verification of Project Monitoring Reports.
Calculation method:	Compare responses with previous survey

Data Unit / Parameter:	**Significant Species - Plants**
Data unit:	Presence/absence
Description:	
Source of data:	Biodiversity Survey
Description of measurement methods and procedures to be applied:	Record significant species during Eligible Forest Area Inspections.
Frequency of monitoring/recording:	3-yearly
Value monitored:	Presence/absence
Monitoring equipment:	Plant identification table, binoculars, mobile phone, itracker software (or equivalent)
QA/QC procedures to be applied:	3-yearly 3rd party verification of Project Monitoring Reports.
Calculation method:	Compare responses with previous survey

3.3.3 Monitoring Roles And Responsibilities - Biodiversity

Specific project monitoring roles for projects applying this Technical Specifications Module are summarised in Table 7.1.3. Project Owners and Project Coordinators are required to assign specific roles to specific stakeholders in the PD, and use this convention in the implementation and monitoring of the Project Activity.

Biodiversity Monitoring surveys are the responsibility of the Project Owner with support and supervision of the Project Coordinator. Surveys are to be conducted with the consent of the Project Owner.

3.3.4 Information Management Systems - Biodiversity

This project uses the information management system described in Section 7.1 of the Nakau Methodology Framework.

3.3.5 Simplified Project Monitoring Report Methodology - Biodiversity

This project will submit a simplified Project Monitoring Report for its first verification involving presentation of the first project biodiversity survey results.

3.3.6 Standard Operating Procedure: Project Monitoring – Biodiversity

The Standard Operating Procedure (SOP) for Monitoring Biodiversity is presented below.

Table 3.3.6 Monitoring Schedule – Biodiversity				
Community				
Activity	Frequency	Responsibility	Human Resources	Financial Resources
Biodiversity Survey - Animals	3-yearly	Project Owner	Project Rangers	PES unit price accounts for employment of Project Coordinator staff*
Biodiversity Survey - Plants	3-yearly	Project Owner	Project Rangers	PES unit price accounts for employment of Project Coordinator staff

* Evidence to support the assertion of the unit price accounting for monitoring costs can be found in Appendix 1 (Sheets 'Drawa Pricing' and 'Drawa Budget').

3.3.6.1 Baseline Biodiversity Impacts

Baseline biodiversity impacts (i.e. survey of a reference area supporting habitat types in the baseline) have not been measured. A baseline biodiversity survey is optional under the Plan Vivo standard minimum requirements for biodiversity, but it is the aspiration of the Drawa Rainforest Conservation Project to undertake a baseline biodiversity survey to enable

comparison between baseline and project biodiversity indicators and generate a net biodiversity impact assertion.

3.3.6.2 Project Biodiversity Impacts

Project biodiversity impacts will be measured by means of a 3-yearly biodiversity impact survey to quantify change and/or trends in site biodiversity. The first project biodiversity impact survey was undertaken during project development and have been measured and presented in Section 5.3.1 of the Drawa Rainforest Conservation Project PD Part A D3.2a v1.0 20151009.

3.3.6.3 Net Biodiversity Impact Enhancements

Tabulation of baseline and project biodiversity impacts, and net biodiversity impact enhancements will be presented in summary using the following format.

	Baseline community impacts	Project community impacts	Net community impact enhancements
Impact 1			
Impact 2…			

3.4 MONITORING RESOURCES

According to Section 5 of the Plan Vivo Standard (2013, p17):

5.9. A monitoring plan must be developed for each project intervention which specifies:

5.9.6. Resources and capacity required

The Project Monitoring Plan must identify (and provide evidence for) the resources available to undertake monitoring, including:

- *Financial resources and the source of such finance (e.g. unit pricing, grants, fees)*
- *Human resources and capability required.*

A summary of financial resources for project monitoring is presented in Tables 3.1.6, 3.2.6, and 3.3.6 above. Human resource and capability for monitoring is sourced from three key project stakeholder entities:

Project Monitoring Stakeholder	Capability
Project Owner	**Carbon and Biodiversity Monitoring** Project rangers have been trained by the Project Coordinator and the Programme Operator during project development and in particular, during the Project Owner participation in the carbon stock inventory. Rangers have supervision support from the Project Coordinator and the Programme Operator.
Project Coordinator	**Community Impact Monitoring** Community impact monitoring will be undertaken by the Project

	Coordinator. The capability of the Project Coordinator to undertake community impact monitoring has been demonstrated during project development and the completion of the community impact baseline survey with results presented in Section 5.2.2 of the PD Part A. The Project Coordinator has supervision support from the Programme Operator, whose supervision was applied during project development. Training of new Project Coordinator staff will be undertaken by both incumbent Project Coordinator staff and the Programme Operator. The capability of the Project Coordinator is sumarised in Section 2.13.4 of the Drawa PD Part A D3.2a v1.0 20151009.
Programme Operator	The Programme Operator has demonstrated its capability in providing supervision and guidance to Project Coordinators during the course of programme design and project development.

3.5 COMMUNITY MONITORING

According to Section 5 of the Plan Vivo Standard (2013, p17):

5.9. A monitoring plan must be developed for each project intervention which specifies:

5.9.7. How communities will participate in monitoring, e.g. by training community members and gradually delegating monitoring activities over the duration of the project

5.9.8. How results of monitoring will be shared and discussed with participants

5.10. Where participants are involved in monitoring, a system for checking the robustness of monitoring results must be in place, e.g. checking a random sample of monitoring results by the project coordinator.

The Project Monitoring Plan must include:

- *A description of how the Project Owner and/or other local people will participate in monitoring in compliance with the Project Participation Protocol specified in Section 3.1 of the PD (applying Section 3.1 of the Nakau Methodology Framework).*
- *A description of how the results of monitoring will be shared and discussed with participants with reference to the Project Monitoring Workshops specified in Section 3.1.7 of the PD (applying Section 3.1.7 of the Nakau Methodology Framework).*
- *A description of the quality controls used to safeguard the integrity and accuracy of data gathered from monitoring activities involving Project Owners and/or other local people.*

The Drawa Block Forest Community Cooperative (DBFCC) will play a central role in project monitoring, including participating in 6-monthly eligible forest area inspections, continuous biodiversity survey, and annual activity shifting inspections jointly with the Project Coordinator. The DBFCC will be surveyed in 3-yearly community impact surveys.

3.5.1 Community Participation In Monitoring

The Project Owner has recruited rangers with responsibilities to undertake project monitoring tasks described in Table 3.1.6. The DBFCC (the landowner community business entity responsible for this project) is responsible for recruitment and management of rangers for this project. The Project Coordinator ahs provided supervision and support for ranger activities during project development and for this simplified version of the Project Monitoring Report. The Project Coordinator has already started delegating responsibilities to the Project Owner.

3.5.2 Sharing Results of Community Monitoring

Community monitoring outputs have been recorded in the PD and this document prepared and approved by the Project Owner with the assistance of the Project Coordinator. Project Management Reports are submitted for approval to the Project Coordinator and the Programme Operator on an annual basis. The Project Coordinator collates the content of annual Project Management Reports into three-yearly Project Monitoring Reports. The Project Owner and the Project Coordinator approves each Project Monitoring Report before being submitted to the Programme Operator for approval. Once approved by the Programme Operator the Project Monitoring Report is submitted for a verification audit.

3.5.3 Quality Controls for Community Monitoring

Quality controls for community monitoring are described in Section 8.1.8.2 of the Drawa PD Part A D3.2a v1.0 20151009 and have been fulfilled for this Monitoring Report.

4. Quantification of GHG Emission Reductions and Removals

4.1 BASELINE EMISSIONS

Quantify the baseline emissions and/or removals, providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results.

Annual Baseline Emissions for Rotation 1 = 21,187 tCO2e. The first Monitoring Period is 1 January 2012 – 31 December 2014 (i.e. 3 years) (Appendix 1, Sheet 'Drawa Carbon' Cell D10).

Baseline Emissions for the first monitoring period are 63,561 tCO2e (i.e. 21,187 x 3).

Annual Baseline Removals for Rotation 1 are factored into the calculation of Net Baseline Emissions Avoided and are not stated here (see Appendix 1, Sheet 'Drawa Carbon' Cell D11 and underlying calculation).

Annual Net Baseline Emissions for Rotation 1 = 15,891 tCO2e (Appendix 1, Sheet 'Drawa Carbon' Cell D11).

4.2 PROJECT EMISSIONS

Quantify the project emissions and/or removals, providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results.

Annual Net Project Removals for Rotation 1 = 12,564 tCO2e (Appendix 1, Sheet 'Drawa Carbon' Cell D21).

4.3 LEAKAGE

Quantify leakage emissions providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results.

There has been no activity shifting leakage in this monitoring period. There has been no market leakage in this monitoring period.

Leakage for this monitoring period is 0 tCO2e (Appendix 1, Sheet 'Drawa Carbon' Cell D14).

4.4 NET GHG EMISSION REDUCTIONS AND REMOVALS

Quantify the net GHG emission reductions and removals, summarizing the key results using the table below. Specify breakdown of GHG emission reductions and removals by vintages.

For AFOLU projects, include quantification of the net change in carbon stocks. Also, state the non-permanence risk rating (as determined in the AFOLU non-permanence risk report) and calculate the total number of buffer credits that need to be deposited into the AFOLU pooled buffer account. Attach the non-permanence risk report as either an appendix or a separate document.

Net Carbon Credits (NCC) is calculated as follows:

Net Carbon Credits								
Year	Net Baseline Emissions Avoided (NBEA) (tCO_2e)	Buffer NBEA (tCO_2e)	Net Project Removals (NPR) (tCO_2e)	Buffer NPR (tCO_2e)	Gross Carbon Credits (NBEA + NPR) (tCO_2e)	Buffer total (tCO_2e)	Leakage emissions (tCO_2e)	Net Carbon Credits (tCO_2e)
2012	15,891	3,178	12,564	2,513	28,455	5,691	0	22,764
2013	15,891	3,178	12,564	2,513	28,455	5,691	0	22,764
2014	15,891	3,178	12,564	2,513	28,455	5,691	0	22,764
Total	47,673	9,534	37,692	7,539	85,365	17,073	0	68,292

For due diligence on the above calculations see Drawa Carbon Budget & Pricing Spreadsheet (Appendix 1, Sheet 'Drawa Carbon' Cells D4-D35). Note that the annual accounting periods for this Monitoring Report are:

- 1 January 2012-31 December 2012
- 1 January 2013-31 December 2013
- 1 January 2014-31 December 2014

5. Quantification of Habitat Hectare Units

This project markets Habitat Hectare units that are mutually exclusive to carbon offsets. This is for purposes of marketing the 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.

When a buyer purchases a Habitat Hectare unit from this project, the equivalent volume of carbon offsets is retired in the registry. In this manner carbon offsets are used as a registered proxy of Habitat Hectare units.

One Habitat Hectare unit equals one hectare of rainforest protected inside the eligible forest area for one year.

5.1 BASELINE HABITAT HECTARES

Quantify the baseline hectares of protected rainforest. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results.

Baseline hectares of rainforest protected inside the eligible forest area: 0ha (Appendix 1, Sheet 'Drawa HH' Cell E4).

5.2 PROJECT HABITAT HECTARES

Quantify the project hectares of protected rainforest. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results.

The eligible forest area (EFA) is 1,723 ha in size. Project Habitat Hectares of rainforest protected inside the eligible forest area: 1,378 ha yr^{-1}. This amounts to the EFA – 20% (Appendix 1, Sheet 'Drawa HH' Cell E8).

5.3 LEAKAGE

Quantify hectare leakage.

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 ha.

5.4 NET HABITAT HECTARE UNITS

Quantify the net Habitat Hectare units produced by vintages arising from the quantification of the net change in hectares protected. Also, state the non-permanence risk rating (as determined in the AFOLU non-permanence risk report) and calculate the total number of buffer credits that need to be deposited into the AFOLU pooled buffer account. Attach the non-permanence risk report as either an appendix or a separate document.

Net Habitat Hectares (NHH) is calculated as follows:

Net Habitat Hectares						
Year	Gross Habitat Hectares (GHH) (ha)	Buffer (GHH) (ha)	Leakage (ha)	Net Habitat Hectares (NHH) (ha)	Net Carbon Credits equivalent (mutually exclusive to HHs) (tCO_2e)	Net Carbon Credits / Habitat Hectare (tCO_2e)
2012	1,723	345	0	1,378	22,764	16.51
2013	1,723	345	0	1,378	22,764	16.51
2014	1,723	345	0	1,378	22,764	16.51
Total	5,169	1,035	0	4,134	68,292	-

For due diligence on the above calculations see Drawa Carbon Budget & Pricing Spreadsheet (Appendix 1, Sheet 'Drawa HH' Cells E4-10). Note that the annual accounting periods for this Monitoring Report are:

- 1 January 2012-31 December 2012
- 1 January 2013-31 December 2013
- 1 January 2014-31 December 2014

6. Quantification of Community Impacts

6.1 BASELINE COMMUNITY IMPACTS

Quantify the baseline community impacts, providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results. Present community impacts measured and for each quantify the baseline as modeled.

At first verification the Drawa Forest Project has only undertaken baseline community impact monitoring. These results are presented in Section 5.2.2.2 of the Drawa Forest Project – Project Description Part A D3.2a v1.0 20151009.

6.2 PROJECT COMMUNITY IMPACTS

Quantify project community impacts providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results. Present community impacts measured and for each quantify project performance for that impact.

Because the Drawa Forest Project has only completed baseline community impact monitoring at the time of first verification there is no contrasting data to enable project community impacts. The first occasion where project community impacts can be measured and reported for monitoring will be at the second verification event.

6.3 NET COMMUNITY IMPACT ENHANCEMENTS

Quantify the net community impact enhancements summarizing the key results using the table below. Specify breakdown of community impact enhancements.

Net community impact enhancements will become available for the first time at the second verification event. This monitoring report reproduces the community baseline as presented in Section 5.2.2.3 of the Drawa Forest Project PD Part A D3.2a v1.0 20151009.

6.3.1 Community Baseline

The baseline data was collected through formal standardised questionnaires (see ER 5.2.2.2) consisting of both, open-ended as well as close-ended questions. The interviews were conducted at 28 households in 5 villages. The ratio of respondents was as follows:

Interviewees	
Mataqali (clan)	Number interviewed
Vatuvonu	4
Batiri	6
Drawa	7
Lutukina	7
Navaralagi	4
Total	28

Criteria 1: Food security: Quality and quantity of food			
Question	**Measure**	**Average**	**Comments**
1.1. How often do you buy food from the store/market?	Days per month	3.4	Households rather buy in bulk a few days of the month as they mostly rely on the food supply from their own garden or the forest.
1.2. What goods do you purchase at the store/ market?	Type of good	Sugar, salt, flour, rice, noodles, canned tuna, dhal, soap, clothes, fresh produce	Basic supplies such as sugar, salt, flour, rice, noodles, canned tuna, and tea are being bought from local cooperative stores by most households. In addition, fresh produce such as freshwater fish, prawns, mussels or vegetables are also purchased by a large number of households.
1.3. How big is your family (household?) garden?	Hectares	1.3	Garden plot sizes are relatively small but allow food for consumption and sale.
1.4. What types of crops do you grow at your family garden?	Type of crop	Tavioka (Cassava), Yaqona (Kava), Dalo (Taro), Vudi (Plantain), Uvi (Yam), Jaina (Banana), Bele (Kale), Kumala (Potatos)	Most households grow more or less the same kinds of vegetables. Only a few indicated different varieties such as cabbage, egg plant, or watermelon.
1.5. Which of these crops are used for sale?	Type of crop	Yaqona, Dalo, Tavioka	Besides the 3 most common crops, vudi and jaina are also sold by some households. Only 5 out of 28 households don't sell their produce at all.
1.6. How much do you make from the sale (household or individual?)?	FJD per month	311	Only two households earned far more than the average. The majority earns between FJD300-400.

1.7. How often do you eat food from your garden?	Days per week	6.6	Households consume the food they grown at home almost every day of the week.
1.8. Do you ever run out of food?	Percentage 'yes'	7%	Only 2 households indicated that they ran out of food. The majority does not run out of food since they can either gather goods from the forest or buy them at the store.
1.9. How often do you harvest food from the forest?	Days per month	16.5	Large varieties of vegetables are being harvested from the forest, which shows the communities' dependence on the natural resources that surround them.
1.10. What goods do you collect from the forest?	Type of good	Yams, ota, rourou, duna, bele, herbs, wild pig, firewood	Various items are being gathered from the forest by the communities.

Criteria 2: Water security: Access to clean water			
Question	**Measure**	**Average**	**Comments**
2.1. Do you ever run out of clean (tap) water?	Percentage 'yes'	68%	The actual number of households running out of clean water is expected to be much higher. During the first round of interviews the type of water source was not defined so most people indicated that they do not run out of water. During the second round, respondents noted that during the dry season or after heavy rain they regularly run out of clean water. During that time they rely on rain and river water.
2.2. Which water sources does your household use and is it available all year round?	Type of source	Spring, river and rain water	Even though most households are connected to a communal spring through a piped system, some villages still rely on river (individual collection) and/or rain water tank supply as their springs do not carry enough water.
2.3. Do you feel you can use as much tap water as you like? (I.e. through piped system)	Percentage 'yes'	64%	The majority feels they can use as much tap water as they like.

Criteria 3: Financial security: Household income and assets, and livelihood opportunities			
Question	**Measure**	**Average**	**Comments**
3.1. Access to education	Of those surveyed with children of school age, 90% were attending school. 13 children attended secondary schools and only 6 were in tertiary education. Out of all the villages, 57% of men and 43% of women graduated from secondary schools. 18% of men and 14% of women graduated from a tertiary school.		
3.2. What is your household's average monthly income?	FJD per month	$287	Income varies greatly. The majority earns around FJD400 a month. The average household consists of 6.5 members.

3.3. Are you able to save money from your earnings in a typical month?	Percentage 'yes'	57%	
3.4. Which sources of electricity are used in your home?	Type of source	Solar	46% of all household use solar power as their main source of electricity. Generators were used very rarely and not regularly. Only 2 households were connected through power lines and 21% didn't have any access to electricity at all.
3.5. What type of toilet is your household using?	Type of toilet	43% of households reported using a flush toilet. Others have pour-flush toilets (29%) and only 2 households indicated using an open pit toilet. Overall, 39% were using septic tanks.	
3.6. Hours spent for daily activities:	**Female Adults**	**Male Adults**	**Comments**
Cooking	3.5	1.8	Women take care of the family while men usually take care of the farm.
Household chores	2.5	1.2	
Gardening/ farming	1.6	4.6	
Resting	2	1.8	
Leisurely activities	1.6	1.4	
3.7. Substance consumption (days/week)	**Female Adults**	**Male Adults**	**Comments**
Kava	1.4	2.2	Only 9 women indicated that they were drinking kava for mostly 1 day per week.
Alcohol	0	1.5	None of the women reported consuming alcohol.
Cigarettes	2	5.8	Only 2 women indicated they smoked occasionally, compared to 50% of men who usually smoke more regularly. For this study, commercial cigarettes and local tobacco leaves were considered as one.
Marijuana	0	0	No one reported personal use of marijuana.
Others	0	0	n/a
3.8. Are you aware of anyone in the community using marijuana?	Multiple choice	75% of all respondents indicated that they are not aware of anyone in the community consuming marijuana. Surprisingly, 25% said that they are aware of a few people that rarely consume it. This response was not expected as it was assumed that (due to its level of acceptance) marijuana would not be consumed in the communities.	

Criteria 4: Resilience of the PES project			
Question	**Measure**	**Average**	**Comments**
21. Can you access information about the REDD+ Enterprise's finances and activities?	Percentage "yes"	82%	Most people have access. Others usually have not tried to access the information.

22. Do you generally trust the REDD+ Enterprise?	Percentage "yes"	89%	Respondents generally trust the REDD+ Enterprise and appreciate the training and involvement.

Tabulation of baseline and project community impacts, and net community impact enhancements will be presented at the second verification event.

	Baseline community impacts	Project community impacts	Net community impact enhancements
Impact 1			
Impact 2…			

7. Quantification of Biodiversity Impacts

7.1 BASELINE BIODIVERSITY IMPACTS

Quantify the baseline biodiversity impacts, providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results. Present biodiversity impacts measured and for each quantify the baseline as modeled.

At first verification the Drawa Forest Project has only undertaken the first Project Biodiversity Impact Monitoring survey. These results are presented in Section 5.3.1 of the Drawa Rainforest Conservation Project – Project Description Part A and are reproduced below.

At the second verification event, the Drawa Forest Project:

a. Will present results of the second Project Biodiversity Monitoring survey, and
b. Aspires to present the first Baseline Biodiversity Monitoring.

7.2 PROJECT BIODIVERSITY IMPACTS

Quantify project biodiversity impacts providing sufficient information to allow the reader to reproduce the calculation. Attach electronic spreadsheets as an appendix or separate file to facilitate the verification of the results. Present biodiversity impacts measured and for each quantify project performance for that impact.

The Drawa Forest Project has completed the first (project scenario) biodiversity impact monitoring survey recording significant species present inside the project boundary. The biodiversity value of the project has been recorded and is presented in Section 5.3 of the Drawa Forest Project PD Part A D3.2a v1.0 20151009 and reproduced below:

7.2.1 Drawa Forest Project Biodiversity Survey 2015

The following species of animals and plants were identified in within the project boundary during the forest and first (project scenario) biodiversity inventory undertaken in 2015.

IUCN Classification: VU = Vulnerable; EN = Endemic; CR = Critically Endangered (see Explanatory Notes in Appendix 1 of this document). CEPF = Critical Ecosystem Partnership Fund. CEPF Priority sites for investment are listed for the East Melanesian Islands Biodiversity Hotspot can be accessed here: http://www.cepf.net/SiteCollectionDocuments/east_melanesian_islands/EMI_ecosystem_profile.pdf

Endemism = whether endemic to the country (C), or to the island (I) or site (S).

The presence of significant plant species on the site was recorded in a botanical survey of the site undertaken by the South Pacific Regional Herbarium in 1999.

Table 7.2.1 Significant Species

Taxonomic Group: Plants					
Common Name	Taxonomic Name	IUCN Red List	Fiji NBSAP	Endemism	References
Vono	*Alyxia bracteolosa*	-	Data deficient	Indigenous	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
-	*Tectaria menyanthidis*	-	Threatened	Indigenous	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
Makita	*Atuna elliptica*	-	Threatened	Endemic	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
Logologo	*Cycas seemannii*	Vulnerable	Critically threatened	Indigenous	IUCN (2015) GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
Balabala	*Cyathea affinis*	-	Threatened	Indigenous	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
Vaivai ni veikau	*Serianthes melanesica*	-	Data deficient	Endemic	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
-	*Malaxis platychila*	-	Threatened	Endemic	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
Wame	*Freycinetia vitiense*	-	Threatened	Endemic	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
-	*Tmeripteris truncata*	-	Threatened	Indigenous	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)

Ceketuawa	*Squamellaria imberbis*		Endangered	Endemic	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
Niuniu	*Physokentia thurstonii*		Data deficient	Endemic	GIZ, SPC (2003) Eco-Consult Fiji (1998) SPRH (1999)
Taxonomic Group: Animals					
Common Name	Taxonomic Name	IUCN Red List	Fiji NBSAP	Endemism	References
Fiji Ground Frog*	*Platymantis vitiana*	Endangered		Endemic	IUCN (2015) WCS

*The Fiji Ground Frog is highly likely to be on the site, but a fauna survey has never been conducted for the site. The frog is present on a similar site 15 km away.

References:

- SPRH (South Pacific Regional Herbarium) (1999) Floristic Survey of the Native Forest in the Drawa Catchment in Cakaudrove Province, Vanua Levu, Fiji. South Pacific Regional Herbarium, a division of the Institute of Applied Sciences University of the Soutn Pacific.
- Eco-Consult Fiji (1998). Botanical Biodiversity in Fiji. PGRFP Technical Report Bot.01.98
- GIZ, SPC (2003) The Drawa Model Area Forest Management Plan (2003- 2012)
- IUCN RED List accessed online 15Oct15 http://www.iucnredlist.org/search

7.3 NET BIODIVERSITY IMPACT ENHANCEMENTS

Quantify the net biodiversity impact enhancements summarizing the key results using the table below. Specify breakdown of biodiversity impact enhancements.

Tabulation of baseline and project biodiversity impacts, and net biodiversity impact enhancements will be presented at the second verification event.

	Baseline biodiversity impacts	Project biodiversity impacts	Net biodiversity impact enhancements
Impact 1			
Impact 2…			

APPENDICES

APPENDIX 1. DRAWA BUDGET & PRICING SPREADSHEET

Supplied as a separate file.

APPENDIX 2. GEOREFERENCING DATA

Supplied as a separate file.

APPENDIX 3. DIRECTOR'S CERTIFICATE SIMPLIFIED PROJECT MONITORING

Supplied as a separate file.