Mid-Term Progress Reporting

for Country: Fiji

Date of submission: October 20, 2017

Forest Carbon Partnership Facility (FCPF)

Readiness Fund

Note: FMT Note 2012-7 rev lays out the process for REDD Country Participants to submit, and the Participants Committee (PC) to review, mid-term progress reports and requests for additional funding of up to US$5 million.

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Acronyms and Abbreviation

AFOLU	The Agriculture, Forestry and Other Land Use
BSM	Benefits Sharing Mechanism
CAWG	Communication and awareness working group
CBD	Convention on Biological Diversity
CSO	Civil Society Organisation
C&P	Consultation and Participation
CI	Conservation International
CO_2	Carbon dioxide
COP	Conference of Parties
DoD & FD	Drivers of deforestation and forest degradation
DOE	Department of Environment
ERPIN	Emission Reduction Programme Idea Note
ESMF	Environmental and Social Management Framework
FAO	Food and Agriculture Organization of the United Nations
FBO	Faith based organization
FCPF	Forest Carbon Partner Facility
FD	Forestry Department
FNU	Fiji National University
FPIC	Free, Prior and Informed Consent
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German International Development Agency)
IPCC	Intergovernmental Panel on Climate Change
LULUCF	Land Use, Land-Use Change and Forestry
MOF	Ministry of Forests
MRV	Measuring, Reporting and Verification
NBSAP	National Biodiversity Strategy and Action Plan
NDMS	National Database Management System

NGO	Non-Governmental Organization
PSP	Permanent Sample Plot
REDD+	Reducing emissions from deforestation and forest degradation plus forest conservation, sustainable management of forests, carbon stock enhancement
RL/REL	Reference Level/ Reference Emission Level
SC	Fiji REDD+ National Steering Committee
SESA	Strategic Environmental and Social Assessment
SFM	Sustainable Forest Management
SOPAC	Applied Geoscience and Technology Division (of SPC)
SPC	Secretariat of the Pacific Community
TLFC	iTaukei Lands and Fisheries Commission
TLTB	iTaukei Lands Trust Board
TNC	The Nature Conservancy
ToR	Terms of Reference
UNCCD	United Nations Conventions to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
USP	The University of the South Pacific

1. Introduction

1.1 Background

Fiji has been actively engaged in the UNFCCC REDD+ process and advancing in its national REDD+ readiness process since 2009. In December 2013, Fiji became a recipient of the World Bank's Forest Carbon Partnership Facility (FCPF). The country is receiving a grant of USD 3.8 million to support the implementation of activities outlined in the country's Readiness Preparation Proposal (R-PP). The FCPF Readiness Fund supports the following components: 1) Institutional strengthening for REDD+ (including the establishment and operationalization of the National REDD+ Unit), 2) Developing a National REDD+ Strategy or Action Plan (includes analytical studies), 3) Designing and developing a Forest Reference Emission Level, and 4) Establishing a Measurement, Reporting and Verification (MRV) system, and a Safeguard Information System (SIS). Other than the FCPF, GIZ is also supporting Fiji's REDD+ readiness activities.

The Grant Agreement between the World Bank and the Republic of Fiji Government commits to preparing a progress report halfway through the term of the FCPF grant or when approximately half of the grant resources are committed.

The objective of the Mid-Term Progress Report is to report on the progress made in activities funded by the FCPF readiness preparation grant and to provide an overview of the overall progress in the implementation of the R-PP. The assessment approach includes: taking stock of progress made, identifying needs and possibilities for changes in implementation, and making recommendations. The report mainly answers the question: "What has been the progress made with REDD+ readiness in Fiji?". Preparation of the MTR includes an inventory of REDD activities in Fiji, review of REDD-related documents, a collection of stakeholder opinions, and senior management and policymaker review. A traffic light system is used to categorize the level of progress made under each component and sub-component. Four levels of achievement are used: significant progress (green), progressing well, but further development required (yellow), further development required (orange), and not yet demonstrating progress (red).

1.2 Rationale for request for additional funding

In October 2015, Fiji successfully applied to enter the Carbon Fund pipeline of the FCPF. A letter of Intent was signed between the World Bank and the Government of Fiji on December 21, 2016. Fiji is now progressing to develop the Emission Reduction Program Document (ER-PD) for the proposed ER Program area, which is expected to be completed in August 2018 for submission to the FCPF's Technical Advisory Panel and Carbon Fund Participants for review.

Fiji is progressing well for completing most of the readiness activities by December 30, 2018. The overall committed amount has advanced significantly, and it stands at USD 2.437 million which corresponds to

approximately 64 % of the grant amount. Of this, a total of USD 0.744 million which corresponds to 20 % of the grant amount has been disbursed.

While significant REDD+ readiness progress has been made overall, most readiness components still need implementation of additional activities to further advance REDD+ readiness, scale up FREL and MRV components to national level, and complete activities critical to future carbon transactions. Consequently, a request for additional funding is included in this report. The additional activities proposed include refinement of the Forest Reference Level incorporating more carbon pools, improving forest assessment methods and data, upscaling of the MRV system and National Forest Information system (NFIS), establishment of the Safeguard Information System, and preparing a foundation for the sustainable management of forests owned by *mataqali*. The activities are especially targeted on the proposed ER-Program area. Similarly, while capacity building for all stakeholders is on-going, it needs additional time and funding to reach the community level.

The REDD+ Unit within the Forestry Department has therefore prepared this Mid Term Progress Report (on the implementation of the R-PP) and identified activities that need to be implemented to advance Fiji to be fully ready for implementation of REDD+. The Forestry Department, therefore, on behalf of the Government of Fiji requests FCPF Participant Committee members to consider approval of additional readiness funds of US$ 2 million to implement additional readiness activities proposed in this Report.

This MTR and request for additional funding was prepared in consultation with multiple stakeholders and government officials. The activities include in this report were identified after consultation with donor partners, and government officials in the Ministry of Forests. The REDD Steering Committee – the institutional body established for REDD + in Fiji endorsed and the Ministry of Forests approved the report. Finally, the Ministry of Finance also endorsed the proposal and formally submitted to the World Bank.

1.3 Overview of the progress made in the implementation of the R-PP

Table 1 shows the progress made under different components and sub-components of REDD readiness. Traffic light system is used to show the progress.

Table 1. Overview of the progress

Components	Criteria of assessment	Progress
1. Organization and consultations		
1a. National REDD+ management arrangement	1) Accountability and transparency	
	2) Operational mandate and budget	
	3) Mechanisms for multi-sector coordination and cross-sector collaboration	

	4) Technical supervision capacity	
	5) Fund management capacity	
	6) Mechanism for feedback and appeals	
1b. Consultation, participation, and awareness	7) Participation and commitment of major stakeholders	
	8) Consultation process	
	9) Information distribution and access to information	
	10) Use and disclosure of the results of consultations	
2. Preparation of the REDD+ strategy		
2a. Assessment of land use, changes in the allocation of land, forest laws, Policies, and governance	11) Assessment and analysis	
	12) Ranking of direct and indirect factors in/obstacles to forest development	
	13) Linking these favorable/unfavorable elements and the activities of REDD+	
	14) Action plans to take into account the right to natural resources, land tenure, and governance	
	15) Impact on forest laws and policies	
2b. Strategic REDD+ options	16) Selection and prioritization of strategic options for REDD+	
	17) Feasibility assessment	
	18) Impact of strategic options on sectoral policies in force	
2c. Implementation framework	19) Adoption and application of laws and regulations	
	20) Implementation guidelines	
	21) Benefit-sharing arrangement	
	22) National REDD+ registry and REDD+ activity monitoring	
2d. Social and environmental impacts	23) Analysis of issues relating to social and environmental safeguards	
	24) The design of the REDD+ strategy based on impact	
	25) Environmental and Social Management Framework	
3. Reference emission level/reference level		
	26) Demonstration of the method	
	27) Use of historical data and adaptation to the national context	
	28) Technical feasibility of the methodological approach and compliance with UNFCCC/IPCC recommendations and guidelines	

4. Forest monitoring systems and safeguard measures		
4a. National forest monitoring system	29) Explanation of the monitoring method	
	30) Demonstration of the first phases of application	
	31) Institutional arrangements and capacity	
4b. System of information on the multiple advantages, governance and safeguards	32) Identification of aspects not connected with carbon and relevant social and environmental issues	
	33) Monitoring, reporting, and exchange of information	
	34) Institutional arrangements and capacity	

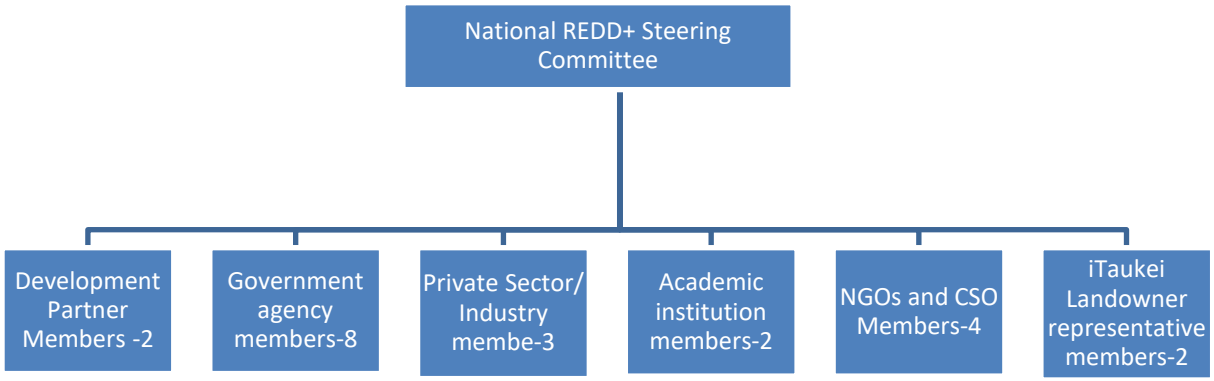
Green	'Significant progress.'
Yellow	'Progressing well, further, development required.'
Orange	'Further development required.'
Red	'not yet demonstrating progress.'

2. Readiness Organization and Consultation

2.1 National REDD Management Arrangements

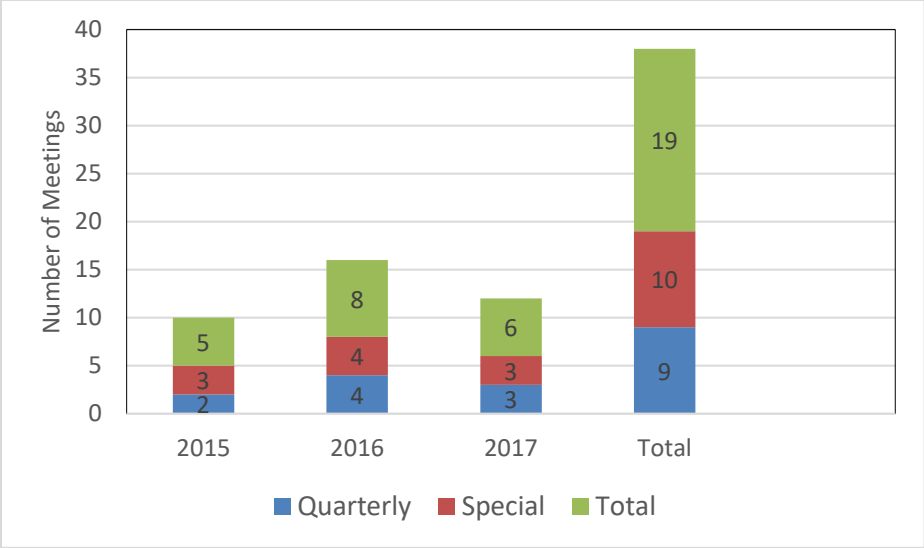
For the proper implementation of REDD+ readiness activities apart from the already established permanent institutions, the Fiji government has established various institutional mechanism consisting of a REDD+ Steering Committee, Technical Working Groups, and working groups at the divisional level. They are fully in place and functioning well. The REDD+ Steering Committee is an inclusive, multi-stakeholders body consisting of representatives from the key stakeholder groups identified as being relevant for REDD+. The committee consists of governmental and non-governmental participants, the private sector, civil society, academic, and regional intergovernmental organizations. The Steering Committee performs various activities and the major responsibilities include: monitoring and evaluation of REDD+ strategy and associated action plans, facilitating inter-sectoral and inter-agency coordination, and serving as an advisory technical body. Figure 1 depicts the institutional arrangement for REDD readiness.

Figure 1. Organizational Structure of the REDD+ Steering Committee



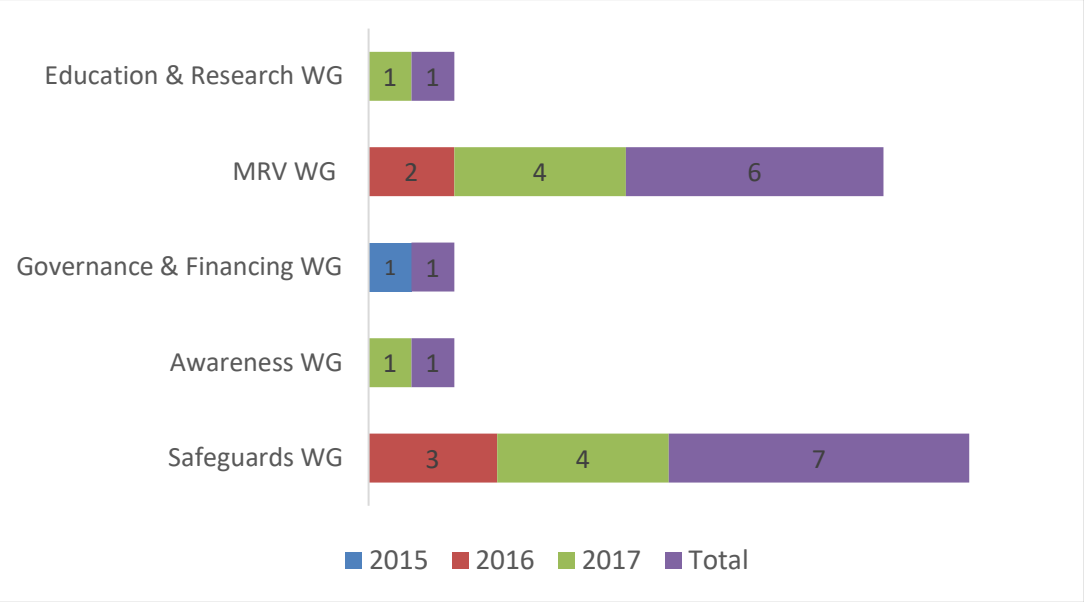
The National Steering Committee and the Technical Committee are functioning well. The SC meetings are held at regular intervals (every quarter), and also on an ad-hoc basis if the situation demands. The decisions made by the SC are widely circulated among the relevant stakeholders. The SC also reports its outputs or decisions to the Forestry Board, the National Environmental Council, and the National Climate Change Coordinating Committee. The SC further submits an annual progress report to the various key stakeholders and other interested stakeholders, which includes the UNFCCC focal point, CBD, and the UNCCD, permanent secretaries of various ministry, and the NGO representative network. The decision-making process is very democratic as at least 75% of the SC members must be present to proceed with the meetings. To make sure that all members of the committee are informed about the decision, the meeting minutes are circulated to the members irrespective of whether the member attended the meeting or not. Figure 2 shows the number of SC meeting held in a different year.

Figure 2. Number of Steering Committee meetings held (2015-2017)



The SC establishes Technical Committees named the technical working group as required to provide technical advice for specific tasks. Currently, five technical groups exist on: safeguards, awareness, governance and financing, MRV, and education and research. The technical working groups consist of members of the SC and/or officers nominated by SC members to contribute on behalf of their agencies. Of these technical working groups, the ones on safeguard and MRV are actively contributing to developing SESA & ESMF and MRV, respectively. Figure 3 depicts the number of technical working group meeting held over last three years.

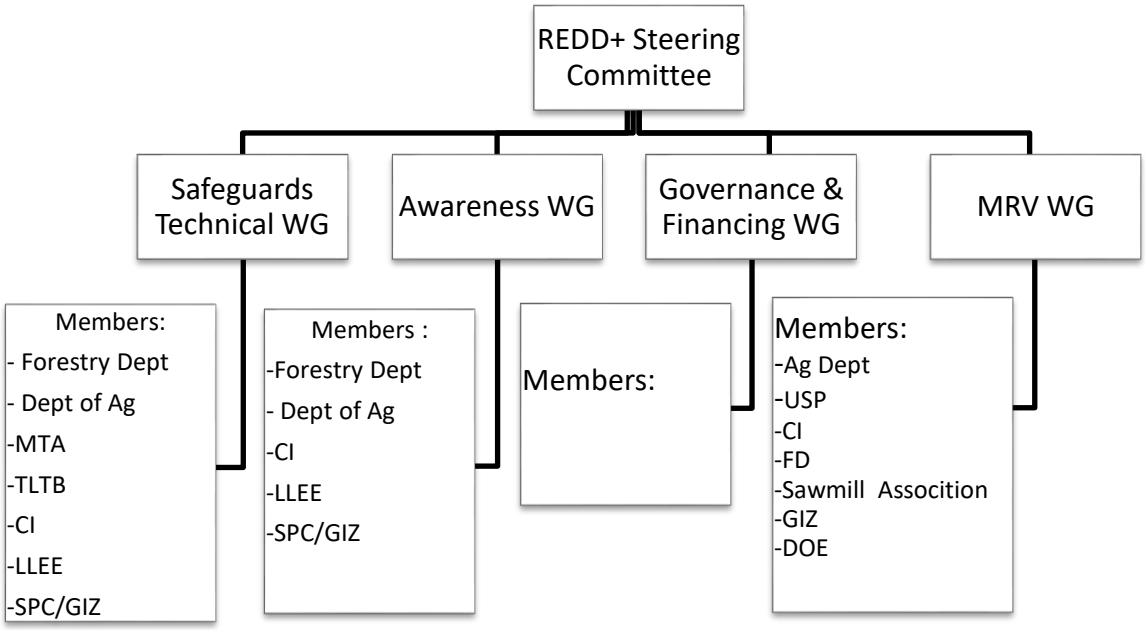
Figure 3. Number of Technical Working Group Meeting in 2015-2017



Although various working group members are experts in their respective field, there is a need for capacity building of the members specifically on REDD+ related programs. As the REDD+ in Fiji advances, the existing technical capacity may not be sufficient to implement REDD+ effectively. Therefore, the technical capacity not only of members of the technical working groups, but also of the members of the other departments is essential.

Figure 4 shows the structure of the different technical working groups.

Figure 4. A structure of REDD+ Working Groups



The REDD+ unit has been established as a part of institutional strengthening efforts with regards to coordination and implementation of the REDD+. The Unit has a REDD+ technical advisor and two technical experts, one communication officer and an administrative assistant to support day to day REDD+ readiness activities. The technical advisor and the experts are continuously adding value not only to REDD+ at the national level but also providing technical support to ongoing and upcoming REDD+ projects at local level. This support is instrumental for the smooth implementation of REDD+ activities and a continuation of their positions until ERPA signature are suggested for additional funding support.

During last few years, Fiji has carried out various systematic capacity building activities for both personnel and institutions for the successful implementation of REDD+. Likewise, the country has strengthened coordination structures to ensure a holistic and cost-efficient approach. This included for example: Quarterly REDD+ SC meetings and seminars, participation in international climate change meeting relevant for REDD+, visit of selected SC members to other REDD+ countries, integration of REDD+ activities in the plans and communication procedures in SC members' agencies activities.

To uphold the enthusiasm and to enhance the capacity of the SC members to the level required for the implementation of a large-scale program and carbon transaction additional capacity will be essential. ***Therefore, Fiji requests the FCPF for additional funding to carry out capacity building activities of stakeholders.*** Table 9 depicts the proposed activities and the fund required.

At the sub-national level, REDD+ Divisional Working Groups have been established in the Northern and Western Division of Fiji to guide REDD+ implementation at the divisional level. These working groups are supporting REDD+ implementation in the division. The Divisional Working Groups are structures through which the views of a broader set of stakeholders at operational level feed into the activities and decisions at the national level and can be instrumental during consultation. The DWGs are not fully capacitated to support REDD+ activities in the division and would benefit from further capacity building. Table 2 shows the number of Technical Working Group Meeting held at divisions. A REDD+ District level working group may be essential in the future if REDD+ activities are expanded to the district level.

Table 2. Number of Technical Working Group Meetings held at Divisional Level

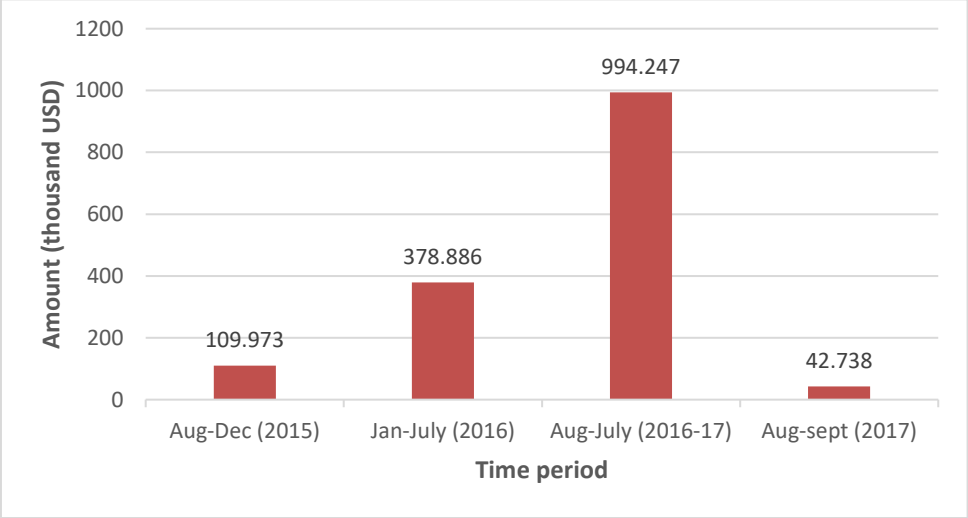
Year	North DWG	West DWG	Total
2016	1	1	2
2017	1	1	2
Total	2	2	4

Fund management capacity

The FCPF grant is being implemented in accordance with guidance from the World Bank and with national procedure for the management of public finances. The World Bank is providing disbursement training for relevant REDD+ unit staff to increase fiduciary capacity. ***To make the fund management more effective and efficient, capacity building of REDD+ unit staff is essential therefore proposed under additional funding.***

Figure 5 illustrates the committed grant resources over time. Apart from the last six months, there has been a gradual improvement in the procurement of consultancies for REDD+ readiness activities. The retirement of the National Coordinator and the departure of Technical Advisor attributed to a dip in performance over the last six months. With a new REDD+ Coordinator and a new Technical Advisor now on board, a big effort is being made to expedite the implementation of remaining critical activities.

Figure 5. Trend in committed amount for each six-month period



2.2 Consultation, Participation, and Outreach

The major objective of this sub-component of REDD+ readiness is to inform the REDD relevant stakeholders of the REDD+ process and motivate the stakeholders to actively participate in the REDD+ process. The intention is also that REDD+ stakeholders are effectively involved in the development, approval, and implementation of the REDD+ process, particularly in the studies, mechanism, and development of the national REDD+ strategy.

Participation and engagement of key stakeholders

Various kinds of institutional mechanism have been established to ensure the participation of key stakeholders in the REDD+ readiness process. Fiji's first meeting on REDD+ in 2009 decided to form a national multi-stakeholder governance structure leading to the formation of a REDD+ Steering Committee (SC). The Committee consists of members from different organizations (explained in section 2.1). Technical Working Groups formed at national level also ensures the representation of people who are directly affected by the REDD+ implementation. Most of the organizations who participate in the SC are also involved in the Technical Working Groups. The divisional level Working Groups also confirms the engagement of various stakeholders in the REDD+ readiness. The National iTaukei Resource Owner's

Committee established in 2014 under the Ministry of iTaukei Affairs provides a very important platform to engage resource owner's representative in the REDD+ process. Their role in the monitoring of REDD+ readiness activities is identified as the most important.

New forms of participation are essential to ensure that people fully control a decision which affect them. REDD+ readiness process in Fiji using various kinds of participatory mechanisms to ensure the REDD+ relevant stakeholders have the capacity to effectively participate in REDD+ readiness and implementation. A Communication Officer is in place to coordinate the extensive consultations required for REDD+ readiness. The major participatory mechanism the country is using are workshops, meetings, written comments, informal get-together, focus group discussion, website, Facebook and Twitter. Through the workshops and meeting landowners and forest dependent communities express their concern and take part in decision making process. Often It takes time to receive the concern of landowners therefore traditional ways of informal get-together process is also commonly used. Facebook and Twitter are also used where Internet access is available.

The Civil Society Organisation (CSO) Platform consisting of NGOs, iTaukei Resource Owner, and Faith Based Organisations (FBOs) have also been the basis for ensuring the effective participation of the indigenous or iTaukei and forest-dependent communities of Fiji.

Consultation process

A Consultation and Participation Plan is now in place to ensure clear, inclusive, and transparent consultation process in the country. The goal of the C & P Plan is to integrate REDD+ consultation and participation objectives into existing outreach structures, systems and norms as opposed to launching a separate REDD+ consultation campaign. The plan serves to guide the various levels of stakeholder engagement. Adhering the C & P various technics such as workshops, focus group discussions, meeting with village heads, school visits and participatory rural appraisal are used for consultation.

The country follows self-selection process to identify right holders and stakeholders. A stakeholder analysis was carried out early on the REDD+ process, during which diverse groups of stakeholders were identified who affected by REDD+ implementation and can contribute. The self- selection of stakeholders has repeatedly been followed, one example is a reformulation of the SC. Only 16 stakeholders were identified during the R-PP design phase, after self -selection process, the SC is now comprised of 18 members. Divisional Forest Offices also follow the same process to identify stakeholders and their roles.

About 90% of the land of Fiji is under customary practices, hence various kinds of institutions exist in the country to manage these lands. Consultation and participation processes fully utilizes these institutions. The Ministry of iTaukei Affairs, National iTaukei Resource Owner's Committee, and iTaukei Affairs Board established at the national level are involved in the management of the customary lands. Members from

these institutions participate in the SC committee, the Technical Working Groups and the Working Groups at divisional level as a member.

Fiji has 14 iTaukei provinces (Yasana) and Rotuma. Each of the 14 provinces are governed by a Provincial Council headed by a Roko Tui. A province is made up of a group of sub-units called Tikina (akin to district level). The Tikina comprises of several villages. Provincial Council meetings are held twice a year. There are also District (Tikina) meetings held within the year. REDD+ consultation and awareness has been a part of the agenda for these meetings ever since the Programme began in 2009.

The establishment of a CSO Platform for the Fiji National REDD+ Programme is essential to improving outreach and transparency. The Platform ensures a successful implementation of REDD+ activities through awareness, in partnership with all stakeholders, to create a healthy forest ecosystem for all Fijians. The CSO Platform has been formed ensure the free and unbiased awareness and participation of communities in national REDD+ activities. The Platform will promote REDD+ policies and strategies through advocacy, awareness raising, stakeholder engagement, capacity building and empowerment and impact assessment.

The CSO Platform is chaired by the women's group, the *Soqosoqo Vakamarama* iTaukei or Indigenous Women's Society of Fiji is a National Non-Government entity operating in all the 14 Provinces in Fiji. It is representative of all the indigenous (iTaukei) women of Fiji.

The *Soqosoqo Vakamarama* have been utilized to ensure the participation of women in the consultation process. Also, the CSO Platform also consists of women's groups like the Catholic Women's League, Femlink Pacific, etc. who have been effectively engaged to ensure the participation of women in the REDD+ readiness process. The CSO Platform is part of the Communications and Awareness Working Group and will be working with the REDD+ Communications Officer on producing awareness materials that are relevant to its members based on the country so that it is more understood by the communities especially the women.

Information sharing and accessibility of information

To ensure an effective information sharing and access to information for the various stakeholders, the REDD+ Unit after thorough consultations with relevant stakeholders developed a Communication Strategy1. The strategy was developed and approved by REDD+ SC in May 2016. The goal of the Strategy is to" keep all Fijians informed, encourage participation in the Fiji National REDD+ Programme and ensure that relevant information is shared at regional and international level". To meet the goals of the Strategy, it is prudent that quality and consistent awareness and publication materials are produced.

[1] The Communication Strategy is available at: https://www.forestcarbonpartnership.org/fiji

The Consultation and Participation Plan[2] (C & P) is also in place and guides the sharing and disclosure of processes for the analytical studies that the Fiji National REDD+ Programme is undertaking. Adhering to the C & P Plan, the current studies undertaken through the SESA, Drivers and the MRV and FRL development have conducted consultations and shared the information at various levels. The government ministries and departments, private forest entrepreneurs, NGOs, INGOs, and communities participated in the consultation.

To improve outreach and awareness for Fiji's readiness phase at international, regional, national and community levels, a Communication and Awareness Working Group (CAWG) has been formed. The objectives of the CAWG are to providing strategic guidance for the preparation of communication material, selection of channels for communication and delivery of REDD+ key messages to targeted stakeholders; reaching key stakeholders in order to create ownership of REDD+ and integrating feedback into Fiji's National REDD+ Strategy; provide guidance on social media and mainline media campaigns and engage with the CSO Platform and Private Sector for mobilization of resources on REDD+ awareness. The Group strives to make the outreach activities more transparent, comprehensive, consistent and timely. The agenda is shared before the REDD+ SC meeting, this step allows the members of SC to discuss the agenda within their organization and come up with clear idea during the SC meeting. The decisions made during the SC meeting are widely shared among the members their respective organization.

A Central Database is under construction, which will ensure the proper documentation of the outcomes of all consultation along with biophysical information on carbon emission reduction and safeguard. A communication officer is in place to ensure the documentation of all information. A Standard Operating Procedure or a manual will be designed to maintain the consistency of documentation and sharing of information.

The training and awareness materials have been developed in both English and iTaukei languages to reach various kinds of stakeholders. Several communication products such as a REDD+ newsletter[3], information briefs[4], posters[5], video documentary, radio interviews, and newspaper articles has been published. Also, trainings for media persons were held, and awareness raising, and capacity building was provided to the council of churches at national and sub-national levels.

Many big documents will be produced under the analytical studies and finding policy relevant information from the document is often difficult. ***A summary of relevant information is essential to feed into REDD+ policy design process. Policy briefs of the analytical studies is essential and hence proposed***

[2] The Consultation and Participation Plan is available at: https://www.forestcarbonpartnership.org/fiji

[3]The newsletters are available at: http://fiji-reddplus.org/document-type-redd/newsletters

[4] Information briefs are available at: http://fiji-reddplus.org/content/info-brief-fiji-national-redd-programme

[5] The posters are available at: http://fiji-reddplus.org/content/fiji-redd-achievements

under additional funding. A policy brief presents a concise summary of information that can help policy makers understand, and likely make decisions about, government policies. Policy briefs may give objective summaries of the study, suggest possible policy options, or go even further and argue for courses of actions.

Currently, there are several awareness programs conducted mostly in cities and targeted groups. Only, the government extension work is not sufficient to reach the larger audience and to the communities residing in remote areas where they do not have access to mass media. ***Raising the awareness among the university students about environment, international forest policy and mechanism in the country is essential for sustainable knowledge transfer. Therefore, a course on international forest policy is proposed for the Fiji's universities under additional funding.***

Implementation and public disclosure of consultation outcomes

REDD+ consultations and awareness carried out with land-holding units (*Mataqali*), iTaukei communities and other relevant stakeholders are reported to the National REDD+ Steering Committee for their information and necessary feedback. Issues raised at the Consultation level if need are answered by the Steering Committee. This is where it is prudent that discussions at this level are then taken to the relevant communities and stakeholders and so issues are clarified, and misconceptions cleared. After consultations, follow up meetings are held to which the stakeholders are informed of the progress undertaken by Fiji REDD+ since the last consultation.

At the national level, too, policy briefs were prepared to inform Cabinet of updates related to the Fiji National REDD+ Programme. In addition, presentations were made to the Permanent Secretaries to inform them on the outcome of REDD+ consultations. In particular, the Permanent Secretary for Rural & Maritime, Agriculture, iTaukei Affairs and Foreign Affairs were informed.

Relevant REDD+ information on consultation outcomes are also fed into the Fiji REDD+ website (http://fiji-reddplus.org). Relevant information is also shared to the media through press releases or organizing of interviews or answering questions sent by email as well as through the REDD+ Unit's quarterly newsletter as well as the Facebook and Twitter social pages, radio and television interviews and radio talkback shows. The Department of Information also supports the dissemination of the work of Fiji REDD+ by writing stories for the Government newspaper Fiji Focus, producing documentaries for Nation's Business aired on Fiji TV One and airing REDD+ interviews on the iTaukei and Hindi Radio programmes aired on Fiji Broadcasting.

Consultation outcomes undertaken from the analytical studies currently carried out on SESA, the MRV and RFL, Drivers Study and the Feedback and Grievance Redress Mechanism will also be published as national reports and be circulated to relevant stakeholders as well as uploaded on the Fiji REDD+ website.

3. REDD+ Strategy Preparation

A REDD+ Strategy is the major step towards REDD+ readiness and ultimately to REDD+ implementation. An assessment of the current situation in the country is the initial step for the preparation of a REDD+ Strategy. To assess the current situation, a number of analytical studies were proposed in the R-PP. The main studies include the SESA, Drivers of Deforestation and Forest Degradation, Carbon Right and Benefit Sharing Mechanism, Development of Feedback and Grievances Redress Mechanism. The following sections explain the progress made on each individual analytical study.

3.1 Assessment of Land Use, Land-Use Change Drivers, Forest Law, Policy and Governance

The purpose of the assessment of the land use, forest policy and governance of forestry sector is to identify key drivers of deforestation (DD) and forest degradation (FD). Also, the assessment identifies the activities which contribute to the conservation, sustainable management of forest and enhancement of carbon stocks. Fiji has done an in-depth analysis of historical land use change trends including traditional land use. Apart from the land use change trend analysis, the R-PP explains existing land ownership arrangement, and forest ownership arrangement. The R-PP also analyses existing policies and legislation in the country relevant to REDD+. The analysis has assessed the provisions under different policies and legislation which positively contribute to REDD+ and pitfalls.

Further to the analysis summarized in the R-PP, the government proposed various analytical studies to assess land use, drivers of change in the allocation of land, forest laws, policies, and governance to identify the main drivers of deforestation and forest degradation and barriers to enhance forest carbon stocks. Table 3 presents the current status and expected completion date for each of the analytical studies. Of these five studies, four are currently in progress and expected to be completed very soon (within six months). The title of the studies may seem short, but each individual study covers a wide range of related issues relevant for identifying drivers of land use changes. The comprehensive approach to the assessments helps accurately identifying the drivers of land use change and underlying causes thereof, which in turn improves the design of appropriate and timely interventions for reversing forest loss and enhancing carbon stocks. The list of the studies is as follows.

- Drivers of deforestation/ forest degradation, REDD+ strategy options
- Carbon rights assessment, benefit sharing mechanism
- Feedback & grievances redress mechanism
- Strategic Environmental and Social Assessment, Environmental and Social Monitoring Framework, safeguard information system
- Establishment of a Reference Level (FRL) for forest land and development of a system for Monitoring, Reporting and Verifying (MRV) carbon emission reductions from forests

Fiji has categorized the drivers of change that most effect forest and forestry into “direct drivers” (where the effects are direct) and “indirect drivers” (which impact forests by catalyzing a chain of events) during

Fiji's R-PP preparation. A series of REDD+ Steering Committee meetings and stakeholder workshops, national expert consultation during R-PP preparation identified a broad list of drivers of deforestation and forest degradation without their prioritization. The R-PP specifies agriculture (subsistence & commercial), forest conversion for pasture lands and grazing, mining, tourism, and energy production (especially hydropower production) as direct drivers of deforestation. Likewise, commercial/conventional logging, firewood collection, invasive species (weeds, pests & disease), a succession of invasive species (African Tulip), and fire are identified as causes of forest degradation. The R-PP has also attempted to identify certain intervention to address drivers of deforestation and forest degradation. The main interventions include implementation of the Forest Harvesting Code of Practice[6] (2013), formulation Land Use Policy and Plan introduction of improved agriculture practice (intensive cropping), and formulation of fire management strategy.

[6] The Harvesting Code is available at: http://fiji-reddplus.org/sites/default/files/FFHCOP.pdf

Table 3. Status of Analytical Studies

SN	Title of the study	Sub-activity	References and date of signing the contract	Contractor and the contract amount	Schedule for contract performance	Status
1	Drivers of deforestation/ forest degradation, REDD+ strategy options	Legal analysis, policy and strategy analysis, report on challenges and obstacles for addressing deforestation and forest degradation	C.03/May 5, 2017	Conservation International, Fiji JV, Winrock International, Indufor US $303, 882	Duration of work: 17 weeks Expected completion date: Jan, 2018	The assignment is underway
2	Carbon rights assessment, benefit sharing mechanism	Carbon rights assessment, benefit sharing mechanism	C.04/ October 30, 2017	Procurement has not started yet US$ 130, 000	Duration; 16 weeks Expected completion date: Feb 28, 2018	ToR development is underway
3	Feedback & grievances redress mechanism	Feedback & grievances redress mechanism	C.05/Sept 5, 2017	Integra Government International Services International	Duration: 16 weeks Expected completion date: Jan, 2018	The assignment is underway
4	Strategic Environmental and Social Assessment, Environmental and Social Monitoring Framework,	Carry out SESA process and development and dissemination of SESA report, Formulation of ESMF, piloting of ESMF in three provinces	C.07/ 5 September 2016	The University of the South Pacific – Institute for Applied Sciences US$ 379, 130	Duration: 1 year Expected completion date: Nov, 2017	The assignment is underway, and a draft SESA report has been received

	safeguard information system					
5	Establishment of a Reference Level (FRL) for forest land and development of a system for Monitoring, Reporting and Verifying (MRV) carbon emission reductions from forests	Establishment of FRL, Development National Forest Monitoring System, Establish a National Database System	C.07/April 13, 2017	The university of Hamburg, Germany JV University of Southern Queensland, Fiji National University, Fiji	Duration: 1 year Expected completion date: March 13, 2018	The assignment is underway

Further to the analysis of drivers of deforestation and forest degradation during the R-PP stage, an in-depth study on drivers of deforestation and forest degradation and strategic options is currently underway. This study identifies drivers of deforestation and forest degradation as well as barriers to and the agents for forest conservation, sustainable management of forest and carbon stock enhancement. The study further analyzes the opportunity cost of different strategy options. As such, this analysis allows the identification of appropriate options which are beneficial, feasible and cost-effective among various alternatives. Likewise, the study will suggest key policy and governance gaps in the context of REDD+. It is also expected that the study will describe a clear link between key drivers of DD and FD, and/or barriers to carbon stock enhancement and proposed activities for implementation of REDD+ strategy options.

Conservation International, Fiji joint venture with Winrock International and Indufor, New Zealand are undertaking this study. The REDD+ unit has received an inception report and the study is expected to be completed by January, 2018.

The driver study mainly aims to identify the drivers of land use change and respective strategic options. The study may not come up with short, medium and long-term action plan addressing relevant land use, land tenure and titling, natural resource rights, livelihoods, and governance issues for the specific area under priority. ***Therefore, development of an action plan containing short, medium and long-term actions for strategy options as identified by the driver study is essential under additional funding.***

3.2 REDD+ Strategy Options

The REDD strategy forms a basis for developing policy and program interventions that help to reduce carbon emission from the drivers of deforestation and forest degradation and enhance carbon stock through other REDD activities. The strategy not only guides to address DD and FD related to forestry sector but also to address the drivers associated with other sectors competing for the same land resources. Strategic options will guide the development of a National REDD strategy.

According to the R-PP, the country will prepare a detailed REDD Strategy. To this end, Fiji REDD+ Unit has commissioned a consulting firm to identify DD and FD, feasibility assessment of the strategic options, identification of inconsistency between REDD policies and other sector policies and integration of REDD policies with other strategy and policies. Since Cabinet endorsement of the REDD+ Policy[7] in 2010, Fiji has made substantial progress towards the development of its REDD+ Strategy. Several rounds of stakeholder consultations on the development of a National REDD+ Strategy have already taken place. Annex A illustrates the potential strategic options that address the drivers identified during the R-PP stage. The list is broad, and without any prioritization, hence reassessment of the strategy options and their prioritization and stratification is essential. Many of the strategic options are interrelated,

[7] The document is available at: http://fiji-reddplus.org/sites/default/files/FJ_2011_REDD%2BPolicy_0.pdf

overlapping, and often reinforcing and will need to be well coordinated and sequenced. The expected emissions reduction potential of the interventions has not yet been assessed, but an estimation of emission reduction potential of the intervention is paramount for designing a viable REDD+ Program. The ongoing driver study will also provide a list of strategy options corresponding to drivers of land use change. The R-PP contains a potential list of strategic options including a preliminary risk assessment. As such, an assessment on the social, environmental and political feasibility was carried out at the R-PP stage. It is expected that the SESA will assess the impacts of the different strategy options based on the above-mentioned criteria in more depth and identify the different safeguards applicable for REDD+ in Fiji.

Further to the above, an in-depth reassessment of strategic options and their prioritization using multiple criteria will be important for Fiji. The prioritization provides clear sets of strategic options which are important from multiple aspects. Also, the prioritization allows the detail discussion among various stakeholders about what should take place to better preserve and manage Fiji's forests. The possible criteria could include: 7 Cancun safeguards, emission reduction potential and political criteria. The Cancun safeguards provide a strong framework for developing prioritization criteria because the safeguards aim to minimize the effect of REDD+ on public, social and environmental goods. The prioritization assignment is proposed for additional financial funding.

Six preliminary strategic areas for the implementation of REDD+ were identified when the R-PP was developed in 2014. The main strategic areas include a focus on sustainable agriculture, land use planning at the local level, mining regulation, infrastructure development, management of forest fires, and sustainable timber harvesting. These six strategic areas stipulated in the R-PP remain valid and forms the basis for national REDD+ Strategy development. Examining both strategy options suggested by driver study and strategy options illustrated in the R-PP, a National REDD+ Strategy will be prepared. The National Strategy will suggest strategic options based on their feasibility, usefulness, and cost-effectiveness.

Stringent implementation of the Code of Harvesting Practices was already identified as a crucial intervention under the emerging ER program. While implementation of the code is ongoing, enforcement has been challenging, including to due lack of awareness about the code and its stipulations. With many forestry harvesting practitioners not fully aware of the harvesting code, ***awareness and training for forestry officers, landowners, private sectors, and NGOs will be important and is included in the proposal for additional funding.***

Fiji's forest industries are evolving, and large-scale harvesting in forest concessions and long-term licensed forests is practiced in Fiji. Harvested wood goes through various processing such as sawmilling. However, the sawmills are not adequately efficient in producing timber. As a result, a significant part of the wood is lost as a waste. Even selective harvesting from the forest is not sufficiently efficient, with

remnants of the tree remaining in the forest. Hence, new harvesting techniques and tools that allow for less wastage and that provide alternative use of such waste are imperative. To this end, the forestry department, academia, and private sectors are working together to identify potential solutions. ***Research including a best practice review is suggested to explores how wastage from harvesting and processing can be minimized and the production of desired products improved. The study would also identify the ways how waste can be further used for bioenergy from logging waste, sawing waste, and wood chips. There are many tree species in Fiji that have not appeared to have any commercial value but that could offer potential commercial value, such as coconut timber, and veneer, or wood and chips from the African Tulip (see ANNEX A).*** African Tulip is an invasive species in Fiji and it is widely distributed in natural forests and private gardens, and it would be desirable to identify alternative use options.

Implication of strategy options for existing sectoral policies

A preliminary assessment of inconsistencies between early REDD+ Strategy options and policies or programs of other sectors related to the forest sector has been carried out at the R-PP stage. It is expected that the driver study will identify drivers of deforestation, forest degradation or /and barriers to enhance the carbon stock and corresponding strategic options. Further, the driver study aims to assess inconsistencies between the identified strategic options and policies and program of other relevant sectors. ***In the ToR for the ongoing driver study, there is no provision for developing a timeline and process to resolve identified inconsistencies or to integrate strategic options into other relevant development processes. Hence developing an action plan and concrete timeline to address inconsistencies at policy and regulatory level is proposed for additional funding.***

3.3 Implementation Framework

The implementation framework describes the institutional, economic, and legal arrangement required to implement REDD+ strategy options. An effective implementation framework during the readiness phase is indicative of the country's capacity to implement the demonstration activities in the future.

Adoption and implementation of legislation/regulations

Fiji has developed policies and regulations related to REDD+ activities. One of them is the National Forest Policy, which was developed in 2007 and aims to contribute to "sustainable management of Fiji's forests to maintain their natural potential and to achieve greater social, economic and environmental benefits for current and future generations". Another policy that is a breakthrough for Fiji REDD+ is the National REDD+ Policy (2010). The National REDD+ Policy aims to contribute to the development of a national carbon trading policy and to strengthen the capacities to facilitate access to international financing mechanism. Fiji's Forest Harvesting Code of Practice (FFHCOP), which is already in operation, provides guidance for the implementation of reduced impact logging. It provides practical guidance to forestry officers, landowners, contractors and the forest industry on how forest harvesting should be conducted to achieve best practice and minimize any adverse impacts. It is a guideline, and there is no legislative

backing to ensure its implementation. Studies such as drivers of deforestation and degradation, SESA & ESMF, Carbon rights and benefit sharing mechanism, and Feedback and Grievances Redress Mechanism are underway and provide a basis for developing National REDD+ Strategy.

Guidelines for implementation

REDD+ implementation can take place on different land tenure systems such as government-owned land, freehold land, and customary land. Clear delineation of land tenure, carbon tenure arrangement and effective, equitable and transparent benefit sharing system will determine the performance-based payment system. Clearly defined ownership over land and carbon is essential for the implementation of REDD+. Therefore, a study to assess the land and forest ownership system and to suggest a necessary arrangement required in policy and other legal instruments in relation to REDD+ was planned as per the R-PP. Likewise, it was planned to assess the existing benefit sharing system and to a develop benefit sharing mechanism in the context of REDD+. Procurement of a study on carbon rights and benefit sharing is currently underway with the announcement for this consultancy to take place very shortly.

As per the RPP, a study on Feedback and Grievances Redress Mechanism was planned. The aim of the study is to Identify potential grievances and conflicts that may arise as a result of REDD+ and analyze existing processes and mechanisms that could be utilized to address these grievances. The study assesses the existing mechanism and recommends appropriate changes to handle feedback or complaints that stakeholders may have related to REDD+ readiness and its implementation. The study is in progress and Integra, USA, in joint venture the University of the South-Pacific, Fiji, is undertaking the study. The result of the study will be available by January 2018.

The REDD+ Policy of Fiji (2010) stipulates that the country will adopt a hybrid approach to enabling both national and sub-national scale activities for REDD+ implementation. Therefore, national and sub-national level engagement with REDD+ financing is desirable. Likewise, the REDD+ Policy allows accepting both market and fund based sources for carbon financing. However, there is no clear framework on how the finance received from various sources will flow. Hence, a study was proposed in the R-PP to develop financing flow mechanism. However, no such progress has been made in procuring the consultancy service.

Benefit sharing mechanism

Benefit sharing mechanism should be in place to ensure that the REDD Stakeholders involved in REDD+ receive appropriate and fair benefits. Even though Fiji currently does not have legislation specifically on benefit-sharing for REDD+ activities, there is experiences and existing structure that it could be used to derive the mechanism. The iTaukei Land Trust Board system for distributing benefits to landowners for leasing iTaukei land and through the payment of timber royalties can be referred to. The country has also established three pilot sites with the goal of demonstrating how REDD+ can be scaled up to the

national level. It is expected that lesson learned from these pilot sites will inform the development of a benefit sharing system at the national level. To support the design of a benefit-sharing mechanism for Fiji a consultancy is currently at procurement stage.

National REDD+ registry and system monitoring REDD+ activities

As per the Emission Reduction Project Idea Note, Fiji was aiming to develop a national REDD+ registry by 2017. All projects in Fiji will have to be registered there, transparently displaying the reference levels, emission reductions (planned / achieved), carbon owners / lease registration, the source of finance, carbon credit buyer, etc. All REDD+ projects, including the ER program will run under the carbon registry, and reports and background data will be made available through it. The registry will be linked to the international REDD+ Web Platform, but detailed modalities will have to be defined in the development process.

A national database management system has already been established at the Management Service Division with the provision of geo-referenced REDD+ information relating to reference level, carbon accounting activity data, emission factors for different land use change, forest sample plot information, and national forest inventory data. However, the database does not have provision for entering financial flow information. Moreover, the database is established at the national level, but according to the ER-PIN[8] (Chapter 7.4, p. 40), the national database management system (DBMS) should have the provisions/facility to accommodate the data from the divisional level. Scaling up the existing national database system and integration of divisional level database into DBMS is essential. For running the database system requires the capacity of the human resources both at national and divisional levels. ***Therefore, additional funding is requested for capacity building of human resources.***

3.4 Social and Environmental Impacts

In order to integrate social and environmental concerns into REDD+ strategy development, a Strategic Environmental and Social Assessment (SESA) is being carried out for the country. The aim of SESA is to assess the possible negative and positive impacts of REDD+ strategic options. Any negative impacts that can't be avoided, would then be mitigated through the application of an Environmental and Social Management Framework. The identified negative impacts and corresponding mitigation measures will be integrated into other components of the R-PP such as in developing Feedback and Grievances Redress Mechanism, Benefit Sharing Mechanism and Implementation Framework. The integration will ensure that the WB Safeguards are incorporated from the initial stage to avoid, limit harm to the people and environment and strive to achieve benefits instead.

[8] The ER-PIN is available at: http://fiji-reddplus.org/content/emission-reduction-program-idea-note-er-pin-fiji

Analysis of social and environmental safeguard issues

As proposed in the R-PP, Fiji commissioned SESA & ESMF study in September 2016, with an expected duration of one year. The University of the South Pacific is carrying out this study, but overall implementation of the study is delayed by three months with a new completion date in November 2017. To date, the consultancy team has submitted five deliverables. The fifth deliverable which is the SESA report does not meet the requirement of the ToR. Hence the consultancy team has been asked to resubmit the SESA report addressing the comments provided by REDD+ stakeholders. A list of deliverables and their brief description is explained in Table 4.

Table 4. Deliverables and their brief description related to SESA & ESMF study

Deliverable	Description	Status
D1- The Work Plan	The report presents the detail of the activities, location and time	Submitted and approved
D2- The Inception Report	The inception report explains the background information related to REDD+ in Fiji and help to better formulate our early activities. Also, the report presents a final work programme and methodology to undertake the assignment.	Submitted and approved
D3-Situation Analysis	The report is developed from extensive stakeholder consultations, four field-based case studies, assimilation of extensive technical reports and studies, an understanding of the Fijian regulatory and policy framework associated with REDD+.	Submitted and approved
D4- Fiji REDD+ Priority Strategic Options and Environmental and Social Issues	The report presents the drivers of deforestation and forest degradation and corresponding strategic options to address the drivers. To prepare this report, the information were collected from the comprehensive literature review, and a systematic process of stakeholder consultations was conducted. Interviews were conducted with key personnel from almost 40 different organizations across the public and private sectors, academia and civil society. At each of the four case study sites, community consultations were carried out, using participatory methods and focus group discussions. Key informant interviews were also held at the case study sites.	Submitted and approved
D5- Strategic Environmental and Social Assessment Report	The report identifies and explains the potential environmental and social impact corresponding to proposed strategic options.	Submitted but comments have been provided

		for its improvement
D6- Environmental and Social Monitoring Framework	The report ways to minimise and mitigate potential negative safeguard risks and impacts of REDD+ activities as well as ensure its social and environmental integrity. The ESMF proposes the processes, procedures, and/or requirements that future activities and projects under the REDD+ program will undergo to ensure a complaince to the safeguard.	Not submitted yet

REDD+ strategy design with respect to impacts

The SESA report has identified social and environmental impacts based on proposed REDD+ activities. The study has prioritized strategic options considering their ease of implementation, carbon benefits, co-benefits, degree of social and environmental impact, and cost of implementation. In parallel, a study on drivers of deforestation and forest degradation is underway and the study will identify in a more systematic manner the strategic options and prioritize them based on opportunity cost and other factors. It is expected that outcome of these study will be used as the basis to develop Fiji's National REDD+ Strategy.

Environmental and Social Management Framework

The development of Environmental and Social Framework is also under progress. The same team of University of South Pacific working on the SESA is assigned to prepare an ESMF report based on SESA findings. New submission date is November 2017 after a three month no cost extension.

4. Reference Emissions Level/Reference Level

Performance of REDD+ policy is measured in terms of amount of changes in forest area and carbon content over time and corresponding carbon emissions and removals from the atmosphere relative to a forest reference emission level or reference level. The UNFCCC has requested the participating countries to develop FRL/FREL at the national level, with sub national approaches as an interim arrangement. To this end, Fiji has commissioned the assignment of developing a Reference Emission Level to Hamburg University, Germany, and the activities for developing a FRL is in progress. The study was assigned in April 2016 and its deadline for completion is March 2018. Table 5 summaries the progress made under the establishment of an FRL and development of an NFMS.

Table 5. Summary of progress made under establishment of an FRL

Task	Deliverable	Schedule	Progress
1. Situational analysis, data revision and final work plan development	Situational analysis report (incl. FRL and NFMS chapters), final consultancy work plan	Within 3 weeks from contract signing	Report submitted and comments so far given incorporated
FRL			
2. Methodology Development for FRL	Methodology, validated by RSC and FCPF	Within 12 weeks from contract signing	Report submitted and review is underway
3. FRL construction	FRL for the different REDD+ activities, with sub-national relevance	Within 8 months from contract signing	Under progress
National Forest Inventory Field Test			
4. Collection of emission factor / field data to test all practical elements of the system.	Report on preparation, implementation and analysis of the forest inventory, incl. recommendations for revision of methodology, database, and capacity development plan.	6 weeks within the time window between methodology draft and finalization	
Database development			
5. Identification of database specifications and location	Draft design for database based on stakeholder consultations	Within 3 weeks from contract signing	Completed
6. Database development and establishment	Database functional and in use, in compliance with national and international requirements	Within 6 months from contract signing	Completed
Quality assessment / quality control			
7. Documentation of all work steps, decision-making, implementation, and analysis	Set of SOPs that cover all work aspects of the consultancy and include the QA / QC measures Validated and disclosed	Completed within 11 months after contract signing	Not completed yet
Capacity Development			
8. Capacity assessment for relevant stakeholders involved in each task, capacity building plan, and conduction of trainings	Capacity development strategy for MRV, including immediate trainings done in the consultancy implementation, as well as a future development plan	First draft within 5 months of contract signing, final version 12 months after contract signing	Not yet and it is under progress

The following paragraphs explains the progress and methods used to develop the FRL.

Demonstration of Methodology

The consultancy team recently submitted a Methodology for Developing the FRL. Fiji's FRL construction will consider the following approaches.

- REDD+ activities – Fiji is constructing an FRL (and not an FREL), because activities that reduce emissions and increase removals are included. Fiji decided to include all five REDD+ activities: (i) reducing emissions from deforestation, (ii) reducing emissions from forest degradation, (iii) conservation of forest carbon stocks, (iv) sustainable management of forests, and (v) enhancement of forest carbon stocks. However, activities (i), (ii) and (v) are the most significant.

- Carbon Pools- Of the five forest carbon pools identified by IPCC only above-ground biomass (AGB) and below-ground biomass (BGB) will be included in Fiji's FRL construction. Litter, deadwood and soil organic carbon will not be considered, because of the data unavailability. As of today, the contribution of the different carbon pools to total forest-related emissions is unknown in Fiji hence no informed statement about their significance can be made.

- Only CO_2 will be considered during FRL construction. This is because information pertaining to methane (CH_4) and nitrous oxide (N_2O) is not readily available. The Agriculture, Forestry and Other Land Use (AFOLU) sector cover mainly three types of greenhouse gases, namely carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O).

- The FRL accounting area (i.e., the area for which the FRL is established) is subnational which includes Fiji's three largest islands: Viti Levu, Vanua Levu and Taveuni. The accounting area covers 90 % of the total land mass and 94 % of the forest cover in Fiji.

- Activity data used for FRL construction will be taken from a land cover change assessment conducted between the years 2006 and 2016. The focus of change assessment is primarily on changes between forest and non-forest categories. Landsat Thematic Mapper (TM) data downloaded from the United States Geological Survey (USGS) Global Visualization Viewer (GloVis) will be used to obtain land cover data.

- Data from Fiji's third National Forest Inventory (NFI) 2005 are the primary source to estimate emission factors (EF) of natural forests (excluding mangrove forests). However, no significant difference is observed between open and closed forest using the NFI data.

- A stepwise approach is adopted in the methodology proposed for the FRL construction. Specific areas for improvement of the FRL have been identified, on which Fiji is advised to continue investigation, data collection and testing of methodologies, dependent on available resources.

Annex B describes existing gaps and proposed activities to improve national forest inventory and thereby the FRL construction. These recommendations are based on FRL Methodology Document, Situational

Analysis Report[9], and informal discussion with MRV/FRL consultant team. Corresponding to activities depicted in Annex B, Table 13 shows the cost estimate.

Use of historical data, and adjusted for national circumstances

Adjustments are needed where historical data do not represent for future developments in the absence of REDD+ implementation. Therefore, the FRL developed using those historical data may not be useful to assess the performance of REDD+ activities. As the results of the Drivers' Study for Fiji are not available at this moment, a decision on including adjustments into the FRL construction was made by the REDD+ Steering Committee. The Steering Committee agreed that the REDD+ drivers are likely to remain the same in future, too. Therefore adjustment for national circumstances is not essential as suggested by GFOI (2016).

The data used for the construction of the FRL will be uploaded into recently established National Forest Database System. In addition, all information related to permanent sample plot measurement, national forest inventory, and land use land cover map has been deposited into database repository.

Technical feasibility of the methodological approach, and consistence with UNFCCC/IPCC guidance and guidelines

The FRL construction is consistent with UNFCCC/IPCC guidance and guidelines. The FRL construction follows the transparent, consistent, completeness, and comparability principles of both UNFCCC/IPCC.

The present FRL is transparent as all required information for its construction is given and allows for the reconstruction at any time. Consistency means that difference between the years is attributed to emissions and removals regardless of methods and data used. The FRL in its current stage follows a step-wise approach enabling to improve it if data quality and method are improved in future. Data available at the time of its construction are consistently used. Future improvements need to consider existing methodology.

Comparability means that estimates of emissions and removals reported by Parties should be comparable among Parties. For this purpose, Parties should use the methodologies and formats agreed by the COP for estimating and reporting inventories. The allocation of different source/sink categories should follow the split of the IPCC Guidelines, at the level of its summary and sectoral tables. The current FRL implements the methodology given by IPCC for the LULUCF and AFOLU sector. Therefore, results are comparable with those from other Parties implementing the IPCC guidance.

[9] The Situational Analysis Report is available at: http://fiji-reddplus.org/content/mrv-inception-report-and-situational-analysis

Completeness means that all relevant categories of emissions and removals are estimated and reported. Completeness also means full geographic coverage of sources and sinks of a Party. The current FRL includes only CO_2e. Other GHG are not included because their emissions and removal are not significant. The accounting area covers roughly 90% of Fiji's forested area. Under a step-wise approach completeness can be assumed for the FRL at its current stage.

5. Design Systems for National Forest Monitoring and Information on Safeguards

5.1 National Forest Monitoring System

The NFMS is one of the four Cancun Elements that Fiji should have in place to obtain and receive result-based finance. The information that becomes available through the NFMS/MRV may be used to develop the National Strategy or Action Plan. The NFMS serves two simultaneous functions: 'monitoring' function, and 'Measurement, Reporting and Verification (MRV)' function. A 'monitoring' function is primarily a domestic tool to assess the impacts and outcomes of REDD+ demonstration activities, and national policies and measures (PAMs) for REDD+. The MRV function refers to the estimation and international reporting of national-scale forest ERs. The MRV is based on three 'pillars'- i) Satellite Land Monitoring System, ii) NFI, and iii) the National GHG Inventory (GHGI).

The Hamburg University, Germany, is helping to develop a National Monitoring System in Fiji. The contract between the university and the Fiji government was signed in April 2016 and the deadline for completing the assignment is March 2018. The consultancy team has submitted a situation analysis report during the month of June 2017 and indicated shortcomings to operate a fully functional National Forest Monitoring System in the country. Table 6 depicts the summary of progress made pertaining to developing NFMS. The following paragraphs illustrate the gaps and required activities for establishing the NFMS.

Table 6. Summary of progress made under the development of NFMS

NFMS			
Task	**Deliverables**	**Schedule**	**Progress**
1. Situational analysis, data revision and final work plan development	Situational analysis report on NFMS, final consultancy work plan	Within 3 weeks from contract signing	Report submitted and comments so far given incorporated
2. Implementation of a test inventory	Forest inventory report from selected plots, incl. capacity assessment, trainings conducted, description of	Within 8 months from contract signing	Test inventory is underway and other activities not completed yet

	preparation activities and revised methodology		
3. NFMS establishment	Documentation and chart for the established NFMS, including SIS, biodiversity, FRL, MRV	Within 9 months of contract signing	Not yet

Documentation of monitoring approach

The UNFCCC decisions demand that a NFMS should be a robust system which uses both remote sensing and a ground-based carbon inventory approach. So far, Fiji has accomplished three National Forest Inventories (NFIs). The first NFI was carried out in 1969, but the inventory report is not available. The second NFI was carried out in 1991-1994. In the second NFI, the country forest area is classified as dense, medium dense and scattered forest. The third NFI was conducted in 2006 and comprised of more than 1000 sample plots. The geographical positions of those sample plots were recorded with GPS. The plots are not currently visible, and never revisited. Hence, monitoring of changes in biomass and carbon stocks could not happen. In addition, these national forest inventories were carried out mainly for assessing the timber in the country. ***Therefore, redesigning of the National Forest Inventory is desirable and proposed under additional funding.***

Fiji has established 100 permanent sample plots across the country. The main objective of the PSP was to assess the timber and growth of the forest. Of these 100 plots only 80 PSPs have been measured. Different spacing was applied in different Island to accommodate the 100 PSPs, and no stratification is employed except natural forest and plantation. Hence, based on the variability analysis, an increase in the number of permanent sample plot for a robust estimate of carbon stock change is likely. The Situational Analysis Report submitted to the REDD+ Unit by the MRV/FRL consultant team has indicated that PSPs are not appropriately distributed throughout the country to cover the variation of land use land cover types. Moreover, the number of PSPs is not sufficient to meet the high accuracy in carbon estimation. Field test inventory carried out by the MRV/FRL consultant team indicated that measuring 50mx50m sample plot in tropical forest where visibility is an issue is quite cumbersome. ***Hence, reallocation and redesign of PSP is desirable, and this activity is proposed under additional funding.***

The PSPs which were allocated for Mangrove Forest could not be measured because of the complexity of measuring mangrove trees in sample plot designed for other forest types. ***Since the sample size used in PSP does not fit for the mangrove forest, a separate study is essential to design a sampling for mangrove.***

Demonstration of early system implementation

Fiji decided to include all five activities of REDD+, but main sources of emission for Fiji are deforestation and forest degradation and removal is the enhancement of carbon stock. Deforestation and enhancement of carbon stock through plantation can be detected using Landsat images. However, currently applied remote sensing technology in Fiji does not allow to estimate deforestation as the technology is unable to separate open and closed forests. Alternatively, logging in the harvested areas was used as a proxy for quantifying the emissions from degradation. However, logging activity is not only the cause of forest degradation, activities such fuelwood collection and forest fire also contribute to forest degradation. The step-wise approach for REDD+ implementation urgently renders the improvement of remote sensing technology for Fiji's forests necessary. The availability of high resolution images is restricted by frequent cloud coverage. The application of high resolution imagery implies high cost and time, which suggests the application of a hierarchical process that merges images with different spectral and spatial resolution. Airborne techniques such as LIDAR is not implemented due to high cost and limited availability, i.e. the need for independent flight campaigns, which are to be organized (and financed) for forest surveys at successive occasions.

Institutional arrangement and capacities

The MRV/ FRL study team has indicated the inadequate capacities to continuously measure forest area changes, conduct forest inventory, and report forest carbon stock changes on the IPCC Tier 2 level. The country faces high remote sensing technical challenges to adopt IPCC Approach 3 as described above. Like most of the other developing countries, Fiji needs to improve capacity on technical, political and institutional, equipment & software to provide a complete, consistent, comprehensive and accurate estimation of forest area change and to attribute emissions and removals to these changes. ***Hence, capacity building activities for various aspects is required and which is proposed under additional financial funding.***

5.2 Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards

REDD implementation not only produces carbon benefits, but also produces many other non-carbon benefits such as livelihood enhancement, conservation of biodiversity, ecosystem service provision, and among other institutional strengthening. Monitoring of these benefits is essential to ensure that REDD implementation does not impede quality and quantity of the benefits. A monitoring system should be designed that is effective and efficiently capable reporting how variables representing the benefits (safeguards) are being addressed and respected during the implementation of REDD in Fiji.

Identification of relevant non-carbon aspects and social and environmental issues

Other than identifying seven potential non- carbon benefits during the R-PP preparation period, no systematic study has been conducted to identify the non-carbon benefits and their monitoring system in the context Fiji. The R-PP has proposed a study on identification and establishment of monitoring system of non-carbon benefits. This study will be conducted before the end of 2018.

The SESA study is underway and it is expected that the study present issues pertaining to social and environmental impact resulting from the implementation of REDD+ strategic options. The study will identify indicators and based on the indicators a monitoring system will be developed.

Monitoring Reporting and information sharing

Other than database system at SOPAC, University of South Pacific, Fiji Museum, National Trust of Fiji, Fiji does not have such system of sharing consistent information on non-carbon benefits and safeguards. However, recently a National Forest Database System has been established at the Forestry Department aiming to provide information on carbon accounting.

SESA & ESFM study provides key quantitative and qualitative variables surrounding the impacts on livelihoods, conservation of biodiversity, ecosystem provision key governance factors directly pertinent to REDD+ preparation and implementation of safeguard. To make available this information, a non-carbon and safeguard monitoring systems should be established and integrated into the existing system of NFDS. For this assignment budget is allocated in the R-PP and this activity will be carried out in 2018.

Institutional arrangement and capacities

Non- carbon benefits such as biodiversity conservation is currently being monitored by many institutions such as Conservation International, Wildlife Conservation Society, and a number of faculties specialized in biodiversity at USP. Likewise, Department of Environment also holds wide range of data related to biodiversity. However, these institutions are not mandated to perform the tasks of monitoring non-carbon benefits and safeguards. ***Therefore, a study is proposed to identify an institution which can be mandated to perform the monitoring of safeguards and co-benefits under additional funding. At the same time, capacity building for monitoring co-benefits and safeguard is also proposed. The proposed activities and respective cost estimates are given in Table 9.***

6. A review of the REDD Country Participant's compliance with the Common Approach

As the World Bank is the delivery partner of the FCPF in Fiji, the World Bank safeguard policies apply to FCPF funded activities. The assessment mission from the World Bank before signing the grant agreement concluded that the FCPF grant for REDD+ Readiness in Fiji would trigger World Bank safeguard policies related to Environmental Assessment and IP. One of the activities financed by the FCPF is the development of an Environmental and Social Management Framework to address environmental and social impacts associated with the future implementation of the National REDD Strategy, which is currently undergoing and is expected to be completed by 2018. A study on developing feedback and grievance redress mechanism study is currently underway.

Relevant stakeholders have been actively engaged through REDD+ Steering Committee, Technical Working Groups at national and divisional level. Consultations and outreach as envisioned in the R-PP is yet to take greater momentum, which is being accelerated during grant extension period.

Regarding disclosure of Information, REDD Unit takes timely initiatives for public disclosure of procurement processes and results to maintain transparency on the use of the FCPF grant. The General Procurement Notice was published, before processing for any of contracts in United Nations Development Business (UNDB) to let all interested know in advance of the different opportunities available within the project. Call for expression of interest and other notices were published in UNDB as well as in the widely circulated national newspapers. Upon completing the procurement processes, publication of awards were made in UNDB and other sources as applicable. Of course, the REDD+ Unit's website is regularly updated by uploading with TORs and other relevant documents and reports. The ToRs for major studies are shared with and get approved by the REDD+ SC and Technical Working Groups.

7. An updated financing plan for the overall Readiness preparation activities

Table 7 provides an overview on the use of readiness funds as outlined in the R-PP. To date, 64% of the FCPF funds allocated as per the R-PP have been committed. Thereof, 20 % of the funds have been disbursed. However, most of the activities described in the R-PP are progressing well, and will come to completion within 2018. hence the country can achieve significant progress in caring out the activities in future.

Table 7. Financial status of REDD+ readiness fund

Use of Funds (in US$ thousands)												
R-PP Component	Total Needed [a]	Funds Pledged [b]			Funds Used – Committed [c]			Funds Used – Disbursed [c]			Funds Available (FCPF and others)	Financing Gap	Request for additional FCPF funds
		FCPF	Other Funds	Total	FCPF	Other Funds	Total	FCPF	Other Funds	Total			
Organization and Consultation	2,129	1,082	627	1,709	953	427	1,380	472	427	899	329	420	420
Preparation of REDD Strategy	2,225	1,225	400	1,625	702	200	902	168	200	368	723	600	600
Development of National FRL	1,490	800	400	1,200	167	200	367	-	200	200	833	290	290
Design of National Forest Monitoring and Information System	1,971	693	588	1,281	615	388	1,003	103	388	491	278	690	690
TOTAL	7,815	3,800	2,015	5,815	2,437	1,215	3,652	744	1,215	1,959	2,163	2,000	2,000
Sources of Funds (in US$ thousands)													
FCPF		3,800		3,800	2,437		2,437	744		744	1,363		
Government			1,027	1,027		627	627		627	627	400		
GIZ			988	988		588	588		588	588	400		
TOTAL		3,800	2,015	5,815	2,437	1,215	3,652	744	1,215	1,959	2,163		

a = Total needed is the amount of resources necessary to complete REDD+ readiness components. All numbers in this table are the latest numbers and may not necessarily match the numbers in the original R-PP.

b = Funds pledged encompass the amount of funds promised at the R-PP stage as well as additional recent pledges to complement potential additional funding from the FCPF.

c = Funds committed is the funds in signed contracts, and funds disbursed is the amount thereof that has already been disbursed.

8. Grant Reporting and Monitoring report (GRM)

The World Bank as Delivery Partner has prepared a mid-term GRM, which provides a qualitative report on the progress and results of FCPF-financed activities from the World Bank's perspective. The report is available separately.

9. Summary statement of request for additional funding to the FCPF

9.2 Objective of the readiness preparation phase covered by the request

The FCPF's readiness fund of 3.8 million is not sufficient to accomplish the activities stipulated in the R-PP and new activities appeared during readiness phase. Therefore, Fiji is requesting additional funding from the FCPF. The request for additional funds aims to ensure that all the objectives of the REDD+ readiness will be met. The addition request will make it possible to reach a level of REDD+ readiness as stipulated in the Emission Reduction Program Idea Note of the country. The request for additional funding is essential because the activities proposed in R-PP are not sufficient to achieve high accuracy in carbon estimation, monitoring, and measurement and smooth functioning of REDD+ program. Component 3 and 4 as well as certain activities from other components within the R-PP requires additional funding. The additional funds requested from the FCPF will make it possible to bridge the gaps that have been identified in this report.

In this context, Fiji submits a request for additional FCPF funding of US$ 2,000,000, to be used to implement the activities as proposed in this report. This budget does not consider the contribution of the Fiji government and potential additional funding for pilot activities from GIZ (see Table 8).

Table 8. Fiji's budget allocated in the R-PP; committed up to Jan, 2018; request for additional funds from the FCPF (in thousand US$)

Source of Funding	Initial R-PP budget	Commitment of funds up to the end of Jan, 2018	Additional Fund requested
Government of Fiji	627	NA	400
FCPF (The World Bank)	3,800	2435.71	2,000
Other Sources (GIZ, German Cooperation)	588	NA	400
Total	**5,015**	NA	**2,800**

NA= Not available

9.2 Duration of the readiness preparation phase covered by the request

The additional funding covers the period from April 1, 2018 to July 31, 2020 (about 2 years).

9.3 Summary of the activities to be funded by the FCPF

The additional funds requested from the FCPF for the 2 years amount to US$ 2 million. More than 50% of this fund is allocated for component 3 and 4. Table 9 shows the estimated cost to implement activities proposed under each component for the additional funding period.

Table 9. Summary of funds allocated for each component with the additional funding requested from the FCPF (April 2018 to July 2020)

Component	Estimated Cost (000 US$)			
	2018	2019	2020	Total
Component 1: organization and Consultation				
Subcomponent 1a: National readiness and arrangement	40	297	168	505
Subcomponent 1b and c: Information sharing and early dialogue with key stakeholders & Consultation and participation process	50	80	35	165
Sub total	**90**	**377**	**203**	**670**
Component 2: Preparation of REDD Strategy				
Subcomponent 2a: Land use, land use change drivers, forest law, policy and governance	170	310	40	520
Subcomponent 2b: REDD+ Strategy	110	140	30	280
Subcomponent 2c: Implementation Framework	20	20	10	50
Subcomponent 2d: Social and Environmental impact	0	0	0	0
Sub total	**300**	**470**	**80**	**850**
Component 3: Develop a National Forest Reference Emission Level	130	195	65	390
Sub total	**130**	**195**	**65**	**390**
Component 4: Design a system for National Forest Monitoring and Information and information on safeguard				
Sub component 4a: National Forest Monitoring System	260	425	145	830
Sub component 4b: Designing an information system for multiple benefits, other impacts, governance and safeguards	20	30	10	60
Sub total	**280**	**455**	**155**	**890**
Total	**800**	**1497**	**503**	**2800**
Fiji Government		200	200	400
FCPF		1000	1000	2000
Other sources		200	200	400

Component 1a National REDD+ Management and Arrangement

Table 10. Activities proposed for the additional grant

Activity	Sub activity	Estimated Cost (000 US$)			
		2018	2019	2020	total
Steering Committee	General Committee Meetings	0	10	10	20
	Field Excursions	0	5	5	10
	Travel to international meetings	30	7	20	57
	Regional Travel: "Peer-to-Peer exchanges"	10	10	10	30
	Steering Committee Working Groups (Specific Thematic WG Meetings)	0	10	5	15
Fiji REDD+ Unit	1 Manager/Adviser and 2 Technical Officers	0	170	65	235
	Communication Officer	0	15	8	23
	Office/Administration Costs	0	8	8	16
	Database Management Officer	0	20	10	30
	Administration Assistant (based in Forestry)	0	5	5	10
Divisional REDD+ working group	Meetings	0	2	2	4
	Training of members	0	10	5	15
	Travel and field excursions	0	5	5	10
Mainstreaming REDD+ into national institutions, policies and programs	Capacity assessment of institutions involved in REDD+, i.e. institutions represented in SC	0	20	10	30
Total		**40**	**297**	**168**	**505**
Government					**150**
FCPF additional funding					**355**
Other sources					**0**

Component 1b & 1c Consultation participation and outreach

Table 11. Activities proposed for the additional grant (component 1b)

Activities	Estimated cost (,000 USD)			
	2018	2019	2020	Total
Communication awareness raising and education	5	10	10	25
REDD+ Research Programme	10	10	10	30
Design and implement a short-term module (1.5 month) on International Forest Policy and Forest Measurement for graduate students of Universities (see Annex C for details)	10	40	0	50
Conduct the consultations	10	10	10	30

Develop Policy brief of the analytical studies	15	10	5	30
Total	**50**	**80**	**35**	**165**
Government				**50**
FCPF additional funding				**65**
Other sources				**50**

Component 2- Prepare the REDD+ Strategy

Table 12. Summary of REDD+ activities planned for additional funding under (component 2)

Proposed main activities	Sub-activity	Estimated cost (in thousand US $)			
		2018	2019	2020	Total
National Land Use Plan/Policy		100	200	0	300
Invasive Species Eradication	Study on contribution of invasive species to degrade a forest	30	30	0	60
	Develop a plan for eradication	20	40	20	80
Awareness on code harvesting practices		20	40	20	80
National REDD+ Strategy	Prioritization Strategic Options	30	30	0	60
	Identification of inconsistencies of SO with other relevant development policies	10	10	0	20
	Develop REDD+ Strategy	30	30	0	60
Plan of Action for National REDD+ Strategy	Prioritization of Activities	15	25	10	50
	Cost estimation for activities	15	25	10	50
	Preparation of plan of action	10	20	10	40
Upgrade the database system and establish carbon registry		20	20	10	50
Total		**300**	**470**	**80**	**850**
Government					200
FCPF additional funding					600
Other sources					50

Component 3- Develop a National Forest Reference Emission Level

Table 13. A cost estimate of the proposed activities

Proposed main activities	Sub-activity	Estimated cost (in thousand US $)			
		2018	**2019**	**2020**	**Total**
Species specific volume and biomass functions	Destructive sampling of up to 50 trees for each selected species	50	75	25	150
	Construction of volume and biomass equations, including verification of the equations	30	30	0	60
	Training activities, including image analysis, statistical analysis, uncertainty assessment, and bias correction.	30	50	20	100
Carbon stock in Grass land, agricultural land and sugarcane areas	Estimates of carbon stocks in grass land, agricultural land and sugar cane abandoned areas	0	20	20	40
	Estimation of carbon emission from burning	20	20	0	40
Total		**130**	**195**	**65**	**390**
Government					50
FCPF additional funding					290
Other sources					50

Component 4- Design System for National Monitoring and Information on Safeguards

Sub component 4a National Forest Monitoring System

Table 14. Activities proposed for the additional grant (sub-component 4a)

Proposed main activities	Sub-activity	Estimated cost (in thousand US $)			
		2018	**2019**	**2020**	**Total**
Further development of the inventory design of Fiji's NFI and its integration in the REDD+MRV system	Development of a sound sample plot design	25	50	25	100
	Development of the list of attributes to be assessed, including stakeholder consultation	20	20	0	40
	Selection of the optimal inventory design	50	50	0	100
	Training activities, including field assessments, plausibility checks, data analysis, and report preparation.	25	75	50	150
Activity data: separating open and closed forests	Screening for available satellite imagery	10	10	0	20
	Investigation of sophisticated image analysis procedures, including spectral mixture analysis (SMA), multiple endmember spectral mixture analysis (MESMA), and object based classification	10	20	10	40

	Development of a hierarchical (statistical) assessment procedure, including area frame sampling	10	30	0	40
	Uncertainty analysis for different images and image analysis procedures	20	20	0	40
	Training activities, including image analysis, statistical analysis, uncertainty assessment, and bias correction.	30	50	20	100
Development of an inventory design for the assessment of mangroves	Development of a sound sample plot design for mangroves	10	10	0	20
	Development of a classification system for different ecological types of mangroves	10	10	0	20
	Estimation of soil organic carbon density	10	10	0	20
	Capacity building (trainings)	0	20	20	40
Preparation of a Forest and Forest Carbon Inventory Guidelines (FFCIG) for communities	Desk study and observation of current NFI system and site visits	15	25	10	50
	Presentation of the draft guideline to the multi-stakeholder forum, and finalization of the guideline	15	25	10	50
Total		**260**	**425**	**145**	**830**
Government					50
FCPF additional funding					630
Other sources					150

Sub component 4b. Information System for multiple Benefits, other impacts, governance, and safeguards

Table 15. Activities proposed for the additional grant (sub-component 4b)

Activities	**Estimated cost (,000 USD)**			
	2018	**2019**	**2020**	**Total**
Identification of institution to perform the task of monitoring non- carbon benefits and safeguards	0	10	0	10
Capacity building for monitoring of non-carbon benefits and safeguards	20	20	10	50
Total	**20**	**30**	**10**	**60**
FCPF additional funding				60

ANNEX A

List of strategy options as identified in the R-PP for Fiji

Driver/ Reference Activity	Strategy Options	Co-Benefits of Strategy Option
Agriculture	• Develop a national land use plan • Review policy and legislation that encourage unsustainable clearing of forests for agriculture • Rehabilitate degraded sites and grasslands, for agriculture development to avoid farmer encroachment into forests • Raise awareness on and enforcement of the Land Use Capability Classification System • Promote sustainable farming approaches and technologies - Agroforestry and multi-cropping systems that promote the inclusion of trees in farming - Intensive farming to make optimal use of small areas of land - Diversify on cash crops • Support value-adding of forest produce and create niche markets for forest communities to access high-end markets (e.g. hotels) • Introduce, promote and invest in alternative livelihoods (aside from cash crops) • Establish and train local landcare and forestcare groups to facilitate sustainable land use in forest areas	• Overall sustainable management of natural resources • More income generating opportunities for farmers • Higher crop and income diversification leads to increased resilience against climate change impacts and natural disasters • Increased appreciation of economic value of forests • Local communities are skilled in various SLM technologies
Large-scale forest conversion by local communities for cash crops	• Develop local land use plans with communities and relevant supporting agencies to promote sustainable forest management • Conduct educational programmes through the Provincial Offices and Divisional Offices • Promote eco-tourism in feasible forest areas • Conduct biodiversity assessment of these sites and inform and educate local communities • Implement Fiji's NBSAP and proposed protected area network • Ecosystem valuation	• Biodiversity conservation • Better understanding of value of standing forests • Broader income generating base

	• Promote value adding technologies for forest products	
Mining	• National land use planning where ecological and social values of forests are considered against mining impacts • Review legislation to ensure more thorough ecological and social consultations and assessments are carried out • Enforce EIA and HIA	• Decrease in pollution and adverse health impacts caused by mining • Protection of forest ecosystem services
Infrastructure development	• Integrated land use planning to also include socio-economic and ecosystem impact assessments • Sustainable Infrastructure Development • Proposed infrastructure planning and development to be captured in the national land use plan	• Conservation of mangroves and ecosystems • More sustainable development of the local population • A more intact environment will increase resiliency of infrastructure and local communities against climate change impacts and natural disasters
Forest fires	• Review legislation • Law enforcement • Local community awareness and education programmes • Active community involvement in enforcement and patrolling (fire wardens)	• Local communities have an increased awareness and appreciation on the value of forests
Unsustainable timber harvesting	• Enforce the national harvesting code of practice • Afforestation/Reforestation programmes to increase timber supply • Promote reduced impact logging • Improved Law Enforcement of SFM • Replant abandoned plantation sites • Education/Awareness for small-scale timber operators • Promote the utilisation of lesser known commercial timber species	• Biodiversity conservation • Economic diversification • Improved capacity and education for small-scale timber operators • Added value to standing forests

ANNEX B

Details of gaps and proposed activities for improving FRL development

Further development of the inventory design of Fiji's NFI- Current gaps/deficits

- The current practice of allocation sample plots renders is statistically not justified, renders a statistically sound analysis impossible, and does not qualify for reporting
- The sample population and the reference population are not the same. Therefore, not all forest ecosystems and REDD+ activities (e.g. afforestation) are covered.
- The plot design was developed for monitoring increment (on small areas) and is not optimal/ cost-efficient for national assessments, especially in remote areas.
- The list of attributes assessed is limited and does not satisfy the information demands of a holistic NFI concept and REDD+ monitoring.
- The plots are visibly marked. This introduces a critical risk of treatment bias due to forest management (are marked trees cut?), which leads to non-representative plots.
- A system of nomenclature for a holistic list of attributes and the respective field instructions for assessments are missing (e.g. carbon pools litter, dead wood, soil carbon; regeneration; timber quality; stand structure; tree vitality)

Proposed activities

- Development of a sound sample plot design (including e.g. plot size and shape, sub-plots for e.g. soil and litter samples, rules for assessment of dead woody debris, plot allocation, hidden labeling of trees and plot center to avoid treatment bias)
- Further development of the list of attributes to be assessed, including stakeholder consultation. For each attribute terms and definitions, assessment guidelines, plausibility checks be developed, documented in a field manual, and transferred into input screens for mobile data collection
- Development of statistical estimation procedures (both, documented and implemented in evaluation software), including both, earth observation and in-situ assessments and incorporating sampling at successive occasions and measures to avoid/ correct treatment bias (i.e. sampling with partial replacement)

- Selection of the optimal inventory design (number of plots, spatial allocation) by optimizing cost-efficiency
- Training activities, including field assessments, plausibility checks, data analysis, and report preparation.

Activity data: separating open and closed forests- Current gaps/ deficits

- Currently applied remote sensing technology in Fiji does not allow for a separation between open and closed forests
- The proxy of logging statistics does not account for all logging/ degradation activities found in Fiji's forests
- The step-wise approach for REDD+ implementation urgently renders the improvement of remote sensing technology for Fijian forests necessary
- The availability of high resolution images is restricted by frequent could coverage.
- The application of high resolution imagery implies high cost and time, which suggests the application of a hierarchical process that merges images with different spectral and spatial resolution
- Airborne techniques such as LIDAR are not to be implemented due to high cost and limited availability, i.e. the need for independent flight campaigns, which are to be organized (and financed) for forest surveys at successive occasions

Proposed activities

- Screening for available satellite imagery, including cost and image analysis approaches
- Investigation of sophisticated image analysis procedures, including spectral mixture analysis (SMA), multiple endmember spectral mixture analysis (MESMA), and object based classification
- Development of a hierarchical (statistical) assessment procedure, including area frame sampling
- Uncertainty analysis for different images and image analysis procedures
- Training activities, including image analysis, statistical analysis, uncertainty assessment, and bias correction.

Species specific volume and biomass functions-Current gaps/ deficits

- Volume and biomass equations enable the estimation of individual tree volume and biomass based on dendrometric attributes such as tree diameters, tree height and crown width/ length. They are a substantial prerequisite for forest inventories.
- Those equations are not available for Fijian (commercial) tree species

Proposed activities

- Selection of the 10 most important tree species for which volume and biomass functions are to be developed
- Destructive sampling of up to 50 trees for each selected species
- Determination of wood gravity per species and woody biomass compartments
- Construction of volume and biomass equations, including verification of the equations
- Training activities, including image analysis, statistical analysis, uncertainty assessment, and bias correction.

Development of an inventory design for the assessment of mangroves-Current gaps/ deficits

- The assessment procedures for mangroves differ from those for other forest ecosystems due to the phenology of tree species forming mangroves. Especially trees not forming straight stems rule out standard procedures for volume or biomass assessments.
- Woody biomass is to a substantial extend not allocated in stems, but in distinct root and branch systems, rendering destructive sampling necessary.
- Biomass and volume equations for individual trees are not available for Fiji

Proposed activities

- Development of a sound sample plot design for mangroves
- Further development of the list of attributes to be assessed in mangroves, including stakeholder consultation. For each attribute terms and definitions, assessment guidelines, plausibility checks will be developed, documented in a field manual, and transferred into input screens for mobile data collection
- Development of a classification system for different ecological types of mangroves as a prerequisite for zoning
- Development of statistical estimation procedures (both, documented and implemented in evaluation software), including in-situ assessments, destructive samples on subplots, and earth observation data
- Selection of the optimal inventory design (number of plots, spatial allocation) by optimizing cost-efficiency
- Estimation of soil organic carbon density
- Training activities, including field assessments, plausibility checks, and data analysis

Preparation of a Forest and Forest Carbon Inventory Guidelines (FFCIG) for communities- Current gaps/ deficits

- The Emission Reductions Program Idea Note (ER-PIN) submitted to the FCPF CF (Section 7.4, p. 35) suggested that the local communities conduct a resource inventory following

national project guidelines and develop a land use plan for the whole community land, not only for the REDD+ activity. Currently, there is no such a guideline is available, and therefore needs to be developed prior the implementation of the Emission Reduction Program (ERP).

Proposed activities

- Develop forest inventory guideline for community

Estimation of carbon stock in Grass land, agricultural land and sugarcane areas- Current gaps/ deficits

- The Emission Reductions Program Idea Note (ER-PIN) submitted to the FCPF CF (Section 12, Table 11, p. 46) estimated that 1.7 million tons of CO2 will be sequestered through afforestation and reforestation (A/R) activities during the ERP implementation (2019-2024).
- The activities will be implemented on grasslands (A/R), and abandoned sugar cane areas (rehabilitation). Most of the grassland areas experience regular and irregular burning; from one every few years to twice per year (see ER-PIN, Section 8.2, p.38).

Proposed activities

- Estimates of carbon stocks in grass land, agricultural land and sugar cane abandoned areas at national level are needed for the national monitoring system.
- Estimation of carbon emission from burning

ANNEX C

Design and implement a short-term module (1.5 month) on International Forest Policy and Forest Measurement for graduate students of Universities

Free, Prior and Informed Consent of the mataquali is a pre-requisite for REDD+ implementation at the local level. Equally important is to raise the awareness among the university students about environment, international forest policy and mechanism. Currently, there are several awareness programs conducted mostly in cities and targeted groups. Only, the government extension work is not sufficient to reach the larger audience and to the communities residing in remote areas where they do not have access to mass media.

Fiji National University has established forestry faculty for Bachelor and Master course. Introduction of international forest policy and forest measurements modules broadens the understanding of the faculty members and the undergraduate students on the climate change, regimes and institutions established to address the problem of climate change and deforestation and forest degradation. The module introduces the students about the measurement and monitoring of the forest resources. Evaluating the impacts of the module, the University might insist to include the module into its curricula.

Activities:

- Prepare a syllabus for the module together with University faculties (Fiji National University) and student representatives
- Prepare session plans and field laboratory sessions for the module
- Implement the module
- Evaluation of the module

The task will be accomplished in six months, and the expected budget is estimated to be $50.000.