SPC/GIZ REGIONAL BMU-ICI REDD+ PROGRAMME

Climate Protection through Forest Conservation in the Pacific Island Countries

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Climate protection GERMANY'S CLIMATE INITIATIVE

INCEPTION WORKSHOP and REGIONAL REDD+ STRATEGY FRAMEWORK DEVELOPMENT REPORT

Compiled by Carbon Partnership Ltd. for
the SPC/GIZ Regional BMU- ICI REDD+ Programme

February 2011

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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Executive Summary

Climate protection through forest conservation in the Pacific Island Countries

This report documents the results of the Inception Workshop for the SPC/GIZ funded project entitled: "Climate protection through forest conservation in the Pacific Island Countries" funded by the International Climate Initiative (ICI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). The workshop was held in Suva, Fiji from 22 – 24 November 2010 and brought together delegates and stakeholders from the four participating countries (Papua New Guinea, Solomon Islands, Vanuatu, and Fiji). The main focus of this initiative is the development of a regional REDD+[1] programme for the four participating countries.

The overarching project goal is: *The conservation of forest ecosystems in the Pacific island countries is supported in order to mitigate climate change and preserve biodiversity.*

There are three objectives designed to deliver this goal:

Objective 1

Regional REDD+ Policy: The Pacific Island Countries have a joint, coherent framework for the implementation of REDD+.

Success Indicator:

- The heads of forestry departments (HOFS 2014) endorse a regional REDD+ policy.

Objective 2

REDD+ Information Platform: The implementation of REDD+ activities in the Melanesian PICs is qualitatively improved through the use of a regional and supraregional information and support platform.

Success Indicator:

- The REDD+ information and support platform registers X requests from Y countries, with at least Z requests coming from local communities, and generates high-quality responses by network members (especially SPC). (Documentation of requests and responses, user survey.)

[1] REDD+ = 'Reducing Emissions from Deforestation and Degradation' and includes forest conservation and afforestation/reforestation activities.

Objective 3

REDD+ Readiness: Central elements of REDD+ are implemented in 3 countries. In one country this leads to the fulfilment of the requirements to participate in REDD+.

Success Indicators:

- Reference level for GHG-emissions from deforestation and forest degradation, MRV systems which include parameters for biodiversity monitoring and an institutional and legal framework are established in one country (documentation of MRV-services, laws and regulations on REDD+).
- Contributions to the establishment of MRV-Systems, institutional and legal frameworks (forest inventory, REDD+ policy...) are delivered in two additional countries.
- Three pilot projects for the trialing of REDD+ activities, taking into account the principles of gender equality, are successfully implemented and documented (documentation of pilot projects).

The workshop and this report include:

1. An update on REDD+ initiatives in the four participating countries (Part 1 of this report)
2. An overview of international REDD+ policy, financing, and technical developments as of the end of 2010 (Part 2 of this report), and
3. A summary of outputs arising from the consultative process undertaken in workshop breakout groups and covering the three objectives of the project (Part 3 of this report).

Country Updates

There have been significant REDD+ policy, strategy, institutional, and MRV developments in Fiji, PNG, and Vanuatu between 2006 and 2010, and the start of a REDD+ process in the Solomon Islands in 2011. PNG initiated the international REDD policy process at the UNFCCC in partnership with Costa Rica in 2005 and has been building domestic capability since that time. Fiji began its REDD+ programme in early 2009 with support from GTZ (now *GIZ*) and has made rapid progress since that time being the first Pacific Island country having adopted a national REDD+ Policy in 2010, and has taken significant steps towards building a national forest carbon MRV programme. Vanuatu began its REDD+ programme in 2006 by participating actively in international REDD policy negotiations at the UNFCCC, whilst building the foundations for (a) a national forest carbon MRV system and (b) a national REDD+ policy and strategy. Vanuatu subsequently became a participant country under the World Bank Forest Carbon Partnership Facility (FCPF). The Solomon Islands began its REDD+ activities through its engagement with the FAO ACP-FLEGT Support Programme, and UN-REDD Programme in 2010.

International REDD+ Policy, Financing, and MRV Developments

International REDD+ developments have been principally driven by the policy (LCA) and technical (SBSTA) streams of the UNFCCC process, within the broader context of negotiations towards a post-2012 global climate change agreement. Earlier stages of the UNFCCC process intended that a UNFCCC REDD+ instrument would be complete by the end of 2009 (along with a completed post-2012 global agreement on climate change. Neither of these aspirations of the UNFCCC were met at the end of 2009 and as such an International REDD+ agreement has stalled while post-2012 agreement negotiations continue. There has been UNFCCC progress in (technical) MRV aspects of REDD+ with a decision at COP-15 in Copenhagen on MRV matters, and further details elaborated at COP-16 at Cancun, Mexico during 2010.

Part III (C) of the COP-16 decision at Cancun relates specifically to REDD+ in and states that activities undertaken by developing country Parties (reducing deforestation, reducing forest degradation, forest conservation, sustainable management of forests, enhancement of forest carbon stocks) should be implemented in phases:

1. The development of national strategies or action plans, policies and measures, and capacity building.
2. The implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results-based demonstration activities.
3. Results-based actions that should be fully measured, reported and verified.

Irrespective of the progress at the UNFCCC policy level, there is an emerging consensus on REDD+ development processes starting with policy and strategy development, moving to 'readiness' involving the establishment of national forest carbon MRV systems, followed by implementation involving emission reduction activities supported by incentive payments and quality assured by MRV systems. This broad framework is relevant to the UNFCCC process, as well as other international REDD+ initiatives including UN-REDD, the World Bank Forest Carbon Partnership Facility, and the Interim REDD+ Partnership. Funds have been flowing towards national level REDD+ policy/strategy and readiness (capacity building) in developing countries in anticipation of a future UNFCCC instrument or regional agreements that may arise should the UN process fail to deliver a global agreement in time for the end of 2012.

Workshop Outputs

The Inception Workshop included presentations from countries, background material on REDD+ policy and technical matters, followed by informed dialogue in breakout groups to develop a framework for a regional REDD+ programme covering the four countries of PNG, Vanuatu, Solomon Islands, and Fiji. The breakout group consultations generated a

collaborative, consensus-based mandate for how this regional programme will deliver on its key objectives described above. Breakout groups defined a framework for the following components of a regional REDD+ programme:

- Regional REDD+ policy and associated process
- Regional positioning and international negotiations
- Regional strategy to address drivers of deforestation and degradation
- A regional approach to addressing REDD+ implementation safeguards
- A regional REDD+ information platform, and
- A regional approach to REDD+ readiness

1. Project Overview

In response to the recommendations arising from the 2009 Pacific Heads of Forestry (HOFS) meeting, the German International Cooperation (GIZ, previously GTZ,), in partnership with the Secretariat of the Pacific Community, submitted a project proposal, titled "Climate protection through forest conservation in the Pacific Island Countries", to the International Climate Initiative (ICI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). The proposal was approved and will bring in 4.9 million euros for the implementation of the regional project.

The overarching project goal is: *The conservation of forest ecosystems in the Pacific island countries is supported in order to mitigate climate change and preserve biodiversity*

The following objectives are identified under this goal:

Project objective 1: Regional REDD+ policy. The Pacific Island Countries have a joint, coherent regional framework for the implementation of REDD+.

Project objective 2: REDD+ Information and support platform: The implementation of REDD+ activities in the Pacific Island Countries (PICs) is strengthened through the use of a regional and supra-regional information and support platform.

Project objective 3: REDD+ readiness: Substantial REDD+ components are implemented in 3 countries leading to a complete REDD+ Readiness in one country.

The Project covers the four-year period from November 2010 to October 2014. The regional component covers Fiji, Papua New Guinea, Solomon Islands and Vanuatu, but national activities will focus on Papua New Guinea (PNG), Solomon Islands and Vanuatu, because REDD+ support in Fiji is already covered by the SPC/GIZ Regional Program Coping with Climate Change in the Pacific Island Region (CCCPIR). The countries are at different stages of development in terms of REDD+ readiness and implementation.

1.1 INCEPTION WORKSHOP

A 3-day regional inception workshop took place for this project in Suva, Fiji from 22 – 24 November 2010. The workshop brought together Heads and senior officers of the forestry sector and senior officers from related sectors and agencies to discuss and deliberate on the establishment of the new regional project.

The main objectives of the inception workshop were to:

1. Share information between countries and take stock of ongoing and planned initiatives on REDD+ in individual countries

2. Drawing from country and regional needs and priorities, develop a strategic framework and preliminary operational plan for the project

3. Make participants aware and better informed on policy and operational issues relating to REDD+

The consultancy focused largely on providing the policy, planning, and technical expertise required to meet the objectives of the workshop.

The objectives of the consultancy were:

1. To strengthen the understanding of stakeholders on REDD-related issues, including international policy processes and developments, technical requirements and procedures, and regional concerns

2. To determine the current status of REDD development in the four countries of focus and to assess future directions and identify associated issues at both the regional and national scale

3. Using participatory process, facilitate the development of a Project strategic framework and a tentative plan of operation

This report elaborates on objective 3 of the above three objectives. In particular this report is required to deliver a draft strategic framework:

a. That is coherently structured with proposed strategies clearly defined
b. Where regional and national issues are well represented and presented
c. That complies with the objectives of the project.

2. Country Reports: REDD+ Updates

2.1 PACIFIC REDD+ POLICY OVERVIEW

A coordinated regional approach to REDD+ would enhance synergies and increase efficiencies between participating countries, leading to a greater spread of benefits arising from effective regional climate protection through forest conservation and sustainable management of forests. A regional approach requires coordination and cooperation among participating countries. Such cooperation can be enhanced through the identification of common needs, common strengths and weaknesses, and a compatible strategic approach.

The overarching goal of a regional REDD+ project is to maximize target quantitative outcomes (reducing emissions, enhancing sinks), with maximum co-benefits (e.g. climate change adaptation, biodiversity protection, poverty alleviation), at minimum cost. This necessitates the development of a strategic framework capable of harnessing available REDD+ financing opportunities by:

a. Designing effective and locally appropriate implementation activities, and
b. Developing a transparent means of measuring, reporting and verifying quantitative outcomes arising from those activities.

Progress in REDD+ is already apparent in some Pacific Island countries, whereby a coordinated regional approach to REDD+ has the potential to add value and momentum to existing initiatives, and initiate new activities where necessary.

2.2 PAPUA NEW GUINEA REDD+ UPDATE

2.2.1 National Forest Resource

Approximately 60% of Papua New Guinea (PNG) is covered by natural forests, making it one of the most significant areas of intact indigenous tropical forest in the world[2].

[2] PNG UN-REDD Programme country profile. Available here: http://www.un-redd.org/UNREDDProgramme/CountryActions/PapuaNewGuinea/tabid/1026/language/en-US/Default.aspx

Table 1. PNG National Forest Resource Summary

Resource	Area	Comments
Total Landmass	46.0 million ha	o 97% of total land is customarily owned o 85% people live in rural areas o High population growth rate.
Total Forest	39.4 million ha	
Primary Forest	28.6 million ha	
Acquired forest	7.8 million ha	
Not acquired	3.0 million ha	
Forest Plantations	87,400 ha	

PNG has identified important national drivers of forest sector emissions and is currently developing concrete actions to reduce them. These drivers are:

- Commercial timber harvesting
- Conversion of natural forest to oil palm plantations in lowland areas
- Subsistence agriculture
- Agriculture leases
- Commercial agriculture
- Mining, infrastructure and urban expansion,
- Unsustainable use of fire

Papua New Guinea (PNG) has been an active player in international policy and financing negotiations in REDD+ since 2005.

Domestically PNG developed a National Climate Change Policy Framework, and subsequently a Climate-Compatible Development Strategy. The Forestry and Climate Change Framework for Action 2008-2015 (FCCFA) was prepared by the PNG Forest Authority (PNG FA) in 2009 and has now been approved by the National Executive Council. The goal of the FCCFA is to develop and demonstrate a REDD+ strategy; improve the national GHG inventory in the forestry sectors, especially emission factors determined; develop a MRV methodology; undertake demonstration activities; complete national multipurpose forest inventory; and, develop country specific carbon stock expansion factors (above ground, biomass, soil, forest litter). PNG also established a REDD+ Technical Committee, which is responsible for developing REDD+ activities and national strategies[3].

PNG is also engaged in a UN-REDD National Programme that aims to initiate the quick start phase of readiness support for REDD+. There are five components of the PNG UN-REDD Programme[4]:

(i) Ensure that readiness management arrangements are in place;
(ii) Ensure that arrangements for establishing a reference emission level are in place;

[3] Michael et al 2010.

[4] PNG UN-REDD Programme country profile op. cit.

(iii) Develop a framework for forest carbon monitoring and reporting;
(iv) REDD+ costs and fiscal transfers; and
(v) Engage stakeholders in PNG's REDD+ readiness process.

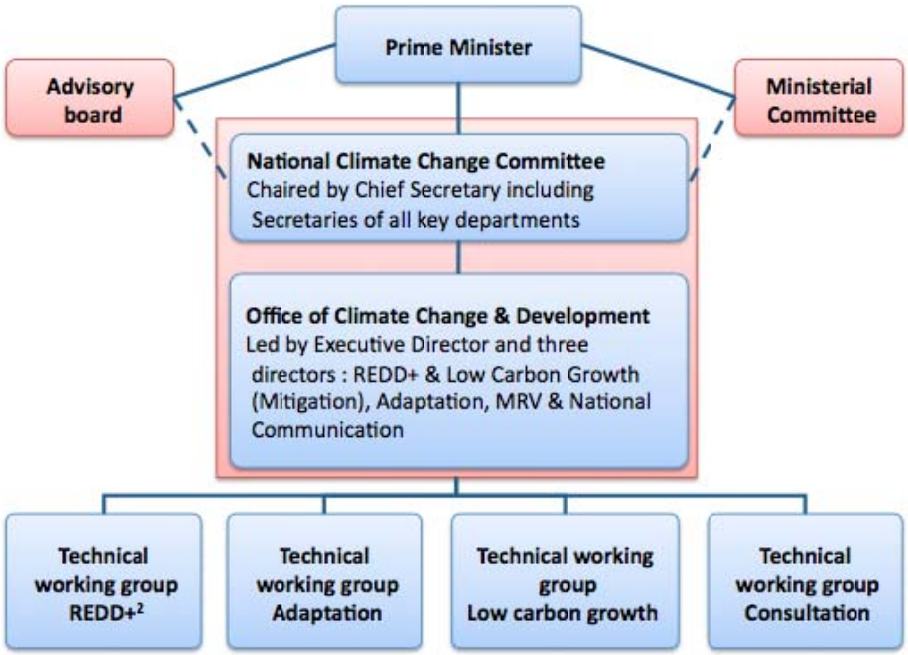
2.2.2 Climate Compatible Development Strategy

The purpose of the Climate Compatible Development Strategy[5] is to address the 5th Pillar on the National Development Strategy – Vision 2050 (Climate and environmental sustainability). The aims of the Climate Compatible Development Strategy are to:

- Reduce GHG emissions by 50 % by year 2030 and become carbon neutral by year 2050.
- Established the National Climate Change Committee (directs the operation of OCCD).
- Established the Office of Climate Change and Development (OCCD) to coordinate all climate change related issues.

PNG government agencies are now working on developing appropriate strategies to align their activities towards meeting the Vision 2050 and Climate Compatible Development Strategy.

Figure 1. The PNG Government Structure for Climate Change



[5] Information presented in this section is derived from the PNG Country update presentation at the Inception Workshop for this project: Michael et al 2010. Available here: http://www.spc.int/lrd/index.php?option=com_docman&task=cat_view&gid=211&Itemid=48&limitstart=5

Priorities for Office of Climate Change and Development:

- Develop a Measurement, Reporting and Verification system (MRV).
  - Called for Expression of Interest from interested agencies to develop the MRV system.
- Adopt a Fund Distribution Mechanism (from international sources).
  - Being discussed at the Sub-Working Group level.
- Create a Benefit Sharing Method that ensures benefits are equitably distributed.
  - Also being discussed at the Sub-Working Group level.

The PNG REDD+ Strategy has the following elements:

1. National Approach
   a. REDD+ Technical Working Group (REDD+ TWG).
      i. Working with all stakeholders to address REDD+ opportunities
   b. Still no specific written policy or legislation to administer and regulate carbon trade or climate change.
   c. Adopted the UNREDD process (with funding) to establish a national forest MRV system.
2. Sectoral Approach
   a. Government departments, NGOs and Industries strategizing their operations.

Figure 2. The structure of the PNG REDD+ Technical Working Group

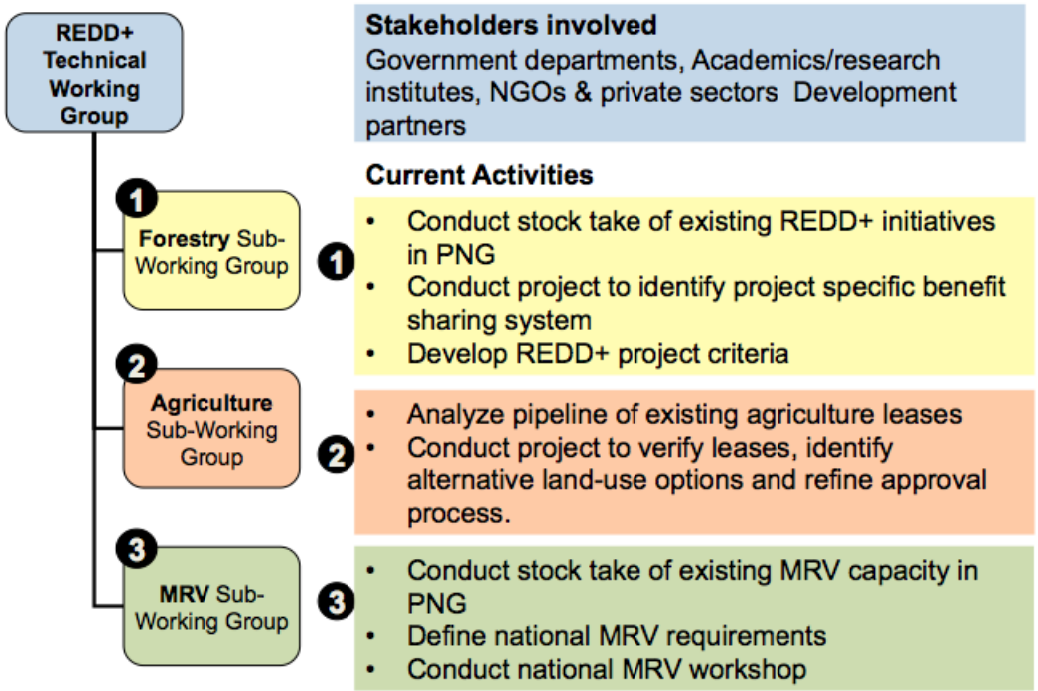


Figure 3. PNG REDD+ Initiatives in Agriculture

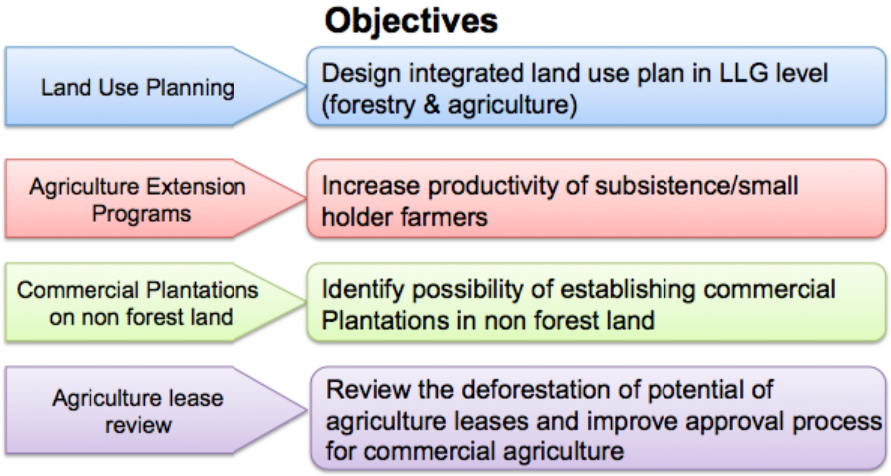
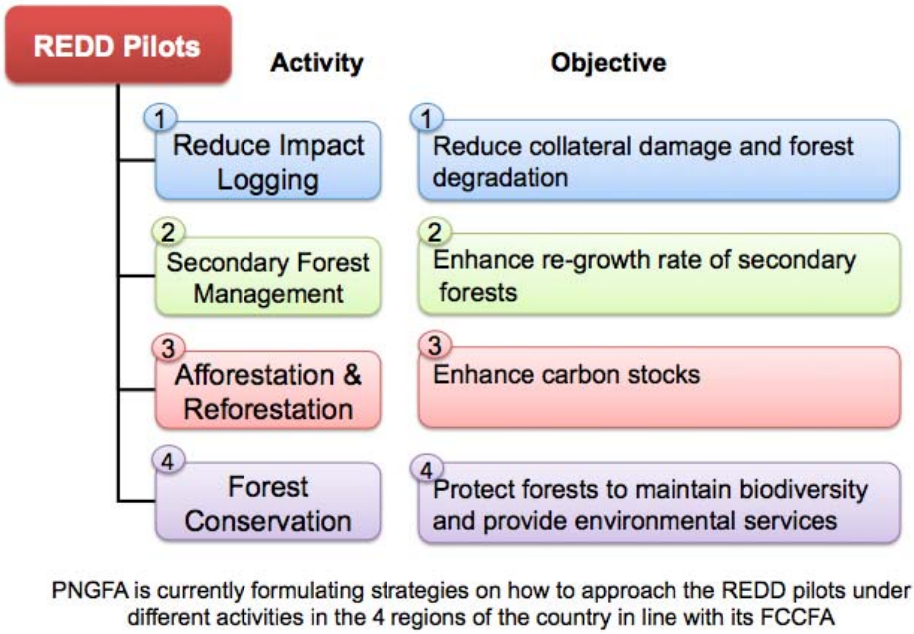


Figure 4. PNG REDD+ Activities in Forestry



PNGFA is currently formulating strategies on how to approach the REDD pilots under different activities in the 4 regions of the country in line with its FCCFA

The purpose of REDD+ pilot activities in PNG is to:

1. Develop and enhance the knowledge base of REDD+ initiatives (Reduced Impact Logging, Logged Over Forest Management, Afforestation/Reforestation and Forest Conservation).

2. Test new policies and plans (CCDP and FCCFA), institutional arrangements, and build capacity.
3. Develop Measurement, Reporting and Verification (MRV) mechanisms and benefit sharing models that ensure benefits accrue equitably to resource owners.
4. Develop further research and analysis in the forestry sector, such as developing a comprehensive green house gas inventory and enhancing our understanding of climate risks.
5. Incorporate climate change mitigation and adaptation issues in the forestry sector into the national development planning.

Key Challenges for REDD+ in PNG are defined by the PNG Government as follows:

- High population growth 2.0 – 2.3% per annum
- Land Tenure System
- Lack of a National Land-use Plan
- Lack of secured and long term permanent forest estates
- Insufficient financial and human resources to adequately implement REDD+
- Lack of capacity to analyze data
- Minimal awareness of REDD+ among relevant stakeholders
- Lack of internal (national coordination) in preparation for international negotiations.

2.2.3 PNG UN-REDD Programme

The objective of the PNG UN-REDD Programme[6] is to support the Office of Climate Change and Environmental Sustainability in its institutional capacity to coordinate the implementation of national REDD readiness activities.

The PNG UN- REDD National Joint Programme was formulated by means of a joint mission comprising: UN (FAO, UNDP, UNEP), World Bank, Norway, Australia and NGO's. This led to the formulation of a PNG REDD Plan Roadmap, which forms the basis for OCCES National Programme. Stakeholder consultations were undertaken in Port Moresby with stakeholders from public and private sectors, and civil society. Consultations were also held with donors including Australia, EU, ADB, WB, Japan, US Embassy, British High Commission and UN). The PNG UN-REDD Programme has also been coordinated with the World Bank Forest Carbon Partnership Facility (FCPF) (following the acceptance of the PNG R-PIN and the PNG status as a FCPF Participant Country), and the PNG-Australia Forest Carbon Partnership and other initiatives.

The National Joint Project results framework comprise the following outcomes:

1. Readiness Management Arrangements;
2. Arrangements for Establishing a Reference Emission Level (REL);
3. Framework for Forest Carbon Monitoring and Reporting;
4. REDD Costs and Fiscal Transfer Options;

[6] Information in this section on the PNG UN-REDD Programme are derived from the PNG UN-REDD National Joint Programme presentation at the 1st UN-REDD Policy Board Meeting in Panama, March 2009 (Government of PNG 2009).

5. Stakeholders Engagement in PNG's REDD Readiness Process.

2.3 VANUATU REDD+ UPDATE

2.3.1 Vanuatu Carbon Credits Project (VCCP)

The Vanuatu National Advisory Committee on Climate Change (NACCC) began its REDD+ readiness programme in 2007 with the establishment of the Vanuatu Carbon Credits Project (VCCP). The VCCP was initiated, and financed by international funds raised by the lead author of this report (Weaver), and established as a partnership between the NACCC, Victoria University of Wellington and Carbon Partnership Ltd. This initiative arose as a response to the UNFCCC SBSTA 24 (May 2006) call for demonstration activities for UNFCCC REDD policy development.

The purpose of the VCCP domestically was to assist Vanuatu build capacity to enable it to gain access to carbon and climate-related finance for sustainable development in the forest and energy sectors (Mele 2010).

Table 2. Three Phases of the VCCP:

Phase	Objectives
Phase 1	Project design, building initial stakeholder relationships, design project governance structures and operational procedures, capacity building (forest area change assessment), international policy.
Phase 2	Capacity building, refinement of project governance, refinement of international and domestic stakeholder partnerships, fund raising for Phase 3.
Phase 3	Establish national forest monitoring capability, historical reference scenario and projected emissions, capacity building, demonstration activities.

The VCCP gained funding from the British Foreign and Commonwealth Office (Global Opportunities Fund) and Victoria University of Wellington, which enabled Phase 1 to be undertaken. Key elements of the VCCP Phase 1 with respect to REDD are:

1. Identification of capacity building requirements in terms of national and project based carbon monitoring
2. National forest area change assessment
3. Initial identification of REDD activities to address deforestation and degradation drivers in Vanuatu

4. Design of potential incentive mechanisms to be incorporated into methodologies for projects or programs for REDD in Vanuatu and elsewhere.

Table 3. VCCP Phase 1 Outputs

Output	Status
REDD Activity Design	Draft Complete
National Forest Carbon Monitoring	In Progress
International Policy Engagement (UNFCCC)	On-going
Institutional Strengthening	On-going
Socio-Economic Good Practice Guidelines for REDD	Incomplete
Vanuatu R-PIN (FCPF)	Complete

2.3.2 REDD Activity Design

This component of Phase 1 (undertaken during 2006 and 2007) involved the preparation of three different options for the design of a national REDD programme: (a) the carbon stock approach; (b) sectoral crediting baselines or reference emissions level approach; and, (c) direct barter approach. This work was undertaken at an early stage in the international REDD+ policy development process and there has since been further developments internationally (including in the voluntary carbon market) that can inform potential activity types and approaches.

2.3.3 National Forest Carbon Monitoring

A national forest area change assessment was completed for the time series 1990-2000 using available financial resources (Herold et al 2007). This work was led by Martin Herold (co-author of this report) in collaboration with Carbon Partnership and the Vanuatu Department of Forests. The completion of this task (for purposes of preparing a national reference level and national carbon stock assessment) requires an additional time step to be undertaken (2000-2010).

A first draft historical assessment of national carbon emissions from deforestation and forest degradation was based on the limited data available to a national forest area change assessment and forest inventory information. The data provide rough estimates with unknown accuracy; an effort that needs to be consolidated as part of the readiness phase.

Table 4. First Draft National Forest Emissions Assessment

Deforestation		Gross carbon emissions	
		IPCC Tier 1 estimate total	Annual (avg)
1990 - 2000	4,306 ha deforested	~ 750,000 t	75,000 t
2000 - 2005	1700 ha (?) deforested	~ 300,000 t	60,000 t
Degradation		(selective logging)	
1990 - 2000	~340,000 m^3 harvested	~ 250,000 t	25,000 t
2000 - 2005	~100.000 m^3 harvested	~ 70,000 t	14,200 t
Total 1990-2000 Total 2000-2005		~ 1,000,000 t ~ 370,000 t	**100,000 t** **74,000 t**

During Phase 1 of the VCCP a scoping exercise was undertaken to design and develop a detailed budget for a national forest carbon inventory (undertaken by Ian Payton – co-author of this report), and determine the requirements for capacity building for a national forest carbon monitoring system. Capacity building requirements for national forest carbon monitoring identified in Phase 1 include:

1. Develop a sustained program for measuring and estimating forest sector carbon sinks and sources, including a centralized data management system.
2. Establish a national level carbon accounting system (among different sectors).
3. Evolve capacities for UNFCCC reporting purposes.
4. Planning and management of project-level activities for REDD implementation and sustainable forest management.
5. Policy and approval procedures need to be developed for the Vanuatu DNA.

2.3.4 International Policy Engagement

The NACCC in collaboration with the VCCP international technical advisory team (Weaver, Ward, Herold, O'Sullivan) actively participated in UNFCCC REDD policy development processes during Phase 1 of the VCCP (2007 and 2008). This included participation in UNFCCC negotiations at SBSTA and COP events, preparation of the Vanuatu submission to the UNFCCC SBSTA REDD consultative process in 2007, presentation of side events at UNFCCC meetings, and active participation at the Coalition of Rainforest Nations and World Bank events during those two years. Notable among the positive outcomes arising from this collaborative international policy engagement was:

- The Vanuatu contribution to shifting UNFCCC REDD policy to include forest degradation (degradation was initially excluded from the policy framework for REDD where the second 'D' formerly denoted 'Developing Countries'). This was a particularly prominent component of the Vanuatu presentation at the UNFCCC SBSTA Workshop on REDD in Cairns in February 2007 (Weaver, O'Sullivan, and Viji 2007).
- Vanuatu expressing its view at UNFCCC SBSTA meetings that the UNFCCC REDD policy and financing framework should accommodate countries (like Vanuatu) with low historical deforestation baselines. The UNFCCC shifted its position to enable countries to develop a reference level with 'adjustment factors' to account for historical trends (Weaver, O'Sullivan, Ward, Herold, and Napat 2007; Weaver 2007).
- The Vanuatu contribution to expanding the definition of REDD to include afforestation/reforestation and forest conservation by means of a UNFCCC side event at SBSTA 26 in 2007. This contributed to the international policy dialogue that led to the UNFCCC definition shifting from 'REDD' to 'REDD+' (Phillips, Weaver, Herold, and Ward 2008)
- The Vanuatu contribution to the 3rd design meeting of the Climate Investment Funds of the World Bank (Weaver 2008a).
- The opportunity for Vanuatu to gain substantial climate change adaptation funding from the European Commission's Global Climate Change Alliance, and the Global Environment Facility (totalling 5.3 million euro for the implementation of the Vanuatu NAPA) (Weaver 2008b).

2.3.5 Institutional Strengthening

The institutional strengthening of the Vanuatu REDD programme was facilitated by technical advisory support provided to the VCCP in the form of:

- Technical and policy training of government staff to increase awareness of REDD policy and technical issues relating to REDD.
- An analysis of carbon property rights that helped to clarify the existing legal status of carbon property rights in Vanuatu legislation (Holt et al 2007).
- Assistance in the establishment of the Vanuatu DNA and recommendations on how to require voluntary carbon market to be subject to nationally and community determined quality assurance criteria relating to REDD safeguards of indigenous people's rights and community development.

2.3.6 Socio-Economic Good Practice Guidance

Phase 1 of the VCCP included community based participatory social research to inform a set of Socio-Economic Good Practice Guidelines for REDD activities in Vanuatu. A draft framework for such guidelines (Weaver et al 2007) was developed arising from participatory

appraisal research in rural Vanuatu in combination with ICDP[7] principles. The work associated with this set of guidelines is as yet incomplete and needs further work.

2.3.7 Vanuatu R-PIN (FCPF)

A multistakeholder VCCP national planning workshop (funded by the New Zealand Ministry for the Environment) in February 2008 enabled Vanuatu to begin working with the World Bank – Forest Carbon Partnership Facility (FCPF). Here Vanuatu developed the material used in its R-PIN (REDD Readiness Preparation Idea Note). The Vanuatu R-PIN was drafted by Weaver and Herold (authors of this report) in collaboration with the Department of Forests. The R-PIN was endorsed by the FCPF enabling Vanuatu to become a FCPF Participant Country (the only small island state to do so), and thereby became eligible for FCPF funding to develop the R-PP (Readiness Preparation Proposal). This funding (US$200,000) was approved by the FCPF during 2009 but as yet has not been accessed by the Vanuatu government.

The Vanuatu R-PIN includes a summary of policy and technical priorities for the Vanuatu national REDD+ readiness programme – these were identified by staff from the Vanuatu Department of Forests at a national planning (multistakeholder) workshop for the VCCP in February 2008.

Table 5. Summary of REDD+ Policy and Technical Priorities

Forest Priorities	REDD Issues and Opportunities
National forest inventory: ➢ Some useful existing data and experiences ➢ Goal: full national inventory of forest resources	• Capacity building • Improve REDD readiness with full carbon stock assessment • Include remote sensing area change for historical emissions estimates (See below on "Vanuatu REDD Monitoring System Proposal")
Conservation activities: ➢ Some existing, some to be initiated, some proposed ➢ Guidelines for monitoring and management	• Carbon credits demonstration activities on "avoiding deforestation", e.g. for medium risk/concession areas e.g. Erromango Kauri/Sandalwood tree conservation area • Evolve national monitoring system • Inventory of existing and proposed of conservation areas
Production forestry/plantations: ➢ Focus on indigenous/local tree species ➢ Production of biofuels	• CDM A/Reforestation projects to increase forestry/carbon sequestration/biofuel production capacities • Reuse invasive species plantations: *Cordia alliodora* plantations / link to bioenergy • Monitoring/quantification of forest "sink" capacities
Research on Agroforestry	• Establish an Agroforestry unit and boost agroforestry capabilities in the Department of Forests • CDM projects for sustainable land use (of degraded forest area) with link to energy production i.e. Butmas case of

[7] ICDP = Integrated Conservation and Development Projects

Forest Priorities	REDD Issues and Opportunities
	Agro-silvopastural project and potential link with avoiding deforestation
Institutional capacity to engage in climate change issues	• REDD national monitoring capacity • Capacity building, support and participate in national/international policy development • Multiple benefits of improved forest monitoring
National forest policy to accommodate climate change issues	• Vision of "Carbon Neutrality" and role for forest sector • Option for climate change mitigation masterplan for Vanuatu • Role of forests/forestry in nationwide land use planning

The national planning workshop and the consequent Vanuatu R-PIN also identified priorities for REDD+ demonstration activities (Table 6).

Table 6. REDD+ Demonstration Activities

Demonstration Activity	Some Notable Features
Demonstration 1: High Risk Area • Target area with current active timber concession at risk for deforestation such as the Melcoffee Sawmill concession in South Santo (20,000ha)	Potential REDD demonstration activity
Demonstration 2: Medium Risk Area • Target areas where landowners are undertaking medium level timber extraction destined for forest degradation. Two possible areas: Kauri/Sandalwood forest (Erromango), Butmas mixed species rainforest (Santo)	Potential REDD demonstration activity
Demonstration 3: Systematic weed control of invasive canopy weed • Target area South Santo	An example of an integrated REDD and increased forest stocks (sequestration) project
Demonstration 4: A/Reforestation projects to address deforestation drivers by addressing timber and local employment demand • Integrated forest/agroforestry of kava, coconut, whitewood, nangai, sandalwood plantation • Whitewood timber plantation	Addresses deforestation drivers as a necessary component of an integrated approach to REDD
Demonstration 5: Reuse invasive woody species plantations • Combined removal of invasive species and use for bioenergy (electricity generation and copra drying) and replacement with indigenous species plantation for carbon sequestration and biodiversity improvement, or on-going energy crop • *Cordia alliodora* plantations (80,000 m3) with potential demonstration activities on (Ipota, Lelepa, Malakula, Santo or Banks). Logistically a feasibility study would best be located on Santo.	Addresses deforestation drivers as a necessary component of an integrated approach to REDD Linking REDD, with A/R and Energy. CDM bioenergy project

2.4 FIJI REDD+ UPDATE

2.4.1 German Technical Cooperation[8]

Fiji began its REDD+ readiness process in 2009 with support from the BMZ (German Federal Ministry for Economic Cooperation and Development), which funded the SPC/GIZ Regional Programme on 'Adaptation to Climate Change in the Pacific Island Region'[9] (ACCPIR). The ACCPIR in Fiji involves policy and technical developments in REDD+ and encompasses a forest sector climate change adaptation programme that links adaptation outcomes (resilience) with climate change mitigation finance in REDD+.

2.4.2 ACCPIR Inception Workshop

The inception workshop for the Fiji component of the ACCPIR identified a strategic framework for a national REDD+ programme that involves a phased approach that is aligned with international REDD+ development processes defined by the World Bank Forest Carbon Partnership Facility (FCPF) and the UNREDD. The three phases are:

Phase 1: Policy and scoping – output "National REDD Policy"

Phase 2: Detailed planning – output "National REDD Strategic Action Plan"

Phase 3: Implementation – output "National REDD strategy outcomes and monitoring"

The technical stream focuses on the development of a national forest carbon monitoring, reporting and verification (MRV) system, with the policy stream focusing on strategy, financing and implementation.

2.4.3 ACCPIR National REDD+ Policy and Scoping Consultation

A National REDD+ Policy and Scoping Consultation Workshop was held in September 2009. The purpose of the workshop was to build capacity through policy and technical training, and then undertake an informed multistakeholder consultation process to build the policy and technical framework for a National REDD+ Strategy (Weaver et al 2009).

This consultation involved:

1. Policy and technical training.
2. Policy consultations with key stakeholders at a national level.
3. Technical input to policy dialogue.

[8] Now Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ) – since January 2011
[9] Now named "Coping with Climate Change in the Pacific Island Region" – since January 2011

4. Data and capability assessment for a national forest carbon monitoring programme for Fiji, and the design of a strategy and methodology to fill data and capability gaps.
5. Refinement of a draft National REDD Policy.

Policy and technical consultations resulted in the refinement of a National REDD Strategy Framework, which elaborates the following:

- Scale (national, project or combination)
- Scope (activity types and priorities)
- MRV (how emissions/carbon stocks are measured and the development of a national reference level for future negotiations at the UNFCCC)
- Financing (target sources of funding for a National REDD Programme)
- Distribution (how benefits arising from REDD activities will be distributed)
- Governance
- Capacity Development
- International Policy Engagement

The multistakeholder consultation process culminated in a line-by-line negotiation and refinement of a draft text for a National REDD+ Policy.

The mandate generated by this workshop led to progress in the policy and technical components of the national REDD+ programme with the following outcomes to December 2010:

- The National REDD+ Policy draft went through the government consultation process during 2010 and was officially adopted by Cabinet in December 2010
- The first phase of a national forest area change assessment
- Establishment of 100 Permanent Sample Plots throughout Fiji & data entry into MS Access database (AAC-Carbon Stock)
- National Forest Inventory mapping and volume calculations
- Forest Certification (National Standard)
- Review of Forest Legislation Revised Code of Forest Harvesting Practices
- 1 million tree planting initiative

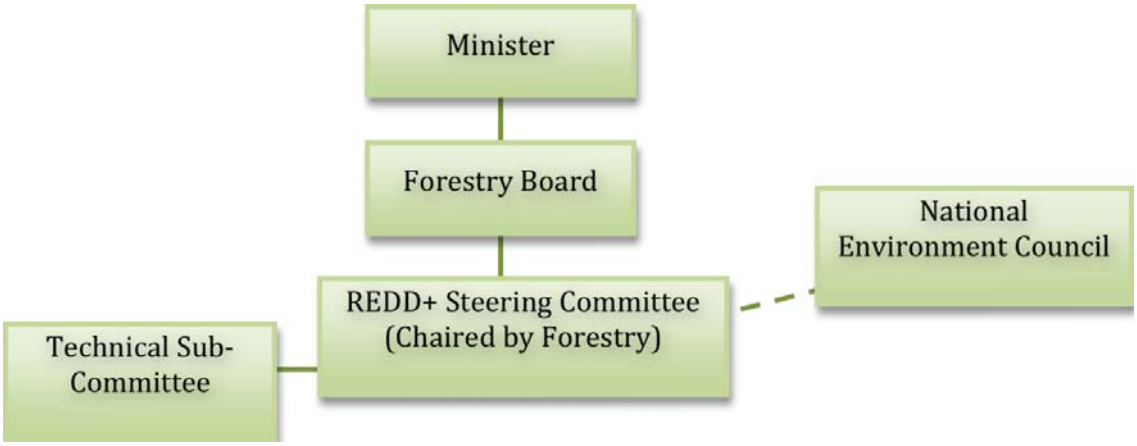
2.4.4 National REDD+ Strategy Workshop

In November 2010 a multi-stakeholder National REDD+ Strategy Workshop was held in Suva to develop the basis of the National REDD+ Strategy, which was completed in January 2011 (Weaver et al 2011).

In December 2010 the first national forest carbon stock assessment was undertaken (Weaver et al 2011). This involved aligning different national forest inventory data sets (indigenous and plantation forest), and converting them to a national forest carbon data set. Further work is required to complete this task during 2011.

The structure of national REDD+ Governance in Fiji was determined at the National REDD+ Strategy Workshop in November 2010 and depicted in Figure 5.

Figure 5. Fiji REDD+ Governance Structure



The composition of the Fiji REDD+ Steering Committee: Forestry (Secretariat/chair), Environment, Agriculture, Native Lands Trust Board, Private sector, Fiji Pine, International NGO, Local NGO, Resource /land owner, University of the South Pacific/Fiji National University (Weaver et al 2011).

An international NGO (Conservation International) is currently undertaking a forest carbon project under the voluntary carbon market in Fiji: the Nakauvadra Afforestation for Carbon Offsets project. This community project involves mixed species afforestation of 350ha in the Nakauvadra Range in northern Viti Levu (75% timber species; 25% native species). The project is being developed under the Voluntary Carbon Standard (VCS) and the Climate Community and Biodiversity (CCB) carbon market standards (Lagataki et al 2010).

2.5 SOLOMON ISLANDS REDD+ UPDATE

2.5.1 The Forest Resource

The Solomon Islands experience high deforestation rates and are dependent on indigenous forest-based export earnings. According to the Initial National Programme Document for the

Solomon Islands UN-REDD Programme (UN-REDD 2010)[10] the total forest area in the Solomon Islands is approximately 2.2 million hectares. Logging is restricted to slopes less than 40 degrees and elevations below 400m (such regulations are frequently abused). Due to topographical constraints only 604,000 hectares are considered to be commercially harvestable.

Deforestation rates in the Solomon Islands are the highest in the Pacific region running at 2.2% per annum. The main drivers of deforestation are:

- Conversion of natural forest to industrial plantation such as oil palm
- Mining development
- Infrastructure development

The Ministry of Agriculture and Livestock is currently planning to increase oil palm plantations by 34,000ha by 2014 – increasing from the current 6,000ha to 40,000ha.

Forest degradation is also significant in the Solomon Islands with recent timber extraction rates of 1 million m^3 per year – this is 700,000m^3 per year greater than what is considered a sustainable rate of extraction.

The logging industry is the single most significant economic sector in the Solomon Islands, contributing 67% of export earnings, and 12-13% of total government revenue. Up to 50% of the workforce is likely to be associated directly or indirectly with the forest sector. Official estimates of annual export earnings in 2007 were approximately US$110 million (likely to be an under-estimate).

The Solomon Islands have initiated national scale REDD+ activities with funding received from the FAO ACP-FLEGT Support Programme (US$135,000), and the UN-REDD Programme (US$550,000). There is also a local REDD project currently in development covering the 12,000ha Tetepare Island (Solomon Islands Community Conservation Partnership 2010).

2.5.2 UN-REDD Programme

The UN-REDD Programme in the Solomon Islands (SI) started at the beginning of 2011 with an expected duration of 18 months. The goal is to establish the necessary institutional and individual capacities required to develop full REDD+ readiness. The SI UN-REDD Programme is designed to deliver three key outcomes:

Outcome 1: REDD+ readiness supported by effective, inclusive and participatory management processes

Output 1.1: A broad-based, multistakeholder national REDD+ working group

[10] Solomon Islands REDD+ Update Information presented in this section is derived from the Initial National Programme Document for the Solomon Islands UN-REDD Programme (unless otherwise stated), available at: http://www.un-redd.org/AboutUNREDDProgramme/NationalProgrammes/Solomon_Islands/tabid/6898/Default.aspx

Output 1.2: Collated and analysed forest resource data

Outcome 2: REDD+ stakeholders have a comprehensive understanding of the potential benefits and risks associated with REDD+

Output 2.1: A constituency-based awareness raising programme

Output 2.2 A process to ensure the right of free, prior and informed consent for actions to be undertaken on REDD+

Outcome 3: Preliminary capacity developed for REL formulation and MRV

Output 3.1: REL[11] and MRV capacity assessment

Output 3.2: Assessment of potential for regional cooperation on MRV

The principal starting point for REDD+ in the Solomon Islands is forest governance. The Initial National Programme Document for the Solomon Islands UN-REDD Programme states:

"Key governance issues preventing sustainable management of forest resources in the Solomon Islands include:

- Outdated and incomplete legislation. The main legislation governing the sector dates from 1969 and is inadequate to govern a vastly expanded industry. Provisions for duty remissions exist, from which logging companies have been major beneficiaries, while rarely complying with requirements to use these savings for reforestation or other works at community level.
- Uneven application of the rule of law. Companies are rarely fined or suspended or face license cancellations despite generally poor (and sometimes illegal) logging practices. Timber license hearings, required under the Timber Resources. Acquisition Process are sometimes held with minimal advance notification, effectively limiting participation.
- Incomplete enforcement. Smuggling and misclassification of products result in revenue loss; and therefore over-exploitation compared with actual revenue flows.
- Inaccessibility and cost of legal proceedings, which act as a deterrent to seeking advice and compensation.
- Weak coordination and cooperation within and among customary ownership groups. Negotiations with logging companies are often conducted with and by the elite few within a community and little communication about the process with other tribal members; benefits (financial) accrue to only a few individuals and/or lower than expected royalties.
- Weak format governance structures. A combination of the preceding factors results in "elite capture" of a disproportionate share of total revenues."

[11] 'REL' stands for 'Reference Emission Levels' which refers to business as usual emissions, and determined using historical data in combination with 'adjustment factors' relating to expected emissions levels into the future.

2.6 OTHER PACIFIC ISLAND NATIONS

2.6.1 Japan-UN/REDD Cooperation

A project entitled "Promoting Regional REDD+ Approach and REDD+ Readiness in Under-Supported Regions of Asia/Pacific" was launched in November 2010. This project is funded by the Japan-UNDP Partnership Fund and involves a partnership between Japan and the UNREDD programme. This project will provide national level assistance to "under-supported" Asia/Pacific countries in REDD+ development. The Pacific Island countries covered by this initiative are: Fiji, Kiribati, Marshall Islands, Palau, Samoa, Solomon Islands and Tonga, according to the UN-REDD website.[12] At a regional scale the project aims to establish a regional platform to promote coordination and collaboration in REDD+ capacity building.

Given that Fiji and the Solomon Islands are included as participant countries in this initiative, some level of coordination with the SPC/GIZ REDD+ activities in the region would be helpful.

2.6.2 Other Perspectives On REDD+

There is also some variation in the degree of support for REDD+ in Pacific Island countries, which potentially relates to:

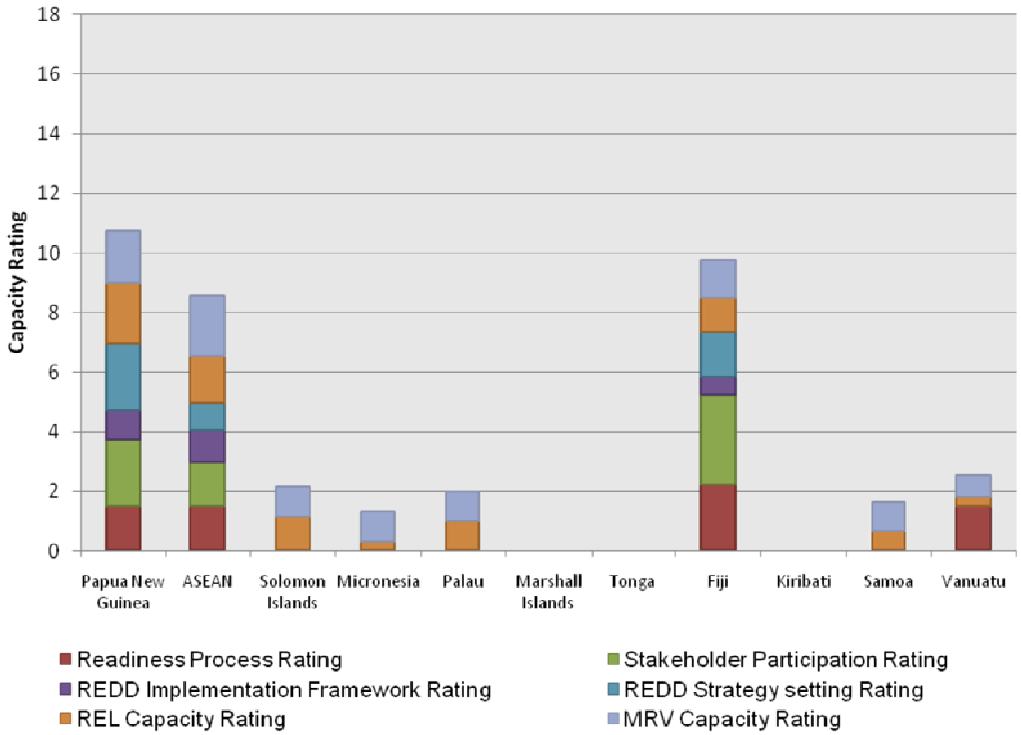
- Geographical differences: some countries have very little forest area and therefore little opportunity to benefit from REDD+ financing and management activities
- International policy positions: some countries do not support REDD+ in the international climate change policy framework, or do not support some aspects of international REDD financing[13].

A coordinated regional approach to REDD+ will, therefore, also benefit from effective and open communication among Pacific Island countries to ensure a common understanding of the potential benefits to participating nations and the inclusion of necessary safeguards to ensure the integrity of any regional REDD+ activities.

[12] See announcement here: http://www.un-redd.org/UNREDD_Japan_Partnership_Project/tabid/6379/Default.aspx

[13] Tuvalu, for example, does not support forest carbon trading but does support fund-based approaches to forest carbon management finance. See article: http://thereddsite.wordpress.com/2009/09/07/guest-article-the-tuvalu-position-on-redd/

Figure 6: REDD+ Readiness Capacity by Country. Source: Initial National Programme Document for the Solomon Islands UN-REDD Programme (2010).

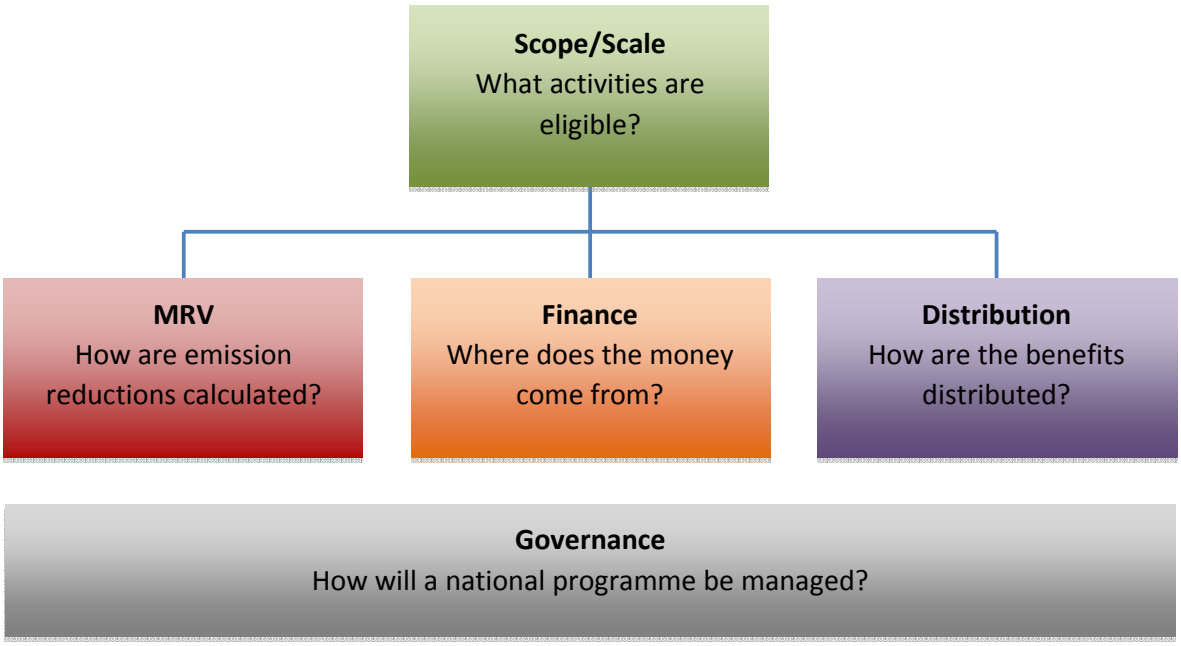


3. International Policy Developments in REDD+

3.1 INTRODUCTION

The basic architecture of a national REDD+ programme will need to include a set of key components[14] as indicated in Figure 7.

Figure 7. Key Components of National REDD+ Programmes



International and domestic policy focuses on each of these themes. In international policy development, the core concern from a climate and carbon accounting point of view is focused on Scope/Scale, Finance, and MRV.

The purpose of the entire REDD+ sector is to create an efficient and effective path between the source of finance for REDD+ on the one hand, and quantitative carbon stock change arising from REDD+ implementation activities on the other. For this reason there is a strong strategic link between the design of REDD+ financing instruments, and the design of monitoring, reporting and verification (MRV) systems[15].

The main international policy settings for REDD+ are the UNFCCC, Multilateral Development Banks (MDBs), multilateral and bilateral donors, domestic climate policy, the voluntary

[14] See Parker et al 2009. The Little REDD+ Book available here: http://www.globalcanopy.org/main.php?m=117&sm=176&t=1

[15] See Weaver 2010 for a presentation explaining REDD+ Financing and Activity Types.

carbon market, and non-UN international REDD+ forums (e.g. the REDD+ Partnership, Coalition of Rainforest Nations). The UNFCCC has taken the lead in international REDD+ policy development as part of the negotiating process towards a post-2012 intergovernmental climate change agreement.

The UNFCCC and its activities will potentially dominate the REDD+ sector in coming years but presently activities on the ground are being driven outside the UNFCCC process (e.g. by the World Bank Forest Carbon Partnership Facility, the voluntary carbon market, and multilateral and bilateral donor activity). This is because policy instruments and financing mechanisms for REDD+ are still undergoing development at the UNFCCC. This is being undertaken as part of the Long-term Cooperative Action (LCA) – the policy and financing stream of the UNFCCC process. From a technical point of view, however, the UNFCCC process has already made considerable progress towards establishing a firm foundation for how REDD monitoring, reporting, and verification (MRV) will be undertaken. This technical work has been undertaken within the UNFCCC Subsidiary Bodies for Scientific and Technological Advice (SBSTA).

This resulted in the draft text on methodology for REDD produced by SBSTA in their 31st session in November 2009 in Copenhagen. The text is called '*Methodological guidance for activities relating to reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries*.' This SBSTA-31 text was adopted (as a decision) by the 15th Conference of Parties (COP-15) to the UNFCCC (also in Copenhagen), in December 2009[16].

This decision makes it clear that the UNFCCC REDD framework will include reduced emissions from deforestation and degradation, and three additional activity types:

- Forest conservation
- Sustainable forest management (SFM) and
- Forest enhancement

The combination of reducing emissions from deforestation and forest degradation and three elements are usually jointly referred to as 'REDD+'.

The COP-15 decision also refers to the need to establish monitoring systems that use an appropriate combination of remote sensing and ground-based forest carbon inventory approaches, with a focus on estimating anthropogenic forest-related greenhouse gas emissions by sources, removals by sinks, forest carbon stocks and forest area changes.

All estimates should be transparent, consistent, as accurate as possible, and should reduce uncertainties, as far as national capabilities and capacities permit. It is further indicated that these monitoring systems and their results will be open to independent review as agreed by the Conference of the Parties (COP). The COP-15 decision makes particular reference to the need to involve local communities in measuring and monitoring carbon stocks.

[16] Provided in Appendix 4 below.

The international UNFCCC negotiations are converging on a growing consensus on REDD+ with further clarification arising from COP-16 in Cancun, Mexico in December 2010.

Part III (C) of the COP-16 decision at Cancun[17] relates specifically to REDD+ in and states that activities undertaken by developing country Parties (reducing deforestation, reducing forest degradation, forest conservation, sustainable management of forests, enhancement of forest carbon stocks) should be implemented in phases:

1. The development of national strategies or action plans, policies and measures, and capacity building.

2. The implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results-based demonstration activities.

3. Results-based actions that should be fully measured, reported and verified.

Annex I of this decision[18] presented guidance on safeguards relating to REDD+ activities and policy frameworks, while Annex II requests that the Subsidiary Body for Scientific and Technological Advice (to the UNFCCC) continues to:

- Identify activities linked to drivers of deforestation and forest degradation and identify methodological issues to estimate emissions and removals arising from these activities (and report at COP-18 in 2012),
- Develop operational modalities on national reference level for forest sector emissions and national MRV system (for consideration at COP-17 in 2011), and
- Guidance on safeguards specified in Annex I of the decision (for consideration at COP-17 in 2011).

The COP-16 REDD+ decision Part III (C) paragraph 76 also urges developed country Parties:

> *"to support, through multilateral and bilateral channels, the development of national strategies or action plans, policies and measures and capacity-building, followed by the implementation of national policies and measures, … and results-based demonstration activities including consideration of the safeguards referred to in … Annex I to this decision…"*

This project encompasses an active response to this request for developed country support for REDD+ in developing countries, and will be guided by international policy and associated technical considerations arising from the UNFCCC process.

[17] See Appendix 5 below for full text.
[18] See Appendix 5

3.2 CLARIFYING TERMINOLOGY: 'REDD' AND 'REDD+'

During the Kyoto Protocol negotiations the debate on forest carbon management in developing countries focused on the notion of avoiding deforestation (AD) given the recognition that approximately 20% of anthropogenic GHG emissions resulted from deforestation – predominantly in developing countries. For pragmatic political reasons AD was excluded from the Kyoto Protocol when its forest rules were finalised in 2001.

The issue of avoided deforestation then re-entered the UNFCCC policy process in 2005 with the inclusion of Agenda Item 6 at COP-11 in Montreal: "Reducing Emissions From Deforestation in Developing Countries: Approaches to Stimulate Action". With this the acronym 'REDD' came into being with the second 'D' referring to 'Developing Countries'.

Debate among scientists and UNFCCC Parties during 2006 and 2007 led to a shift in the emphasis of REDD to include forest degradation (swapping the second 'D' from 'Developing' to 'Degradation'). This was because a large proportion of forest carbon stock change does not involve a change in land use from a forest to a non-forest activity (deforestation) but arises from activities that degrade the forest.

The boundaries of the REDD policy debate continued to evolve through 2008 to 2010. To clarify - reducing emissions from deforestation and forest degradation are activities that reduce the rate of carbon emissions from forest sources (**reducing source**). But forests are also reservoirs of carbon that may not be emitting carbon quite yet but could in future be turned into carbon sources if they were degraded or deforested. Forest conservation therefore came into the UNFCCC REDD policy framework (**protecting reservoir**). Furthermore, it became increasingly clear to negotiators that addressing the drivers of forest carbon emissions commonly went hand in hand with the sustainable management of forests and the enhancement of forest carbon stocks through new forest plantings (**enhancing sinks**). The inclusion of forest conservation, sustainable management of forests and enhancing forest carbon sinks in the international REDD policy framework comprise the '+' in the term 'REDD+'.

The REDD+ elements entered the debate at the insistence of countries (e.g. Vanuatu's submission to the UNFCCC in 2007) that have low historical deforestation rates, but either have nationally or regionally active deforestation drivers, and/or experience significant rates of forest carbon loss through logging activities that do not result in land use change (e.g. high intensity selective logging).

A definition of forest was agreed in the Marrakech Accords in terms of tree canopy cover, height and area thresholds. Countries may select a canopy cover threshold of between 10 and 30%, with a height minimum of between 2 and 5 meters (of trees at maturity), and an area criterion with a minimum of 0.1 hectares. Any area of woody vegetation (regardless of whether it is locally defined as forest or woodland or wasteland) that drops below the threshold is considered to have been *deforested*, in other words, it has undergone change from forest to non-forest (e.g. to agriculture, pasture, urban development).

3.2.1 Reducing Emissions A – Deforestation

Deforestation is indicated in Figure 8 by abrupt drop in the red line. Loss of forest followed by a change in land use that prevents the natural forest re-growth usually results in carbon emissions per hectare until the area stabilises at a considerably lower carbon stock. The prevention of deforestation in a particular area, and reducing the rate of deforestation for the country as a whole are the key climate change mitigation actions associated with deforestation.

3.2.2 Reducing Emissions B – Forest Degradation

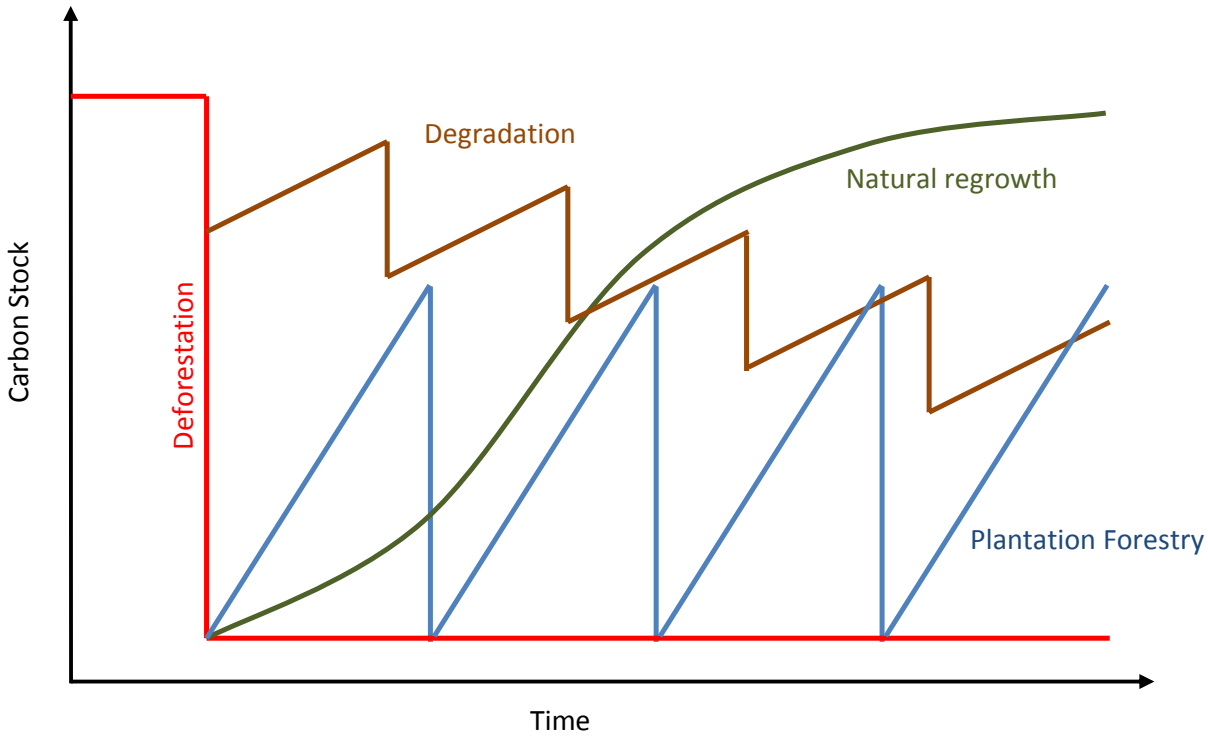
Degradation[19] refers to loss of carbon stock within forests that remain forests (Figure 8, brown line)[20]. This is a specialized use of the term degradation, which in normal forestry terminology is an umbrella concept relating to loss of a variety of forest values. It is in fact often loosely used as synonymous with 'deforestation', as a cursory Internet search of images of 'degradation' makes clear. A group convened by IPCC to resolve the definition of degradation was unable to produce a clear definition because losses of biomass in forest may be temporary or cyclical and therefore essentially sustainable, even if on average the carbon stock remains below that of intact forest. Realizing that in addition to the variables used to define deforestation, a time element was also required – the IPCC expert group also recognized that selecting such a threshold is very difficult. This is in part because forest growth cycles are usually much longer than commitment or accounting periods under climate change treaties. A special UNFCCC workshop on degradation convened in 2008 discussed various methodological issues relating to degradation, but although some suggestions were made, the meeting did not result in a clear definition.

The IPCC report however does make clear that there are different forms of degradation relating to different human uses of forest. In the REDD discourse, most references to degradation refer to location-specific attacks on otherwise intact forest, which occur episodically, as in selective commercial logging in rain forest. This may or may not be followed by clearance for agriculture (deforestation) - a study in the Amazon suggests that full clearance only occurs in 30% of the area which has been logged over, a further 30% re-grew within 4 years, while the fate of the remaining 40% could not be determined as the logging was very recent (Krug, 2008).

[19] From the point of view of climate change policy and the IPCC national estimation and reporting guidelines.

[20] It is important here to distinguish between the concept of a *degraded forest,* which has a reduced carbon stock which could remain stable or increasing below the level of a primary forest for years, not contributing any further CO2 emissions, and the process of degradation, which implies a continuing loss of stock.

Figure 8. Concept Diagram of Forest Carbon Stock Change Through Time



Other forms of degradation are less visible but may be much more widespread, as they are caused by gradual processes which continue year after year, primarily as a result of community uses of forest products where population densities are increasing, such as in dry forests and savannah woodlands of sub-Saharan Africa. It is important to understand that while the UNFCCC concept of degradation is related to carbon stocks, and will be defined in these terms, degradation in everyday terms refers to the anthropogenic processes which drive the carbon losses, and an understanding of these processes will be essential to quantify and to forecast these carbon losses in the long run as well as to design policies to combat it.

3.2.3 Protecting Carbon Reservoirs – Forest Conservation

Forest conservation concerns the protection of existing carbon stocks located in a forest carbon reservoir. Such carbon reservoirs may not be carbon sinks because they comprise mature forests that no longer grow in biomass annually.

The concept of forest conservation is new to the UNFCCC REDD discussions in the sense that no similar forest-related concept has been agreed upon before by the Parties. The following considerations are important in understanding the role of forest conservation under REDD+:

- It is an effort to decrease the threat that the forest may become a source of carbon emissions in the future and to ensure permanence by establishing long-term commitments to preserve forest.
- It implies that human activities in such areas are minimal, and in sum, will result in a net zero carbon balance in the near and long-term.
- It will result in the continued supplies not only of carbon but also of other ecosystem services, provided the ecosystem is kept intact.

The monitoring objective is to verify that in the forest labelled ´conservation forest´ (i.e. through a policy), the carbon stocks remain stable and intact. How to create performance-based incentive payments for forest conservation under REDD+ remains conceptually difficult, and may require instruments rather different from those used for the other REDD+ elements. Many Parties to the UNFCCC are clear that all forests (including those in which there are no changes in carbon stocks) should be considered for carbon stock management incentives – even where no contemporary anthropogenic drivers are posing a particular risk. In this context, the idea of carbon reserves has been proposed, such that a minimum amount of forest carbon is maintained in a country or specific area.

3.2.4 Enhancing Carbon Reservoirs – Sustainable Management of Forests

Enhancement of forest carbon stocks may be achieved through a number of human activities such as enrichment planting and may also be related to s*ustainable forest management* (SFM). SFM is a term usually used in the context of commercial timber operations and in this sense it might be better described as sustainable yield management. But there are other ways in which forest may be managed sustainably, for example through community forest management (CFM), which may be much less concerned with timber than with firewood, fodder and non-timber forest products. Such programmes have been operating in Nepal and India for 20 years already and have become popular also in other countries.

Another activity type relevant to the sustainable management of forests is 'Improved Forest Management' – as defined for example in the Agriculture, Forestry and Other Land Uses sector of the Voluntary Carbon Standard. Improved Forest Management or IFM concerns changes in the way forest carbon stocks are managed in a 'forest remaining as forest' activity (as defined by the IPCC). IFM can include increasing the rotation age, reduced impact logging, and forest protection. Shifting an activity from a forest degradation activity to a sustainable forest management or forest protection activity would constitute the avoidance or reduction of forest degradation. It seems perhaps more logical to link forest degradation (problem) with IFM (solution) under the overarching framework of 'sustainable management of forest' than keeping them as separate categories under REDD+.

3.2.5 Enhancing Forest Sinks

Enhancing forest sinks involves management interventions that create new carbon sink activities. New carbon sinks need to be established on non-forest lands, but can also be established in degraded landscapes that may or may not fit the definition of 'forest land' for the particular country. Either way, enhancing forest sinks is an important component of the overall REDD+ framework, and has particular relevance to addressing the drivers of deforestation and degradation. For example, in a country without a plantation forestry resource, there will tend to be more pressure on the indigenous forests. Once plantations are established, these areas can displace the need to use indigenous forests for timber production components of the land based economy. New forest plantations can also increase the net forest cover and net forest carbon stocks for a country.

Table 7. REDD+ Activity Spectrum

Mitigation Aim	Mitigation Objective	Land Use Change	Activity Type
Reduce Source	**Reducing Deforestation**	Yes	Reducing Deforestation Rate Converting Deforestation to Protected Forest Converting Deforestation to Sustainable Forest Management
Protect Reservoir	**Reducing Degradation** **Forest Conservation**	No	Reduced Impact Logging Increasing Rotation Age Converting Degradation to Protected Forest Converting Degradation to Sustainable Forest Management
Enhance Sink	**Enhancing Forest Growth**		Converting Unprotected to Permanently Protected Forest
	Establishing New Forests	Yes	Afforestation / Reforestation / Agroforestry

3.3 REDD+ FINANCING INSTRUMENTS

Forest carbon management that benefits the climate system is now becoming eligible for climate related finance through the UNFCCC process, multilateral and bilateral donors, carbon markets, and philanthropy. While there is little controversy over the need to protect and conserve forests for purposes of climate change mitigation and adaptation, there is more debate on how this should best be financed.

There are a number of different financing instruments for REDD+ activities separated into two broad categories: fund and market instruments. The two main uses for REDD+ finance are:

1. REDD+ Readiness (capacity building), and
2. Implementing emission reductions and/or sink removals arising from REDD+ activities (carbon benefits)

The different REDD+ financing options are shown in table 8.

Table 8. REDD+ Finance Options

REDD+ Finance Options			
Source of Finance		**Use of Finance**	
		REDD+ Readiness	**Implementing Carbon Benefits**
Fund Instrument	Public Sector o Multilateral & Bilateral Donors o Multilateral Development Banks[21] o Publicly funded research NGOs Private Sector o Privately funded research NGOs o Environmental NGOs	o Domestic and international policy o Strategies & plans o Institutional strengthening o Capacity building o National MRV systems o Research o Education & training o National Reference Level	o Demonstration activities o Project-based activities (project development and incentive payments) o Project-development (develop project that can then access carbon market incentive payments) o Sectoral activities o Incentivise policies and measures o Implementation MRV[22]
Direct Market Instrument	Private Sector o Compliance carbon markets o Voluntary carbon	o Not suitable for national readiness activities o Sometimes used for project development	o Project-based activities o Sectoral (national) activities o Implementation MRV

[21] Multilateral development banks tend to act as facilitators and administrators of public sector finance rather than sources of the funds.

[22] MRV = Monitoring, Reporting and Verification – sometimes referred to as 'Measurement, Reporting, and Verification'.

REDD+ Finance Options			
Source of Finance		**Use of Finance**	
		REDD+ Readiness	**Implementing Carbon Benefits**
	markets Public Sector o When governments buy carbon credits		
Market-Linked Instrument	Private & Public Sector Example: Auctioning of Assigned Amount Units to generate funds for REDD+	o Same as fund instrument above	o Same as fund instrument above

There are a variety of different financing agencies for REDD+ operating independently but in parallel with the emerging UNFCCC process. These include multilateral development banks (MDBs), multilateral and bilateral donors, international NGOs, domestic emissions trading schemes, and the voluntary carbon market.

3.3.1 Multilateral Development Banks (MDBs)

The Multilateral Development Banks (MDBs) are active in the financing aspects of climate change policy and financing, both through their own initiatives and their contributions to the UNFCCC process. The advantage of MDB capability is that they can support REDD+ on the ground prior to the elaboration of an intergovernmental agreement on REDD+ as part of a post-2012 intergovernmental agreement on climate change.

The main MDBs are the World Bank, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank Group. World Bank is most active MDB in REDD+ through the Forest Carbon Partnership Facility (FCPF), and also the Forest Investment Programme (FIP). The Forest Investment Programme is a programme within the Strategic Climate Fund (a multi-donor Trust Fund within the Climate Investment Funds). The FIP's overall objective is to mobilize significantly increased funds to reduce deforestation and forest degradation and to promote sustainable forest management, leading to emission reductions and the protection of carbon terrestrial sinks.

The Forest Carbon Partnership Facility assists developing countries make early progress in REDD+ through two financing mechanisms: the Readiness Mechanism (capacity building) and the Carbon Finance Mechanism (emission reductions). Most of the emphasis to date has focused on the Readiness Mechanism due to the fact that most developing countries still need to build capacity to enable evidence-based, incentivised emission reduction activities to occur in future.

The Readiness financing process involves[23]:

1. Developing country prepares and submits a Readiness Preparation Idea Note (R-PIN)
2. R-PIN is expert peer reviewed by Technical Advisory Panel (TAP) and then potentially accepted by the FCPF.
3. Acceptance of R-PIN enables developing country to become a REDD Country Participant. There are currently 37 REDD Country Participants – Vanuatu is the only small island state in this category and the only one from the Pacific Islands.
4. REDD Country Participants then prepare a Readiness Preparation Proposal (R-PP)
5. REDD Country Participants then prepare a Readiness Package (R-Package) and is thereafter considered REDD Ready (with a REDD+ Strategy, a Reference Scenario, a Monitoring System, and Management Arrangements).
6. REDD Country Participants then engages with the Carbon Finance Mechanism to access incentive payments for emission reduction activities at a national level.

The Asian Development Bank (ADB) established two carbon funds under its Carbon Market Programme[24]: the Asia Pacific Carbon Fund (APCF) (which focuses on energy sector project activities), and the Future Carbon Fund (FCF) (which provides financial and technical support for Clean Development Mechanism (CDM) projects). It is conceivable that the FCF could support aspects of a REDD+ programme in the Pacific region (perhaps forest biomass feedstocks for energy projects under the Clean Development Mechanism), although the strong emphasis of the ADB Carbon Market Programme is on the energy sector. Indeed the ADB has previously indicated their non-involvement in forestry CDM.

3.3.2 Multilateral and Bilateral Donors

The principle global multilateral agencies contributing to REDD+ initiatives (excluding the multilateral development banks) are the UN-REDD Programme, and the Interim REDD+ Partnership. The UN REDD Programme is the United Nations Collaborative initiative on REDD in developing countries. The Programme (funded primarily by the Government of Norway) is designed to assist developing countries prepare and implement national REDD+ strategies, utilizing the capability of UN institutions such as the Food and Agriculture Organization (FAO), the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). This programme currently supports REDD+ Readiness activities in 29 developing countries.

[23] See Forest Carbon Partnership Facility introductory presentation: http://www.forestcarbonpartnership.org/fcp/sites/forestcarbonpartnership.org/files/Documents/PDF/Sep2010/FCPF_Overview_09-23-10.pdf

[24] See ADB Website: http://www.adb.org/climate-change/cc-mitigation-carbon-market.asp

The UN REDD Programme operates in three phases:

Phase 1: Developing a REDD+ strategy supported by grants

Phase 2: Implementing a REDD+ strategy, supported by (a) grants or other financial support for capability building, and enabling policies and measures, and (b) Payments for emission reductions measured by proxies.

Phase 3: Continued implementation of REDD+ strategy in the context of low-carbon development, payments for verified emission reductions and removals.

The Interim REDD+ Partnership[25] has the core objective of complementing the UNFCCC REDD+ policy and financing process by serving as a platform for the Partner countries "to scale up REDD+ actions and finance, and to that end to take immediate action, including improving the effectiveness, efficiency, transparency and coordination of REDD+ initiatives and financial instruments, to facilitate among other things knowledge transfer, capacity enhancement, mitigation actions and technology development and transfer".

As of end of October 2010, the Partnership included the following 71 Partner countries: Angola, Argentina, Australia, Belgium, Belize, Brazil, Burundi, Cambodia, Cameroon, Canada, Central African Republic, Chad, China, Colombia, Costa Rica, Democratic Republic of Congo, Denmark, Dominica, Dominican Republic, Ecuador, Equatorial Guinea, **Fiji Islands**, Finland, France, Gabon, Germany, Ghana, Guatemala, Guyana, Honduras, India, Indonesia, Italy, Japan, Kenya, Laos, Madagascar, Malaysia, Mali, Mexico, Nepal, the Netherlands, Nigeria, Norway, Pakistan, Panama, **Papua New Guinea**, Paraguay, Peru, Philippines, Republic of Congo, Rwanda, Sao Tomé and Principe, Sierra Leone, Singapore, Slovenia, **Solomon Islands**, South Africa, Republic of Korea, Spain, Suriname, Sweden, Switzerland, Thailand, Togo, Uganda, United Kingdom, United States of America, **Vanuatu**, Viet Nam and Zimbabwe. Regional multilateral agencies include the Amazon Fund (which promotes REDD+ projects in the Amazon basin) and the Congo Basin Forest Fund[26].

Regional multilateral initiatives also exist for REDD+ financing including the Amazon Fund, the Congo Basin Forest Fund (CBFF), and the Indonesia Climate Change Trust Fund (ICCTF).

Bilateral donors of specific REDD+ activities in developing countries include the governments of Australia, Denmark, Finland, France, Germany, Japan, Netherlands, Norway, Spain, UK, USA. Funds from these countries are either channelled directly to developing country partners (e.g. the current project is funded by the Government of Germany) or are channelled through multilateral REDD+ programmes such as UN-REDD, the REDD+ Partnership, and the World Bank.

[25] See the inception document for the Interim REDD+ Partnership here: http://www.oslocfc2010.no/pop.cfm?FuseAction=Doc&pAction=View&pDocumentId=25017

[26] As presented on the Interim REDD+ Partnership Website accessed in January 2011, and available here: http://reddpluspartnership.org/65230/en/

An example of a bilateral initiative relevant to the Pacific region is the International Forest Carbon Initiative (IFCI) established by the Government of Australia, which disbursed $66 million to PNG and Indonesia for REDD+ activities and capacity building.

The leading bilateral donor for REDD+ is Norway, which according to the REDD+ Financing and Activity Survey undertaken by the Interim REDD+ Partnership (see Interim REDD+ Partnership 2010), is prepared to allocate up to NOK 3 billion (approx. US$500 million) annually for REDD+[27].

3.3.3 International NGOs

Among the most prominent international NGOs active in supporting REDD+ initiatives are:

- Centre for International Forestry Research (CIFOR)
- Conservation International (CI) (active in the Pacific Islands with an office in Suva)
- The Nature Conservancy (TNC)
- The Wildlife Conservation Society (WCS)
- Winrock International

These organisations commonly provide technical, strategic, and logistical support to REDD initiatives, and sometimes also provide funding.

3.3.4 Domestic Climate Policy

Domestic climate policy developments in some developed nations also have a bearing on REDD+ initiatives in developing countries. This is because domestic regulatory emissions trading schemes may end up including REDD+ activities as eligible sources of carbon credits in those domestic markets. Notable examples arise in North America with:

- The draft Federal emissions trading legislation in the United States (the American Clean Energy and Security Bill)
- The Regional Greenhouse Gas Initiative (RGGI) and
- The Western Climate Initiative (WCI)

Each of these domestic regulatory emissions trading initiatives have the potential to include the ability to purchase carbon credits from developing country REDD+ projects and in so doing would create a source of REDD+ finance from the private sector in the US and Canada.

New Zealand established a domestic emissions trading scheme in 2009. This instrument could potentially be modified in future to allow for the inclusion of REDD+ project credits at some stage depending on domestic climate change policy developments.

[27] See REDD+ Financing and Activity Survey by the Interim REDD+ Partnership, available here: http://www.oslocfc2010.no/pop.cfm?FuseAction=Doc&pAction=View&pDocumentId=24946

Similarly, Australia and Japan may eventually end up with emissions trading schemes with similar potential to provide additional sources of demand for REDD+ credits at some point in the future.

Furthermore, it is possible that the international community fails to negotiate a workable post-2012 international climate change agreement to replace the Kyoto Protocol when it comes to an end at the close of 2012. Should this occur, the emphasis may shift to regional emissions trading schemes like the European Union Emissions Trading Scheme (EU-ETS, and such regional schemes may include REDD+ activities in their eligible sources of carbon credits.

3.3.5 The Voluntary Carbon Market

While REDD+ policy and financing remains in development at the UNFCCC the voluntary carbon markets already exist as both a source of policy development and financing of what are effectively REDD+ demonstration activities in several different countries. The voluntary carbon market enables REDD+ projects to be undertaken prior to the availability of UNFCCC or other regulatory carbon market instruments.

The largest voluntary carbon market standard – the Voluntary Carbon Standard (VCS) has led REDD+ policy and financing in the voluntary carbon market arena. The VCS "Guidance on Agriculture Forestry and Other Land Uses (AFOLU) Projects", and the VCS "Tool for AFOLU Methodological Issues" guide the technical specifications for REDD+ forest carbon projects under the VCS. In turn this guidance is informed by and consistent with the technical guidance and guidelines of the Intergovernmental Panel on Climate Change.

The other significant voluntary carbon market standard in the REDD+ space is the Climate Community and Biodiversity (CCB) standard. This standard, however, only quality assures the community and biodiversity co-benefits associated with a carbon project that has already had its carbon accounting quality assured by another international carbon standard. This usually means certification of the carbon component of a project by the Voluntary Carbon Standard (or possibly the ISO14064-2 standard), and the community and biodiversity components of a project certified by the CCB.

3.4 REDD+ MONITORING REPORTING AND VERIFICATION (MRV)

By Martin Herold and Sean Weaver

Incentive payments for REDD+ outcomes are designed to cause quantitative change in carbon stocks (emission reductions and sink removals) that are beneficial to the climate system. Furthermore, such quantitative change needs to be additional to what would otherwise occur without incentive payments. This creates the need for very detailed carbon accounting and financing procedures to ensure that REDD+ finance directly causes measurable and enduring REDD+ outcomes on the ground.

As such, the eligibility criteria for REDD+ implementation finance (emission reductions and/or sink removals) will commonly include detailed methodological requirements for monitoring, reporting and verification (MRV) of REDD+ quantitative outcomes.

International developments in REDD+ MRV have converged on a common set of principles, modalities, and methodologies that can be regarded as world's best practice. This common set of principles, modalities and methodologies have been developed through the Intergovernmental Panel on Climate Change (IPCC), the UNFCCC SBSTA process, and to some extent the voluntary carbon market. At the core lies the IPCC 2003 Good Practice Guidance for Land Use, Land Use Change, and Forestry (LULUCF), and the IPCC 2006 Guidelines for National Greenhouse Gas Inventories.

The two main considerations for forest carbon monitoring are:

1. Forest area change, and
2. Forest carbon stock change

Forest area change is undertaken by remote sensing whereas forest carbon stock measurement is undertaken by means of forest inventory on the ground combined with detailed maps commonly generated through remote sensing. As a result, forest carbon monitoring requires a combination of remote sensing and forest inventory activities.

Of particular interest to REDD+ financing is the difference between:

a. The quantitative carbon balance situation without or prior to carbon financing (Baseline or Reference calculations)
b. The quantitative carbon balance situation with or after carbon financing (Project or Programme calculations)

This is precisely what determines the quantitative effectiveness of carbon financing in terms of benefits to the atmosphere.

Other key areas of interest to national forest carbon monitoring include drivers, non-permanence risk, leakage, co-benefits, safeguards, the link between national and sub-national monitoring, and data management systems.

3.4.1 Drivers

'Drivers' refers to the human causes of carbon stock change. Drivers of emissions (e.g. deforestation and forest degradation) need to be understood if they are to be altered or removed. Drivers of carbon sink activity also need to be understood so that they can be encouraged and supported in national policy and programmes.

3.4.2 Non-Permanence Risk

'Non-permanence risk' refers to the threat that any carbon benefits will be short lived. Non-permanence risk needs to be analysed and addressed by means of the way REDD+ activities are designed and also through forms of insurance. One form of insurance is the establishment of a 'buffer' area of forest where carbon benefits are generated but where such areas are not able to benefit from incentive payments. Such areas can then be used to 'back' incentive payments for areas that suffer non-permanence (e.g. when REDD+ activity location is burned or illegally logged).

3.4.3 Leakage

'Leakage' is also called 'displacement of emissions' and refers to the movement of an emission activity from one location to another when a REDD+ activity is implemented. An example of leakage would be when deforestation is stopped in one location only to shift to another location and where the overall carbon benefits from some form of carbon project or programme do not generate a net additional benefit to the atmosphere.

3.4.4 Co-benefits

'Co-benefits refers to other (non-carbon) benefits generated from a REDD+ activity. Co-benefits may include benefits such as climate change adaptation & resilience, biological diversity, cultural and community benefits. Some carbon finance instruments are focused only on carbon benefits, whereas others are interested in supporting activities that maximise the generation of co-benefits as well.

3.4.5 Safeguards

'Safeguards' refer to the measures undertaken to ensure that REDD+ activities are indeed beneficial to the community and the country when taking into account social, economic, cultural, and environmental considerations. For example, there is considerable concern internationally for the protection of the rights of indigenous peoples in the REDD+ sector. The protection of these rights can be enshrined in policies and carbon property rights legislation, and through locally and nationally determined quality assurance criteria for REDD+ activities. This is particularly relevant to REDD+ activities undertaken through the voluntary carbon market.

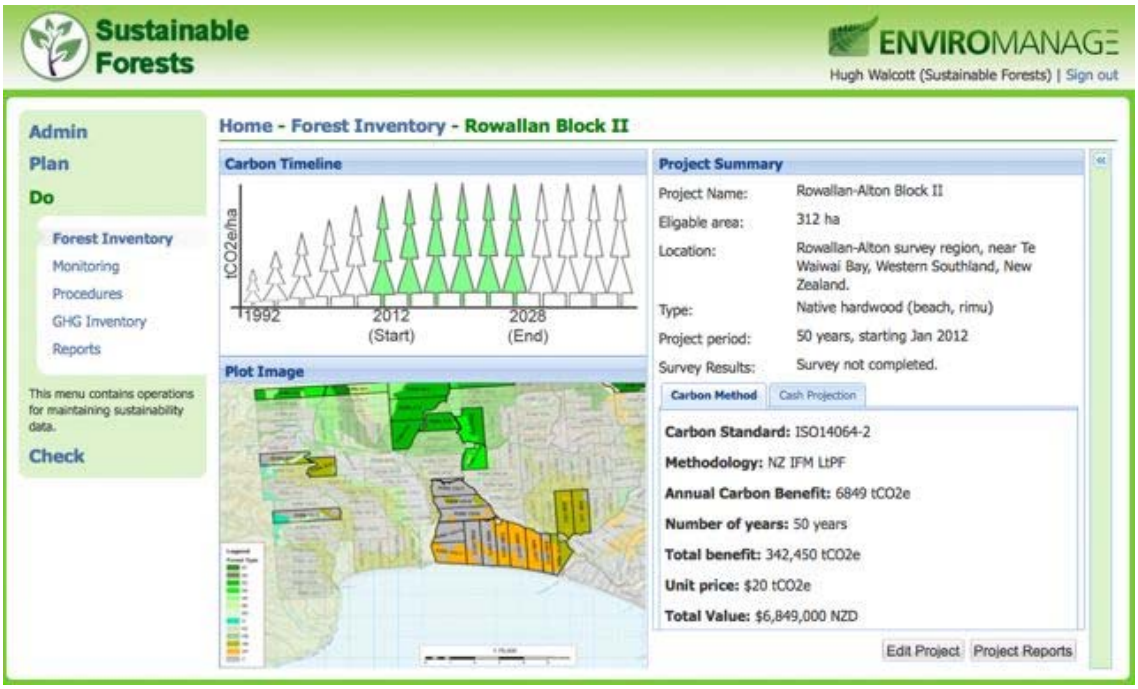
3.4.6 National & Sub-National Monitoring

The integration of national and sub-national monitoring is an important consideration in the design of national REDD+ programmes, to ensure the tracking of REDD+ activities, and to enable sub-national monitoring activities to be compatible with and contribute to national forest carbon data sets.

3.4.7 Data Management Systems

The management of data sets in a national forest carbon monitoring programme requires the design and establishment of a suitable data management system capable of supporting strategic decisions and international reporting. Poorly designed and ad hoc data management systems can significantly hinder the effectiveness of REDD+ programmes, with data held in different formats and by different agencies. The alignment of forest carbon (and related) data, and the development of a user-friendly interface (e.g. Figure 9) are a valuable component of a well-functioning national programme.

Figure 9. Example of User-Friendly Forest Data Management System Interface



3.4.8 MRV Implications For National REDD Programmes

A key measure in quantifying the role of a forest in climate change mitigation is the sum of the carbon stored in its terrestrial pools (i.e. vegetation biomass and soil carbon). Any

changes in forest carbon stocks that result from direct or indirect human activities have an impact on the climate. The overall goal is to reduce the amount of emissions to the atmosphere and to maintain or increase the overall terrestrial carbon pool. Thus, taken all together, climate change mitigation activities currently under discussion by the Parties to the UNFCCC are intended to encourage:

- The long-term conservation of forest, to maintain current, natural carbon reservoirs,
- A change in the human activities which impact on exiting forests and cause carbon emissions, with a view to stabilizing or increasing terrestrial carbon stocks in these existing forests in the long-term,
- Change in human activities to create increases in the land area that is under forest, through new plantations.

These generic and fundamental objectives are addressed in the REDD/REDD+ and the IPCC 2003 Good Practice Guidelines on Land Use Land Use Change and Forestry (LULUCF). The task is to develop and reward policies that alter human activities so that they become more climate-friendly. However, associated with these policies is the need to measure and report the resulting carbon impact at the local, national and international level. The mechanics of this will vary as the three generic approaches listed above have rather different characteristics, because they include both sink-enhancement and emission-reduction.

It is currently not practical nor efficient to measure and report on all stocks and changes in the global terrestrial carbon reservoir at a level of great detail. Moreover drivers and processes that have a carbon impact on the land cannot be fully modelled, so the size, location and timing of their effects are often difficult to predict. However it is clear that there is considerable interest in starting REDD/REDD+ activities right away and programmes for REDD Readiness such as the Forest Carbon Partnership Facility of the World Bank and the UN-REDD programme (a combined effort of UNDP, UNEP and FAO) are encouraging this, besides bilateral programmes of e.g. NORAD and GIZ. The current primary aim should therefore be focused on how the three objectives noted above can best be addressed, given that:

- Current human land use impacts causing carbon emissions are concentrated in specific areas and regions and should ideally be addressed in the very near-term, although it is the long-term stabilization or increase of the terrestrial carbon reservoir as a whole that will determine the effectiveness of the policy as a whole
- Developing countries start from a diverse set of backgrounds in terms of historical drivers and changes in forest carbon expected future land use changes due to their development objectives, and current capabilities for measuring and monitoring forest carbon on the national and local level,
- Resources to address REDD and REDD+ will be limited and may not be able to address all issues everywhere at the same time. While all countries could in principle participate from the beginning, their entry points will vary and priority setting and efficient implementation strategies will be needed at the international, national and sub-national level.

Thus, we should understand the use of concepts like deforestation, degradation and conservation as means to provide agreed international frameworks and to scope and define practical and efficient implementation strategies (both as regards policies and as regards MRV) to enable countries and actors to get started with REDD and REDD+ actions. This should include the definition of long-term targets and the specification of near-term priorities. For example, in the case of national monitoring, it is not practical to measure each ton of carbon or each tree individually on a regular basis. However, it is possible and efficient to develop national monitoring systems in which higher levels of detail and certainty are available in the spatially limited areas in which REDD and REDD+ actions are initiated, to prove and verify their positive effects.

A country participating in REDD would need to decide where to place its major efforts, based on what policies and programmes are considered to be most effective in its own context, as it would be unlikely to be able to actively start interventions in all parts of its forest estate, at least in the early stages of the programme. A clear understanding of drivers and processes affecting forest carbon stocks on the national scale is essential to define priorities for a national REDD+ strategy and implementation program and to define priority areas of action and MRV focus. Some parts of the forest may be selected for interventions designed to reduce degradation, and stimulate forest enhancement. Others may be targeted for reducing deforestation or for carbon conservation.

What this implies is not only that areas with different drivers of deforestation or degradation will be treated with different REDD actions, but also that different approaches to MRV need to be taken in different areas. For example, conservation forests and deforestation will be primarily defined and measured in terms of area changes (or no area change in case of conservation), while degradation, SFM and forest enhancement should all be defined and measured on the basis of localized changes of stock within the forest. Thus from the point of view of MRV methodology to be used, degradation, SFM and forest enhancement essentially form one group, since all refer to “forest remaining as forests” as detailed in good practice guidance.

So while the first consideration for a country designing its REDD+ policy will be what REDD+ opportunities are suitable and feasible given its own ecological and political conditions, an immediate secondary concern will be its measuring and monitoring capabilities, both at national and sub-national levels, since as shown above the measuring and monitoring requirements are different for different types of REDD+ strategy choices. National systems for measuring and monitoring are feasible and should be the target for each country, although there may be different entry points and capacity building will need to be provided in many cases.

Although the gathering of ground level data for degradation, forest enhancement and SFM may seem a daunting task, particularly to countries which have never been able to field comprehensive forest inventories due to lack of resources, this is in fact a task that benefit from the engagement by local stakeholders; data collection could be a condition for participation in REDD+ activities. Community level forest stock inventory (and inventories by

private landowners for example) could result in Tier 3 level data for those areas where management is actively practised. In other areas that are not under such management (large under-populated areas put aside as protected or conservation areas for example) secondary data (gain-loss methods, generally Tier 2) might be used, with less accuracy. In other words, MRV procedures would be tailored to the mosaic of REDD+ strategies employed in different areas.

3.4.9 Monitoring Institutions and Synergies

Efficient and sustainable organizational capacity is required as the country moves into the Readiness phase, to establish and operate a national forest carbon MRV programme. Thus, there are some requirements for a national institutional framework from an MRV perspective:

- **Coordination**: A high-level national coordination and cooperation mechanism linking forest carbon MRV and national policy (for REDD+), also specifying and overseeing the different roles and responsibilities, and co-benefits with other monitoring efforts,
- **Measurement and monitoring**: protocols and technical units for acquiring and analyzing of different types of forest carbon related data on the national and sub-national level,
- **Reporting**: a unit responsible for collecting all relevant data in central database for national estimation and international reporting using the IPCC GPG, including uncertainty assessment and improvement plan,
- **Verification**: an independent framework for verifying the long-term effectiveness of REDD+ actions on different levels and by different actors.

Different actors and sectors need to be working in coordination to make the monitoring system efficient in the long-term. Sustainability considerations are an important principle in setting up an institutional framework for an MRV system. At a minimum, a country should consider maintaining the following institutions with clear definition of roles and responsibilities:

- National coordination and steering body or advisory board, including a national carbon registry;
- Central carbon monitoring, estimation, reporting and verification authority;
- Forest carbon measurement and monitoring implementation units.

The resources required for setting up and maintaining institutional capacities depend on several factors. Some countries may perform most of the acquisition, processing and analysis of data through their agencies or centralized units; others may decide to build upon outside partners (i.e. contractors, local communities or regional centres), or involve communities. It is important to note that the institutional framework needs to link MRV of actions and MRV of support.

Any compensation for REDD+ actions needs to be bound to a way of measuring the positive impact in the long-term for both actions and support. A specific sub-national implementation activity will need to be assessed in terms of the amount of forest carbon preserved (measurement), provide this data to the national level so it can be included in the national estimation and reporting system, and will need to be verified in terms of leakage (through systematic national monitoring), and permanence (long-term of assessment of compliance). The institutional framework for MRV of support should be directly linked to these requirements, so any compensation transactions would provide incentives to all actors. Thus, the national institutional infrastructure needs provide the foundation for countries to be inclusive and effective in setting up their REDD+ MRV.

The 3 E's criteria provide a tool to assess outcomes, but can also guide the development of a national MRV infrastructure:

- **Effectiveness** suggests that the MRV development is driven by the development and implementation of a national REDD+ policy and its areas of priority area of action;

- **Efficiency** suggests using transparent and consistent data sources and procedures, sets up an institutional infrastructure and establishes sustained capacities within the country able to report forest carbon changes using the IPCC GPG in the long-term;

- **Equity** suggests integrating local measurements, national-level monitoring estimation and international guidance, and supports independent review, to ensure participation and transparency among different actors involved.

In this sense policy development and implementation on one hand, and MRV on the other, follow similar fundamental concerns.

Along the same line, the issue of co-benefits and synergies of the MRV investments and activities need to be discussed on the national level. This issue will be different for different country circumstances, however, is driven by similar principles:

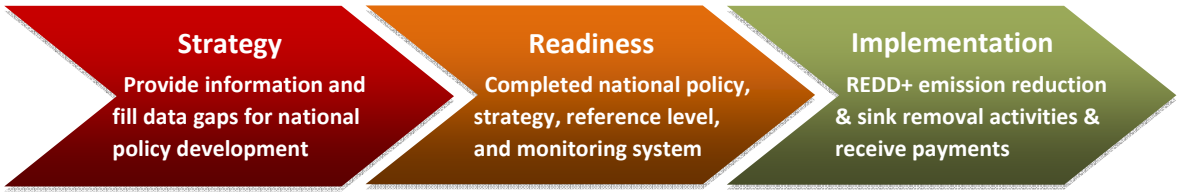
- The need to build upon existing national capacities, available data and forest monitoring activities that often have not been carbon focused,
- The requirement from the recent UNFCCC discussions to focus on the monitoring of drivers and safeguards in addition to forest carbon,
- The fact that REDD+ implementation is directly linked to sustainable development, land management, and preservation of other ecosystem services to be effective in the link-term,
- Joint monitoring activities for carbon and other issues is commonly complementary and often more efficient.

Perhaps, the need to focus on forest carbon is essential and the major focus of country capacity building, the way countries can address tangible synergies should be further investigated for specific circumstances.

3.4.10 Linking Monitoring and Policy Activities on National Level

Each country will have to develop its MRV system to meet its specific package of REDD+ actions, while at the same time tailoring its selection of actions to what is feasible for it as regards MRV. However, some general suggestions and guidance can be provided. Figure 10 lists a set of essential steps each country has to consider in evolving the policy and technical issues in conjunction. The phase of strategy development and readiness maybe addressed rather quickly if a country has a suitable set of data and capacities. Some countries may, however, first have to establish initial datasets to provide a basic understanding of the extent to which drivers are active and what their forest carbon impact is and how policies can be defined and implemented to affect the drivers and processes. Thus, MRV does include a component of analysis and assessment that is essential to make use of the acquired data and information in a policy context (i.e. as suggested in the term MARV – Measurement, Assessment, Reporting and Verification).

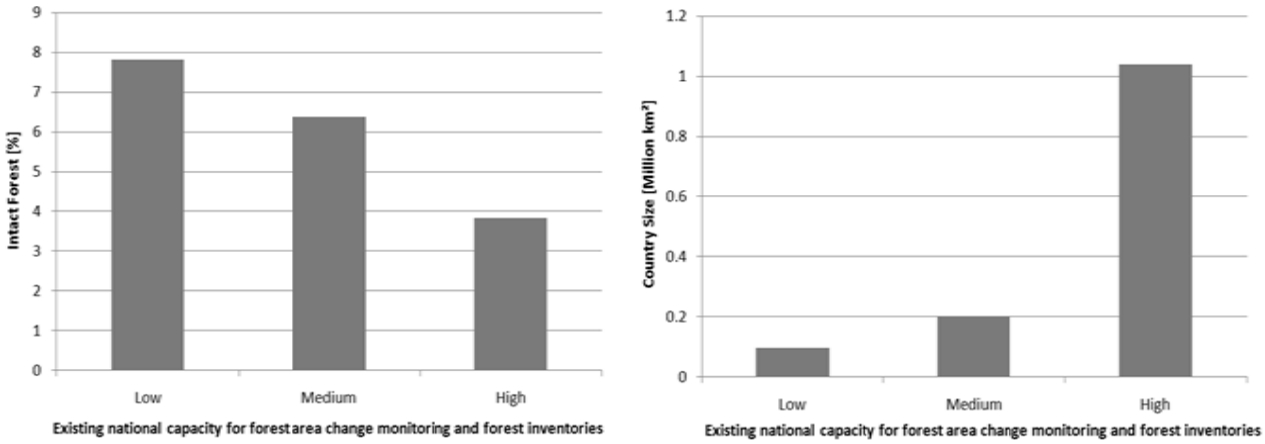
Figure 10: MRV objectives for different phase of REDD+ participation



One issue of particular importance for establishing sustained capacities is the fact that smaller countries, and countries with more remaining intact forests have commonly not carried out much monitoring in the past (Figure 11). They would require more initial efforts to build the basic capacities for the national strategy, and need more time and effort in the readiness phase to provide all historical data for establishing the reference level. Thus, institutional development is of particular importance. The issue of regional sharing of institutional capacity for specific components of the MRV system (i.e. for remote sensing data processing and analysis) maybe an option for smaller countries in particular to ensure long-term effectiveness and sustainability.

International policies and MRV concepts reflect an emission-oriented concept focusing on carbon impacts. National policy development should, however, take a more driver-oriented perspective assuming that successful national policies will need to target the key causes and processes that alter forest carbon on the ground. For an MRV roadmap, one needs an understanding of the drivers and processes, whether sufficient data are available to assess their importance (carbon impact), and what policies could positively affect the processes to achieve REDD+ objectives.

Figure 11: Median values of remaining intact forest land (of total forest area) and country area for countries with either low, medium or high level of existing capacities[28].



3.4.11 Integrating National and Sub-National Measurement and Monitoring

A national REDD+ strategy needs to encourage specific local implementation actions. In this context, a national carbon monitoring system would reflect more detail and accuracy in these action areas, and, more specifically, a national estimation and reporting system needs to include sub-national or action area measurement plans. Thus, a suitable national monitoring strategy should include:

- A national monitoring, estimation and accounting system and a sub-national measurement plan addressing change in forest carbon and the key drivers of change in these areas
- A national stratification allowing all (area based) REDD and REDD+ implementation activities to be measured with a suitable degree of certainty (more accuracy in REDD and REDD+ action areas, lower density systematic monitoring in the rest). Such a national stratification may be based on forest carbon density and on types of human activities and REDD+ interventions.
- May include a system of sub-national, i.e. district-level, reference levels - suitable for large countries (i.e. Indonesia) and related reporting and accounting for carbon balance, displacement of emissions and permanence
- A national system should include a systematic component that helps sub-national activities to show their effectiveness, and would help to understand leakage and additionality within the country. It would also provide a framework for continuous monitoring to verify permanence.
- Reference to existing pilot projects, which may be useful in:
    - Providing measurements and data and information on forest change processes

[28] Source: Herold and Skutsch 2009.

- Quantifying REDD/REDD+ achievements (i.e. through centralized carbon registry)
- Demonstrating involvement of communities and key actors

With regard to this last point, in several countries REDD pilot and demonstration projects have already generated some experience and it may be possible to draw lessons from these regarding MRV. However, there are considerable differences between the project and the national approach. Firstly, while the data collected in association with such projects may give important indications of the likely gains and losses of carbon associated with different types of management activity, monitoring at project level often brings with it high costs relating to dealing with leakage and additionality, and there are other transaction costs involved; in a national approach, apart from benefits of economies of scale, many of these problems may be circumvented.

Secondly, existing pilot projects are local and often specialized in scope, for example located in areas with little or no conflict (i.e. land tenure), in areas of "high-risk, high-carbon" forests, and addressing only one, or a small handful of drivers. Broader issues that are important for REDD+ effectiveness (e.g. relating to national regulatory frameworks, addressing land use policy, and involving the agriculture and energy sector), are not taken into account, nor, of course, the requirements of national MRV systems and baselines, so the lessons that can be learned from pilot projects are probably rather limited. A potential problem for many countries in moving from the project scale to the national programme will be incompatibilities with respect to existing definitions of forest, since in many countries woodlands, and particularly secondary and degraded woodlands, and not considered forests and not included in national forest statistics. Under a REDD carbon accounting system, all this would have to be changed.

3.4.12 Identifying Drivers of Deforestation and Degradation with Remote Sensing

Understanding the drivers for deforestation and degradation is necessary to devise effective strategies to reduce emissions. Distal drivers, i.e. those factors that are the underlying causes such as international markets, trade policies, technological change and population growth, are not readily detectable with remote sensing. Economic and statistical analyses are approaches that can help unravel these distal drivers. Indicators of proximate drivers, i.e. those immediate activities that cause deforestation and degradation, are sometimes possible to detect with remote sensing. For example, large-scale agricultural clearing is readily detectable with accepted methods. Proximate drivers for degradation are varied and range from local fuel wood collection to wildfires.

Indicators can be used to infer the presence or absence of proximate drivers. Combining the presence or absence of drivers with the presence or absence of deforestation/degradation can suggest which drivers are most influential in particular places. For example,

deforestation identified in areas of road expansion suggests (but does not prove) that road expansion is a proximate driver for the deforestation. Drivers may vary in different regions within a country, in which case region-specific strategies to reduce emissions would be most effective. For example, presence of large-scale agricultural clearing would suggest that policies aimed at large-landholders rather than smallholder farmers would be most effective in reducing deforestation in the region where large clearings are identified.

Remote sensing can provide information useful for assessing what drivers are present in particular locations. The size of deforestation clearings is a strong indicator of industrial vs smallholder agricultural expansion as a deforestation driver. Size can be determined from analysis of deforestation polygons mapped with Landsat-like sensors. Medium resolution data are useful for identifying the presence of new deforestation but cannot be used to accurately determine the clearing size except where the clearings are very large (>~100 ha). Remote sensing can also provide information on land use following deforestation, for example row crops or pasture. High temporal resolution from MODI has proven useful for this purpose based on the higher NDVI of row crops during the growing season. Distinguishing among row crops or pasture as the land use following deforestation helps assess which commodities are deforestation drivers.

Remote sensing of drivers associated with degradation can suggest which policies might be effective in reducing degradation. The presence of logging roads indicates the possibility of unsustainable logging. The presence of burn scars indicates wildfire as a possible driver of degradation. Remote sensing is more problematic for indicators of degradation drivers such as local wood collection or forest grazing. High resolution and ground data are required, with no widely accepted methods for mapping these types of degradation.

Scenarios of future deforestation and degradation can be constructed based on understanding of which drivers are important and how they might occur in the future. Scenario-building must also account for biophysical features that determine where deforestation/degradation occurs. For example, deforestation for industrial agriculture is generally less likely on hill slopes or where precipitation is very high. Careful assessment of the economic, social and biophysical factors associated with deforestation/degradation in the particular national circumstance is needed to construct plausible future scenarios.

3.4.13 Safeguards to Ensure Protection of Biodiversity

Compensation for REDD+ activities could possibly require documentation that biodiversity is protected. Species richness and abundance cannot be directly identified with remote sensing. Ground surveys of biodiversity are unlikely to be available in many locations and are not possible to cover all forest area within a country. Habitat quality of forests is an indirect proxy of biodiversity that could provide input for assessing this safeguard. For example, tree plantations generally maintain lower biodiversity than natural forests. In some cases tree plantations can be distinguished from natural forest with visual inspection of high-resolution data. Evolving technologies such as radar show promise in making this

distinction although no standard methods have been widely applied. Remote sensing of forest type (e.g. deciduous, evergreen) based on spectral characteristics or phenological information might provide other indirect measures of habitat quality. Methods for determining forest type include visual and digital classification based on ground knowledge of forest types.

3.4.14 Safeguards for Knowledge and Rights of Stakeholders

An important aspect of REDD+ implementation is assurance that knowledge and rights of stakeholders have been maintained. Ground-based information on forest dwelling communities, ownership and use rights of forests, and other non-remote sensing data are of primary importance for determining the effectiveness of safeguards. Remote sensing could aid this effort by delineating forest extent and changes in forest area within designated indigenous lands.

3.4.15 Monitoring Displacement of Emissions and Permanence at a National Scale

Leakage or 'displacement of emissions' occurs if emissions increase in one area due to reductions of emissions in another area. Determining leakage at a national scale requires a consistent and transparent monitoring changes in forest area across the entire forest extent within a country's boundaries. For a large country, detailed monitoring across the entire forest extent can be prohibitive. Remote sensing data can assist in identifying "hot spots" of deforestation to focus detailed analysis on those areas while checking whether deforestation has spread to areas outside the hot spots. Active fire monitoring might indicate locations with new deforestation. In addition, automated or visual analysis of time series of medium resolution (e.g. MODIS) data to identify areas of possible new deforestation would require less data processing than high resolution data over the entire forest extent. The key requirement is that the full national forest extent must be assessed to determine whether leakage has occurred at a national scale.

Remote sensing also has an important role to play in addressing the risks of reversals and verifying that REDD+ actions have a permanent positive impact in the long term. The advantage of consistent time series and the value to build satellite data archives that allow updated and retrospective analysis is a unique characteristic that remote sensing provides as data source.

3.5 FOREST INVENTORY

By Ian Payton

Greenhouse gas (GHG) emissions (sources) or removals (sinks) from the forestry sector fall into one of three categories:

1. **Forest land converted to other (non-forest) land**. This is deforestation, and is always a source of emissions.
2. **Forest land remaining forest land.** This may be a source or a sink. Forests set aside for conservation purposes are likely to be sinks, at least until they reach an old growth stage where emissions balance removals. Forests managed for timber production may be sources or sinks, depending on the stage of the forest management cycle and the level of harvesting. Similarly, forest degradation will be a source of emissions while the forest continues to be degraded, but may become a sink where degraded forests are allowed to regenerate.
3. **Other (non forest) land converted to forest land**. These are new forests, which act as sinks by removing GHG's from the atmosphere.

The definition of forest land is country-specific, but within guidelines provided by the Intergovernmental Panel on Climate Change (IPCC).

Inventories to determine whether forestry sector activities are GHG sources or sinks are required to take account of carbon stocks in five broad pools. These are:

- Above-ground live – trees and shrubs
- Below ground – root biomass
- Dead wood – logs and fallen branches
- Litter – fine woody debris, dead leaves and humus
- Soil organic matter – carbon that has been incorporated into the mineral soil.

The IPCC guidelines outline three methodological tiers for estimating and reporting on GHG emissions and removals. The tiers correspond to a progression from simple equations using default data to country-specific data in more complex national systems.

> **Tier 1**, which uses methods and default values outlined in the IPCC guidelines, is appropriate for countries where inventory data are scarce or absent.
>
> **Tier 2** uses a similar methodological approach, but with emissions factors (carbon stock estimates) and activity data (area change) which are more appropriate for the climatic regions and land-use systems of the country.
>
> **Tier 3** reporting is based on higher order methods including models and inventory measurement systems tailored to address national circumstances, repeated over time, and driven by high resolution activity (area change) data. Tier 3 methods result

in a higher level of certainty than that of lower tiers, and have the ability to track changes in land use over time.

It is good practice to use methods that provide the highest level of certainty within the limits of the resources that are available.

- In addition, carbon inventory methodologies are required to be:
- Adequate – capable of representing carbon stock changes and greenhouse gas emissions and removals and the relations between these and land use and land-use changes.
- Consistent – capable of representing management and land-use change consistently over time, without being unduly affected either by artificial discontinuities in time series data or by effects due to interference of sampling data with rotational or cyclic patterns of land use.
- Complete – all land should be included, with increases in some areas balanced by decreases in others where this occurs in reality.
- Transparent – data sources, definitions, methodologies and assumptions should be clearly documented and available for external peer review.

3.5.1 Ground-Based Carbon Inventory Methods

Carbon stock estimation requires knowledge of the size of the area that is being assessed, and the average carbon stock (t/ha) for that area. Area is normally determined from maps, aerial photos or satellite images. Average carbon stocks are typically determined from plot-based measurements.

3.5.2 Sample Plots

Sample plots should be established throughout the area being assessed on an objective (usually random or systematic) basis. Where change is to be assessed by repeat measurement, permanent plots are the preferred option because they factor out spatial variability that would otherwise mask temporal changes. They also allow for verification of field measurements, something that is difficult when plots are not relocatable.

The number of plots required depends on the desired level of precision, with higher levels requiring more resource and therefore cost. Costs will also increase where:

- Carbon stocks are more variable
- More carbon pools are measured
- The frequency of monitoring increases, and
- The monitoring methods become more complex

Stratification is a means of reducing the variability of carbon stocks within individual sampling units or strata. It should only be used where it reduces the number of plots required to achieve the desired level of precision.

Plot size should be sufficient to capture the variability at the site, but not so large as to require more effort (and therefore cost) to measure than is necessary. This is usually achieved using nested quadrates, with large trees being measured over the whole plot, smaller trees over part of the plot area, and understorey vegetation over a still smaller area.

Plots should be either circular or square. Circular plots minimise what is termed the edge effect (i.e. minimise the boundary for a given area)), but the inability to lay out boundary tapes can cause difficulties for understorey measurement. Square plots overcome this problem. Circular plots are a good option when only trees are being measured.

3.5.3 Measuring Carbon Stocks

Plant biomass is approximately 50% carbon. Five pools are recognised for carbon accounting purposes. These are above-ground live (trees, shrubs, understorey vegetation), below ground (roots), dead wood (logs), litter (small branches, twigs, fallen leaves, ferment and humus), and soil organic matter. Change is usually greatest in the above-ground live pool, although soil carbon stocks can show substantial changes where there has been a land-use change.

Carbon stocks in trees (above-ground live) are estimated from diameter and height measurements. These are converted to biomass (and therefore carbon) estimates using allometric relationships, which incorporate a species-specific density term. In forests, large trees sequester the bulk of the carbon stock. Shrub and understorey vegetation is assessed from height and cover measurements, with the resulting volume converted to a mass

Roots (below-ground) are typically estimated as a percentage of the above-ground live pool, with figures obtained from experimental studies.

Dead wood (also termed Coarse Woody Debris) is estimated from length and diameter measurements. These are used to derive a volume that is converted to a mass using a species-specific density factor and a decay-stage modifier. The latter discounts the carbon remaining in the log, based on the stage of decay.

Litter is sampled using quadrate harvests. Where litter volumes are high or remote locations create handling difficulties, sub-sampling can be used to reduce the need to transport and process large quantities of leaf and twig material.

Soil carbon is assessed by determining the carbon content of a known volume of soil. Samples are collected for bulk density assessment and for carbon analysis. Soil carbon cannot be assumed to be a set percentage of the dry mass.

3.5.4 Carbon Stock Estimates

Carbon stock estimates are calculated on a plot-by-plot basis, expressed as tonnes/ha or tonnes CO2e/ha, and slope corrected. The latter procedure ensures that all results are expressed on a horizontal area basis (i.e. the same basis as the mapped area). The average carbon stock for all plots multiplied by the area is the carbon stock for the sample area.

Carbon stock change (i.e. the amount of carbon sequestered) is typically assessed by re-measuring plots, and calculating the difference between the initial and final stock estimates.

3.5.5 Sources of Error in Carbon Stock Estimates

There are three main sources of error associated with carbon stock estimates:

- Sampling error – the number and selection of plots used to sample the area of interest.
- Measurement error – errors associated with field measurements (e.g. stem diameters and heights), or laboratory analyses (e.g., soil carbon analysis).
- Regression error – errors associated with the allometric equations used to convert the field measurements to biomass (and therefore carbon).

Each of these sources of error can be quantified.

3.5.6 Quality Assurance and Quality Control

Quality control (QC) refers to the set of procedures you put in place to ensure a robust inventory. Quality assurance (QA) is the system a third party uses to ensure the delivery of a quality result.

All inventory programmes should have a QA/QC plan. This should cover:

- Collecting reliable field measurements
- Verifying the methods used to collect field data
- Laboratory measurements
- Data entry and archiving
- Analysis procedures

This is usually best achieved by developing a set of Standard Operating Procedures (SOPs), which set out how each task is to be done, the standards that are expected, and the checks that will be done to ensure those standards are met.

3.6 IMPORTANT BACKGROUND DOCUMENTS

The following set of documents (listed 1-6 below) provide useful material for the capacity development and evolving the national and regional strategy:

1. UNFCCC/SBSTA Report on the informal meeting of experts on enhancing coordination of capacity-building activities in relation to using the Intergovernmental Panel on Climate Change guidance and guidelines as a basis for estimating forest-related greenhouse gas emissions and removals, forest carbon stocks and forest area changes, Bonn, Germany, 25–26 May 2010

2. IPCC 2010, IPCC Expert Meeting on National Forest GHG Inventories eds: Eggleston H.S., Srivastava N., Tanabe K., Baasansuren J., National Forest GHG Inventories – a Stock Taking, Pub. IGES, Japan 2010IPCC Task Force on National Greenhouse Gas Inventories (TFI).

3. GOFC-GOLD REDD technical sourcebook, updated version published in November 2009.

4. UNFCCC AWG LCA negotiation text from SBSTA 32 (June 2010) and Tianjin, 4–9 October 2010 – for the latter one please refer to the LCA text: pages 22-23, 52-59 for REDDplus.

5. Herold, M. & M. Skutch (2009). Measurement, reporting and verification for REDD+: objectives, capacities and institutions, National REDD Architecture and Policies, CIFOR book, http://www.cifor.cgiar.org/Knowledge/Publications/DocumentDownloader?a=d&p=%5Cpublications%5Cpdf_files%5CBooks%5CBAngelsen0902.pdf

6. The IPCC Good Practice Guidelines are of vital importance and can be accessed through the web:
    a. Guidelines (2003) on Land Use Land Use Change and Forestry (LULUCF), focus on chapters 2 and 3: http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.html
    b. Guidance on Agriculture Forestry and other Land Uses (AFOLU), focus on chapters 1-4: http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.html

4. Workshop Outputs

This section elaborates on the results of strategic discussions undertaken at the Inception Workshop for this project. Here country participants collaborated to generate a strategic framework for a Pacific Regional REDD+ programme in order to deliver on the overarching goal of: *The conservation of forest ecosystems in the Pacific island countries is supported in order to mitigate climate change and preserve biodiversity.*

There are three objectives designed to deliver this goal:

Objective 1

Regional REDD+ Policy: The Pacific Island Countries have a joint, coherent framework for the implementation of REDD+.

Success Indicator:

- The heads of forestry departments (HOFS 2014) endorse a regional REDD+ policy.

Objective 2

REDD+ Information Platform: The implementation of REDD+ activities in the Melanesian PICs is qualitatively improved through the use of a regional and supraregional information and support platform.

Success Indicator:

- The REDD+ information and support platform registers X requests from Y countries, with at least Z requests coming from local communities, and generates high-quality responses by network members (especially SPC). (Documentation of requests and responses, user survey.)

Objective 3

REDD+ Readiness: Central elements of REDD+ are implemented in 3 countries. In one country this leads to the fulfilment of the requirements to participate in REDD+.

Success Indicators:

- Reference level for GHG-emissions from deforestation and forest degradation, MRV systems which include parameters for biodiversity monitoring and an institutional and legal framework are established in one country (documentation of MRV-services, laws and regulations on REDD+).

- Contributions to the establishment of MRV-Systems, institutional and legal frameworks (forest inventory, REDD+ policy...) are delivered in two additional countries.

- Three pilot projects for the trialing of REDD+ activities, taking into account the principles of gender equality, are successfully implemented and documented (documentation of pilot projects).

4.1 OBJECTIVE 1: REGIONAL REDD+ POLICY

Discussions concerning a regional REDD+ policy signalled that although the different countries in this programme are at different stages of domestic policy development, there was scope to identify a set of common denominators in terms of shared aspirations for REDD+ development in the region. Such shared aspirations could also conceivably assist countries to develop and refine their domestic REDD policy positions, as well as strengthen a regional approach to international (global) policy engagement at the UNFCCC and among donor entities.

It was agreed that a regional policy need not go into so much detail as to preclude variations in domestic policy developments, but that it would instead focus on refining the common regional aspiration for key elements of REDD+ activities in the Pacific rainforest nations that are participants in this regional project. It was also noted that other Pacific Island nations have an interest in REDD+ either due to their own potential opportunity to participate in REDD+ activities, or because they have a broader policy interest in REDD+ as a component of the international climate change policy developments.

There is also scope to gather key elements of existing domestic REDD+ policies or frameworks and incorporate these into a draft regional policy for circulation, comment, amendment, final drafting and eventually endorsement and adoption. For example, Fiji adopted a REDD+ policy in December 2010, and this could be used as a framework for the development of a regional policy, and as a means of supporting domestic policies.

It was agreed that a draft regional REDD+ policy could include the elements listed in Table 9.

Table 9. Regional REDD+ Policy Framework

Consultation on a Regional REDD+ Policy Framework	
Policy Theme	Comment/Detail
Aspirations	Define the common aspirations of the four participating countries with respect to REDD+ outcomes sought for the coming decades.
Scope & Scale	Define the scope of activity types that would be supported by a regional policy, together with the suit of co-benefits that participating countries would like REDD+ programmes to deliver

Consultation on a Regional REDD+ Policy Framework	
Policy Theme	Comment/Detail
	(such as biodiversity conservation, social, cultural, and community benefits, and non-carbon ecosystem services).
MRV	Define the preferred approaches to Monitoring, Reporting and Verification (MRV) and Reference Emission Levels (REL). This would express recognition of the opportunity to align the four participating countries in terms of MRV and REL technical cooperation and information sharing.
Financing	Define the spread of financing supported by the four participating countries for REDD+ readiness and implementation (and potentially to include other Pacific Island nations participating in REDD+. Such financing could include fund and market based financing instruments and the terms upon which these would be supported. Such terms could include the need for specific safeguards to protect indigenous people's rights, and other aspects of concern to REDD+ participants and observers (see 'Safeguards' below).
Distribution of benefits	Define a common set of principles for benefit distribution arising from REDD+ capacity building and implementation activities. For example, this could include an aspiration to maximise the distribution of benefits to resource owners and cross-referenced to a policy position on addressing drivers of forest carbon loss.
Addressing drivers of deforestation and degradation	Define a common set of principles for addressing drivers of forest carbon loss and supporting drivers of forest carbon gains.
Regional cooperation	Define a common set of principles for enhancing cooperation between parties to the regional policy and also with other Pacific Island Countries within the region (including those also pursuing REDD+ programmes and non-REDD Pacific nations).
Interface with domestic REDD+ policies and strategies	Define the way in which a regional REDD+ policy is to interact with domestic REDD+ policies in participating countries
International engagement with stakeholders beyond the region	Define a common set of principles for policy, technical, and financing engagement with stakeholders outside the region. Such stakeholders could include UN agencies (e.g. UNFCCC, UN Forum on Forests, UN Convention to Combat Desertification, Convention on Biological Diversity), multilateral development banks, bilateral

Consultation on a Regional REDD+ Policy Framework	
Policy Theme	Comment/Detail
	partners, international NGOs. Such principles could include the emphasis on alignment and reinforcement between different agencies, aspirations on levels of engagement, identification of any capacity or resource constraints to engagement, use of technical and policy advice and support to enhance informed engagement, information gathering and disbursement.
Integration with other regional policies	Define a set of principles relating to the integration and alignment of regional REDD+ activities with regional policies and agreements from other sectors.
Research, training and education	Define elements of a common approach to research training and education on REDD+ with particular emphasis on regional cooperation to increase efficiencies, maximise funding support, and enhance the effectiveness of research, training and education in REDD+.
Information sharing	Define principles for REDD+ information sharing between parties to the regional policy. This could include an aspiration for compatible data management systems between the four countries, and protocols/procedures for information flows.
Engagement with civil society	Define a set of principles for governmental engagement with civil society entities, particularly with regard to multistakeholder consultation processes associated with the development of regional and domestic policies, strategies, and implementation programmes.
Consultation	Define a set of principles for multistakeholder participation in consultation processes for REDD+ policy, strategy, and implementation.
Governance	Define a set of common principles for integrity in REDD+ governance at a regional (if applicable) and domestic scale.
Safeguards	Define a set of common principles relating to safeguards associated with REDD+ programmes. This could include adherence to the safeguard principles arising from the UNFCCC REDD+ policy process, and including adherence to the UN Declaration of the rights of indigenous peoples, clarification of forest carbon property rights, social, cultural, economic, and environmental considerations.

Consultation on a Regional REDD+ Policy Framework	
Policy Theme	Comment/Detail
	There is an opportunity to include elements in a regional REDD+ policy that instituted some level of regulation of the voluntary carbon market. This could be undertaken by (for example) requiring DNA approval for all carbon market transactions (not just those under the Clean Development Mechanism as is currently the case), where such approval is dependent on meeting regional and national quality assurance criteria in relation to safeguards for REDD+ implementation.

A possible process for the development of a regional REDD+ policy could involve the following:

1. Establish a regional REDD+ policy committee responsible for managing the process for developing a regional policy. This committee could be mandated as a HOFS subcommittee.
2. Regional REDD+ Policy Committee responsible for the preparation of the policy text. The process for preparing the policy text could include:
    a. Regional REDD+ Policy Committee holds a Regional REDD+ Policy workshop (e.g. 1 day multistakeholder workshop[29]) to define detailed scope of policy text using the framework provided above and with technical and/or policy advisory support where necessary.
    b. Preparation of First Draft Regional REDD+ Policy Text by a drafting team (or individual) appointed by the Regional REDD+ Policy Committee.
    c. Presentation of First Draft Regional REDD+ Policy Text to the next HOFS meeting for discussion, comment, amendment.
    d. Preparation of Second Draft Regional REDD+ Policy Text (by a drafting team or individual appointed by the Regional REDD+ Policy Committee) to incorporate changes agree at the HOFS.
    e. Review of Second Draft Regional REDD+ Policy Text by legal expert appointed by the Regional REDD+ Policy Committee.
    f. Amendment (where necessary) to form Third Draft Regional REDD+ Policy Text.
3. Presentation of Third (Final) Draft Regional REDD+ Policy Text to HOFS meeting for adoption.

[29] Workshop timed to coincide with other developments in the Regional REDD+ programme under this project.

4.1.1 Regional Positioning and International Negotiations

An element of a Regional REDD+ Policy framework identified at the workshop (and included in the policy framework above) was the need to define a common set of principles for policy, technical, and financing engagement with stakeholders outside the region. To this end a workshop breakout group undertook a discussion to define an approach to 'regional positioning on REDD+ and contributions in international negotiations.'

The participants in this breakout group consultation identified the following points listed in Table 10.

Table 10. Consultation on Regional Positioning

Regional Positioning Theme	Comment
The Pacific Heads of Forestry process provides an ideal mandating body for covering technical and policy issues where responsibility already resides in the Forestry sector.	The most appropriate process for the development of a regional REDD+ policy and associated positioning is the Pacific Heads of Forestry process – an existing institution and process under the guidance of the SPC that can enable a stronger regional framework, and which already has a mandate to develop regionally coordinated approaches and positions in the forest sector.
Promote REDD as form of SFM – the latter is already embedded in the language and policy environment of the Forestry and Environment sectors in the Pacific REDD countries.	REDD+ is a new term but contains many elements that are familiar to agencies and communities in the forest sector of the region in the form of sustainable forest management (SFM). SFM has a long history in the Pacific region and so one way of communicating REDD+ issues at the national and community level is to frame them as forms of sustainable forest management.
Utilize existing national and regional programmes where possible.	Because REDD+ is an extension of established forestry policies and practices it is appropriate to embed REDD+ in existing national and regional institutions and programmes.
Melanesian Spearhead Group as possible vehicle for high-level policy input.	It was considered important to utilise existing policy forums and entities in the region where possible. One such entity is the Melanesian Spearhead Group (as all four project countries are member of MSG), which would need to be informed of any regional REDD+ policy developments and may be a useful entity for advancing.
Important to strengthen domestic REDD positions and	A strong regional REDD+ position is dependent on strong domestic REDD+ programmes and capability, and the two go hand in hand. A regional approach can inform and

Regional Positioning Theme	Comment
address outstanding issues	strengthen a domestic approach – particularly where other nations have made more progress.

Another breakout group focused on regional cooperation identifying key elements listed in Table 11.

Table 11. Themes for Regional Cooperation

Regional Cooperation	Comment
MRV information sharing	There is an opportunity to coordinate MRV and REL processes, and share information and data among the participating countries. The SPC would be the best agency to facilitate such sharing of processes and information. For example, MRV research could include studies capable of generating regional default data for use in MRV systems in each country. See more detail on the information platform discussions below.
Capacity transfer for forest inventory or carbon monitoring through SPC and regional herbarium/USP/SOPAC	It is important that forest carbon monitoring capability is gained in a learning-by-doing process using technical support where necessary but mainly in support of local human resources. This will help to build capacity within the region for MRV and reduce the need to outsource technical capability.
Training (through bringing training programmes to Pacific REDD+ countries – SPC/USP)	Regional training in policy and technical dimensions of REDD+ could be undertaken through regional training institutions such as the University of the South Pacific (USP) and SPC forestry training.
Coordination of training, education and research (SPC)	SPC is in an ideal position to coordinate training, education and research in collaboration with other partners such as USP, and domestic training and research agencies.
Follow a principle of best practice	It is important that the regional REDD+ programme adopt an approach that follows international best practice in all aspects of REDD+ development. This can be achieved by ensuring that information from leading international REDD+ agencies and forums is continually incorporated into national and regional initiatives.

Regional Cooperation	Comment
HOF as mandating body for regional REDD+ policy development	The HOFS provides a structure for Regional REDD+ initiatives through special committees to advance elements of regional REDD+ policy themes.
Validation discount with DOE	At some point in the future REDD+ Implementation activities will likely involve carbon market transactions requiring quality assurance audits (validation) by a Designated Operational Entity (DOE) (i.e. an approved auditor). A Pacific regional approach to REDD+ could include negotiation with a DOE to command a discount by aggregating audit services with a single DOE. The purpose of this would be to lower transaction costs for carbon projects, thereby potentially increasing benefit distribution to resource owners.
Regional technical support for DNAs – HOF role in relation to DNA	The Designated National Authority (DNA) for each participant country has a potential role to play at the implementation phase of REDD+ developments due to its role in quality assurance for carbon projects. It would be helpful and more efficient if the DNA for each country were supported by a regional DNA support capability, perhaps through the HOFS process. This would enable each forestry component of the DNA to cooperate with others and provide a forum for information sharing. This is particularly relevant in the near term due to the activities of the voluntary carbon market and the opportunity to provide some level of regulation by requiring DNA approval for any carbon project – even in the voluntary carbon market. This would provide an opportunity to quality assure voluntary carbon market projects against national and regional policy conditions and standards.
Capacity building assessments	A process for capacity building assessments could include: o Evaluate local capacity o Gap analysis o Need analysis o External support requirements o Outsourcing strategy o Process for moving forward on these tasks

Another breakout group session focused on enhancing regional representation in the international (global) community with key points listed in Table 12.

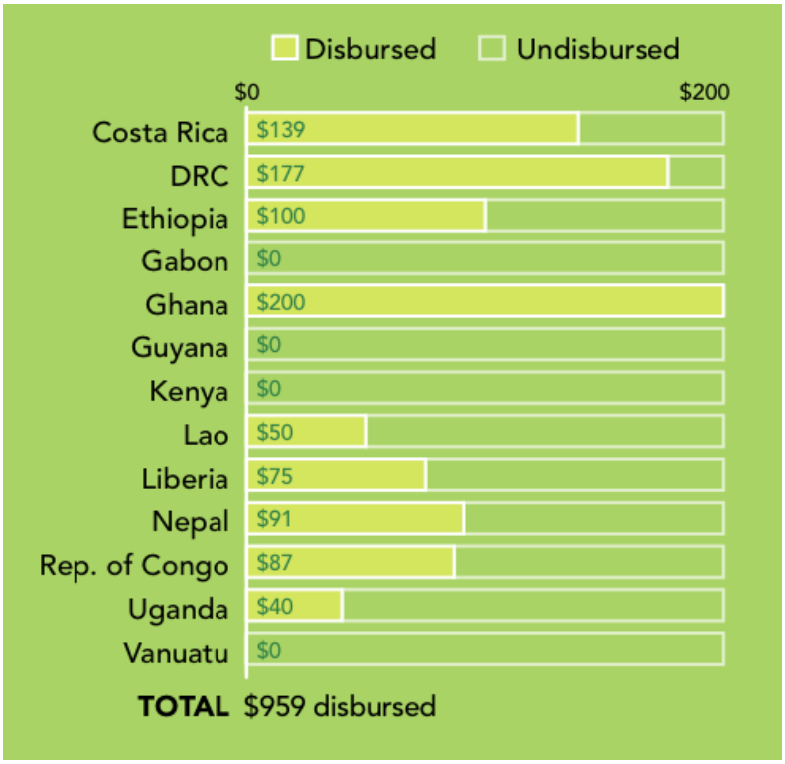
Table 12. Regional Representation in the International (Global) Community)

International Agency	Comment
UNFCCC	There is a need for better representation of Pacific REDD country perspectives at the UNFCCC It is also important for Pacific REDD Countries to gather up to date information from the UNFCCC process in order to stay attuned to international developments in REDD+ policy and technical issues. It is important to ensure the full representation of the best interests of Pacific REDD nations. Active participation at the UNFCCC meetings will also enhance opportunities to network with donors and technical support agencies. A key issue faced by each of the four countries in this project was the lack of adequate forestry participation at UNFCCC. Forestry sector commonly lacks the financial capacity to participate actively at international REDD negotiations. If REDD is nationally important it is important to send forestry specialists to UNFCCC. One of the barriers to more effective Forestry participation at the UNFCCC is a communication gap between the UNFCCC focal point and the Forestry Departments. The UNFCCC process in REDD+ includes policy and technical developments at the COP, SBSTA and special workshops throughout the year. There is commonly UNFCCC funding to enable participation of Forestry representatives but to access such funding Forestry first needs to become aware of the opportunities and the international negotiating timetable from the UNFCCC Focal Point in each country. It may also be possible to coordinate technical and policy advisory support at a regional scale, in order to assist in a coordinated regional approach to representation at the UNFCCC.
Interim REDD+ Partnership	According to the Interim REDD+ Partnership Website Fiji, PNG, the Solomon Islands and Vanuatu are all member states of this partnership, despite the forestry departments being unaware of this statue. It will be important to increase the level of member country engagement with the Interim REDD+ Partnership to ensure that any representation of policy positions from these countries is accurately portrayed.

International Agency	Comment
Coalition of Rainforest Nations	There is a need to consolidate representation of PNG, Vanuatu, Solomon Islands and Fiji in the Coalition of Rainforest Nations, which speak on behalf of member states at international REDD+ policy forums such as the UNFCCC.
World Bank Forest Carbon Partnership Facility (FCPF)	It is important to ensure that any funding opportunities arising from the FCPF are considered. Vanuatu already enjoys status as a participant country to the FCPF but needs to undertake further administrative work to gain access to allocated funds to develop the Vanuatu R-PP (REDD+ Strategy). See Figure 12 below and associated commentary. It may be worth exploring the scope for Fiji and Solomon Islands to engage with FCPF.
Bilateral donors	Develop a coordinated approach to working with bilateral donors supporting REDD+ in the region.
PIF	Better representation of REDD+ position of Pacific Rainforest nations among Pacific regional forums including PIF, SPREP, and SPC.
Others	Better coordination between Forestry and Foreign Affairs departments through information sharing and strengthened communications. Identify key strategic REDD+ goals (e.g. maximizing the opportunity to gather international financial and technical support for strengthening the resilience of land based development through forest management).

Vanuatu is eligible for funding to progress its REDD+ national strategy with the FCPF and in so doing would also gain methodological support and strengthen its connection with other donor nations and agencies. Figure 12 depicts funds disbursed to Forest Carbon Partnership Facility Participant Countries, of which Vanuatu is listed as not having received its allocated funds for the development of a REDD+ strategy.

Figure 12. World Bank Forest Carbon Partnership Facility Funds Allocation 2010. Source: FCPF Annual Report 2010, p10.



The key to gaining access to these benefits is to take advantage of the financial and technical resources currently available, and to coordinate with the two GIZ projects ('Coping with Climate Change in the Pacific Island Region' (CCCPIR) and 'Climate Protection Through Forest Conservation in Pacific Island Countries') to maximize the benefits to Vanuatu, its forests and its people.

One way to achieve this is to undertake a REDD+ Update Workshop in Vanuatu to:

1. Take stock of progress so far in the Vanuatu REDD+ sector
2. Clarify the opportunity and outstanding administrative tasks associated with accessing FCPF funding
3. Identify the most efficient means of coordinating finances and tasks between the FCPF, GIZ and other existing or potential donors (e.g. the funds allocated to forest policy under the Global Climate Change Alliance funding provided by the European Commission).
4. Identify priorities for next steps and allocate resources, responsibilities, and timeframes for making near term progress.

4.1.2 Addressing Drivers of Deforestation and Degradation

A second element of a regional REDD+ policy framework that was discussed in detail in a breakout group session was 'Regional policy and strategic issues for addressing the drivers of deforestation and forest degradation'.

The dedicated breakout group on this issue included participants from all 4 countries (PNG, Vanuatu, Fiji, Solomon Islands). The discussions were framed around two key issues currently noted and debated at the UNFCCC negotiations (AWG-LCA, Status Oct. 2010):

- *Identify* land use, land-use change and forestry activities in developing countries, in particular those that are linked to the drivers of deforestation and forest degradation, to identify the associated methodological issues to estimate emissions and removals resulting from these activities, and to assess their potential contribution to the mitigation of climate change

- *Requests* developing country Parties, when developing and implementing their national strategies or action plan, to address drivers of deforestation and forest degradation land tenure issues, forest governance issues, gender considerations and the safeguards, ensuring the full and effective participation of relevant stakeholders, inter alia, indigenous peoples and local communities

For both issues the aim of the workshop discussions was to outline how a coordinated regional programme could make an important contribution in both areas. The results are described in the tables below.

Table 13. Addressing Drivers of Deforestation and Degradation

Driver	Importance (High, medium, low)	Suggestions for a regional approach and cooperation
Agriculture expansion	Very high	Strategies for climate friendly land use management and revisit existing land use guidance given the evolving national and international REDD policy developments
Infrastructure expansion	Medium to high	Strategies for the integration of climate change issues into environmental impact assessment process
Mining (including quarry)	Medium	Information sharing on good practices on mining (i.e. lessons learned from PNG)
Forestry/ harvests	High for degradation, medium for deforestation	Already regional and national logging code of practice (how implemented in region is not clear), Effective implementation & enforcement still a challenge. Need for capacity sharing for sustainable forest management (e.g. community based SFM, FSC)

Driver	Importance (High, medium, low)	Suggestions for a regional approach and cooperation
Subsistence land use	Medium to high	Regional exchange on land tenure issues involving local communities, Assess and support local communities for implementing good practice
Others	Mangroves (medium) Oil palm (medium but possible increase in near future due to international demand)	Regional effort for inventory and regional strategies to include into REDD (adaptation for all pacific islands) Regional strategies for certification and compliance standards (e.g. RSPO Standard for PNG)

4.1.3 Addressing Safeguards

The third component of a regional REDD+ Policy Framework discussed in detail in a consultation breakout group was the issue of addressing safeguards in REDD+ activities. This discussion led to agreement on the following themes listed in Table 14.

Table 14. Addressing Safeguards

Safeguard for REDD+ Actions	Opportunities & Needs For Regional Cooperation
REDD+ should complement or be consistent with the objectives of national forest programs and relevant international agreements	Need for a comprehensive regional assessment of forest sector GHG emissions – this is currently unknown Consistency with UNFF objectives and activities Strengthen the role of forest in the regional climate change strategy (link to PIFACC process)
Actions are transparent and effective national forest governance structures	Regional approach to improve forest governance (at all levels) through HOFS and APFC meeting
Respect for the knowledge and rights of indigenous peoples and local communities	Involvement of local communities in REDD+ is mandatory for all SP states
Full and effective participation of relevant stakeholders	Foster the engagement of regional stakeholders of different sectors into REDD+ (e.g. lands, health, energy …) and raise the importance of forestry sector
Actions that are consistent with the conservation of natural forests & biodiversity	Regional assessment on natural forests, biodiversity (hot spots) and degraded lands (including making mapping and monitoring and making data available on regional and country level)
Need to reduce displacement of emissions (leakage)	How to report on an emission reduction target/ achievement? What risks exist that should be managed on regional level?

Safeguard for REDD+ Actions	Opportunities & Needs For Regional Cooperation
	Stimulation of the participation of all pacific countries Implement regional emission reporting Identify potential regional REDD+ targets
Need to address the risks of reversals (permanence)	Capacity redundancy on regional level in the long term is important, i.e. in case national capabilities decrease Implement a regional capacity building for the countries on REDD+ issues

4.2 OBJECTIVE 2: REGIONAL REDD+ INFORMATION PLATFORM

The efficient sharing of information was included as an aspect of a regional REDD+ Policy framework. A breakout group consultation was undertaken to elaborate elements of an information platform and how it would function. The following is a summary of the results of that discussion with agreed themes:

What type of information to exchange?

- Policy development/briefings, REDD+ experiences, lessons learned, training, information (not data), capacity development, news, technology transfer
- Trainings on
  - Collection of data
  - Interpretation /analysis of data
  - Storage of data
  - Reporting, e.g. on how to fill FRA tables (carbon stocks)
- Exchange of information on carbon estimation factors
- Set standards, design template for carbon stocks (regional)
- Use standard tech -> info integration
- Info on carbon markets
- Contacts persons in the partnering countries + List of available capacities, database of experts (national, regional, international)
- Particular REDD and related projects of SPC and international REDD projects (e.g. GIZ) (scoping, eligibility criteria, financing, methodologies (tools, checklist of steps), approaches, validation, policy position)
- Regional information platform for development, policy developments of REDD+ development and pilot projects
- Regional REDD newsletter

Who should benefit from information exchange?

- All relevant REDD+ stakeholders (local, national, regional, international)

Policy Stakeholders

- SPC member countries
- Policy and decision makers
- Other sectors (outside forestry)
- Other regional organisations (USP, SPREP, PIFS, MSG)
- Donor agencies
- International organisations (UNFCCC, REDD+ partnership, UNFF)
- Private sector

Technical Stakeholders

- Forestry Department
- Other countries (through other platforms) outside the region
- Other regional organisations (USP, SPREP, PIFS)
- Donor agencies
- International organisations (UNFCCC, REDD+ partnership, UNFF)
- NGOs
- Private sector

Community Stakeholders

- Resource & land owners
- Community based organisations (through newsletter, information sheets etc.)
- NGO
- Faith based organisations
- Educational institutions, schoolchildren (different way of communication)

How to exchange information and how often?

- Talanoa sessions around the Kava bowl
- Exchange of experts through regional workshops
- Network (e.g. PAFNET or others or new)
- Web sites, using existing platforms such as SPC
- Not only online platform, but also inclusion in SPC-LRD helpdesk, physical access!
- SPC will host a website (documents etc)
- Digital newsletter (articles as part of the outcomes), integrated in existing newsletters (e.g. LRD news, PAFNET, Pacific climate google group), distribution via climate-L.org & forest-L.org
- Info in local language
- Provincial /forestry / extension / NLTB/ other government officers as information distributor – integrated approach
- Not duplicate existing platforms etc, integrate into existing platforms
- Use of media (tv, newspaper)

- Need for new Pacific region REDD+ network? (communicate with other REDD networks)
- Mobile phone network
- Use of "REDD Champions" to promote information
- Social networks (e.g. Facebook)
- Exchange with other SIDS
- International side events (e.g. COP meetings)
- Regional policy maker meetings
- Study tours to existing REDD projects in other countries/regions
- Marketing, e.g. in-flight promotions at national airlines (they could use the offsets) and other innovative promotional methods.

4.3 OBJECTIVE 3: REGIONAL REDD+ READINESS

The issue of REDD+ Readiness was discussed during the workshop and breakout group sessions. The aim is that central elements of REDD+ are implemented in 3 countries (i.e. ReDD+ readiness activities in Fiji are already covered by another GIZ project). In one country this leads to the fulfilment of the requirements to participate in REDD+.

The project proposal identifies three major objectives and related outputs:

1. Reference level for GHG-emissions from deforestation and forest degradation; MRV systems which include parameters for biodiversity monitoring and an institutional and legal framework are established in one country (documentation of MRV-services, laws and regulations on REDD+)
2. Contributions to the establishment of MRV-Systems, institutional and legal frameworks (forest inventory, REDD+ policy...) are delivered in two additional countries.
3. Three pilot projects for the trialling of REDD+ activities, taking into account the principles of gender equality, are successfully implemented and documented (documentation of pilot projects).

4.3.1 Activities to Deliver Outputs 1 & 2

1. Overview of ongoing activities on REDD+ (policies and strategies) and MRV, existing and evolving data and capacities, planning (i.e. through series of national planning workshops in early 2011), considering synergies with:
    a. Solomon Islands – UN-REDD
    b. Vanuatu – Worldbank FCPF
    c. PNG – UN-REDD, JICA, AUSAID, EC …
    d. Awarness raising, consulation with key stakeholders (i.e. forestry departments, environment, agriculture, finance, climate change, foreign affairs, SPC/GIZ, SPREP)

2. Scoping for policies and implementation strategies for each country (mid 2011):
    a. involves stakeholder consultations, awareness raising, scoping for coordination mechanism (i.e. NACCC in Vanuatu)
    b. different ministries, national and provincial governments, local communities, community-based organizations, CSOs/NGOs, private sector, educational and research institutions, gender issues and indigenous groups
    c. analysis of the drivers/activities on the national level
    d. Capacity assessment, gap analysis and definition of gap filling exercises
    e. Customary owners involvments (i.e. land tenure isues)
    f. Consideration of conservation and biodiversity issues (possibly using the HCVF approach)
    g. Benefit sharing mechanisms.

3. Establish policy, strategies, regulations and MRV with clear link among them (end of 2011)
    a. Policy development incl. consultations to come up with agreed policy
    b. Exchange on policy development (i.e. from Fiji, PNG, Vanuatu, or even Indonesia) and for regional level – regional REDD+ policy workshop (2nd half of 2011)
    c. Goal: national policy and legislation, incl. carbon property rights
    d. National REDD+ action programme.

4. Kick start monitoring (start 2011):
    a. Initial assessment of drivers/activities and data analysis to support policy development (by mid 2011).
    b. Training and capacity building (should involve other country officers) : measurements of deforestation and forest degradation (methodologies for forest area monitoring, forest carbon monitoring etc) – GIS and mapping, requirements IPCC GPG – carbon inventory and remote sensing for staff of relevant departments and other organisations (start 2011).
    c. Collaboration to exchange monitoring capacities from all Pacific countries.

5. Development and strengthening of REDD+ institutional framework (start 2011, completed by end of 2011):
    a. Distribution of roles and responsbilities (i.e. PNG examples), strengthen existing structures.
    b. Coordination mechanism among key stakeholders.
    c. Data storage and management, transparency and access for different stakeholders.

6. Implementation of measuring and monitoring program (start 2012):
    a. Capacity development for regular monitoring and reporting on forest carbon change
    b. Training on the IPCC Good Practice Guidelines
    c. Participation in international expert groups (i.e. GOFC-GOLD) and UNFCCC and UNCBD technical meetings (include technical national experts)
    d. Biodiversity parameters? How to include in monitoring – most national measurements currently focus on commercial forestry only – need for biodiversity surveying – synergies with ongoing monitoring
    e. Independent assessments and auditing
    f. Link to research activities and international partnering, addressing new and evolving issues (role of new technologies for monitoring, community-based forest monitoring, low carbon development strategies etc.).

7. Development and provision of all relevant components and elements for the participation in upcoming REDD+ financial mechanisms in one country, where appropriate in cooperation with other internationally renowned organisation like GOFC-GOLD (reference level, governance, MRV, controlling institutions, 2013).

8. Need for a comprehensive regional assessment of forest sector GHG emissions and removals, conservation (2013):
    a. Include all Pacific Islands states with significant forest resources
    b. Develop regional reference level and link monitoring to regional policy targets
    c. Regional assessment on natural forests, biodiversity and degraded lands (collaborate with other programs)
    d. Regional training on carbon trading and REDD+
    e. Regional effort for inventory of Mangroves (i.e. Pacific mangroves initiative, MESCAL-IKI).

4.3.2 Activities to Deliver Output 3

1. Scoping for potential pilot projects and objectives (2011):
    a. Distribution of different pilot activity types among countries (Solomon Islands, Vanuatu, PNG, Fiji)
    b. Overview/exchange on existing/intended REDD+ pilots
    c. Different type of REDD+ activities to be explored:
        i. Reducing deforestation
        ii. Improved forest management and conservation, incl. sustainable and traditional forest management
        iii. Afforestation
    d. At least one should be on conservation and link to biodiversity (possibly using the HCVF approach)
    e. Choice should be representative of Pacific regional REDD+ opportunities, drivers and activities

f. Under full consideration of the principals of free, prior and informed consent; development of profiles of the pilot site (bio geographic, socio-economic, cultural)
g. Develop them as sub-national activities (link to national strategy and policy – to address key drivers), also link to national MRV activities
h. Consultations and awareness raising, requirements of women and indigenous groups will be considered.

2. Identification of pilot sites (at least 3) by beginning of 2012.

3. Pilot project implementation (2012/13).
    a. Consultations with all relevant stakeholders
    b. Capacity building (resource owners, officers etc.),
    c. Carbon property rights
    d. Development of methods using international standards
    e. Monitoring (forest inventory, forest area monitoring, biodiversity monitoring, forest carbon assessment, reference level), and develop project description document (PDD),
    f. Establish reference level/baseline
    g. Carbon accounting, verification
    h. Documentation and endorsement of the project by all involved actors: communities, forest departments, where appropriate other ministries, NGO.
    i. Assess multiple benefits.

4. Sharing of experiences and results (end of 2012 and ongoing)
    a. National, regional, international
    b. Potential for up-scaling or expansion.

5. Initiate carbon transaction (2013/14):
    a. Also considering value-adding issues (non-carbon) support of small enterprises in the marketing of forestry and agro forestry products from REDD+ projects, taking gender and biodiversity aspects into account.

5. Next Steps

The GIZ project management unit will be set up and be fully operational by April 2011. The GIZ team will be sitting with the Forest and Trees program of SPC-Land Resources Division in Suva.

A series of workshops to establish operational plans for the regional component (Objective 1 and 2) and for the national components in Vanuatu, Solomon Islands and Papua New Guinea (Objective 3) will be organised in subsequent months. Note that the national REDD+ process in Fiji will be supported through SPC/GIZ project CCCPIR.

Overall the workshop presented a valuable opportunity to bring representatives from the four participating nations together to clarify the state of REDD+ readiness, and to establish a framework for moving forward on REDD+ policy, strategy and implementation with a greater level of regional coordination and co-operation.

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7. Appendices

APPENDIX 1. ABBREVIATIONS AND ACRONYMS

A/R	Afforestation/Reforestation
ACCPIR	Adaptation to Climate Change in the Pacific Island Region
ADB	Asian Development Bank
AFOLU	Agriculture, Forestry and Other Land Uses
APCF	Asia Pacific Carbon Fund of the Asian Development Bank
BMU	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
BMZ	German Federal Ministry for Economic Cooperation and Development
CBFF	Congo Basin Forest Fund
CCB	Climate Community and Biodiversity Standard
CDM	Clean Development Mechanism
CI	Conservation International
CIFOR	Centre for International Forestry Research
COP	Conference of Parties
CTU	Carbon Trading Unit
DNA	Designated National Authority
EU-ETS	European Union Emissions Trading Scheme
FAO	Food and Agriculture Organization
FAO FRA	Food and Agriculture Organization Forest Resources Assessment
FCF	Future Carbon Fund of the Asian Development Bank
FCPF	Forest Carbon Partnership Facility
FIP	Forest Investment Programme of the World Bank
FLIS	Fiji Land Information System
GHG	Greenhouse Gas
GIS	Geographical Information System
GPG	Good Practice Guidance
GIZ	Deutsche Gesellschaft fuer Internationale Zusammenarbeit (as a federally owned enterprise, GIZ supports the German Government in achieving its objectives in the field of international cooperation for sustainable development)

GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation)
ICCTF	Indonesia Climate Change Trust Fund
ICDP	Integrated Conservation and Development Projects
IFCI	International Forest Carbon Initiative (Australian Government)
IFM	Improved Forest Management
IPCC	Intergovernmental Panel on Climate Change
KPCP1	Kyoto Protocol First Commitment Period (2008-2012)
LCA	Long Term Collaborative Action
LULUCF	Land Use, Land Use Change and Forestry
MDB	Multilateral Development Bank
MRV	Measurement/Monitoring Reporting and Verification
NAPA	National Adaptation Programme of Action
NEC	National Environment Council
NFI	National Forest Inventory
NGOs	Non-Governmental Organizations
NZ ETS	New Zealand Emissions Trading Scheme
OCCES	Office of Climate Change and Environmental Sustainability (PNG)
PDD	Project Description Documentation
PES	Payment for Ecosystem Services
PIC	Pacific Island Countries
REL	Reference Emission Level
REDD	Reducing Emissions from Deforestation and Degradation
REDD+	REDD, Afforestation/Reforestation, and forest conservation
RGGI	Regional Greenhouse Gas Initiative (USA)
R-Package	REDD Readiness Package
R-PIN	REDD Readiness Plan Idea Note
R-PP	REDD Readiness Preparation Proposal
SBSTA	Subsidiary Bodies for Scientific and Technological Advice (UNFCCC)
SFM	Sustainable Forest Management
SI	Solomon Islands
SPC	Secretariat of the Pacific Community
TAP	Technical Advisory Panel
TNC	The Nature Conservancy

UNDP	United National Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
USP	University of the South Pacific
VCCP	Vanuatu Carbon Credits Project
VCS	Voluntary Carbon Standard
VER	Verified Emission Reduction
WB	World Bank
WCI	Western Climate Initiative (USA, Canada)
WCS	The Wildlife Conservation Society

APPENDIX 2. WORKSHOP PROGRAMME

TIME	ITEM	LEAD	
DAY 1 Monday 22 November			
8.30-9:00	**REGISTRATION**	Secretariat	
9.00-9:30	**OPENING SESSION & INTRODUCTION**		
	Welcome	Christine Fung, GTZ	
	Opening Devotion	Mr Sairusi Bulai, SPC	
	Opening remarks	Dr Hermann Fickinger, GTZ	
	Opening remarks	Mr Inoke Ratukalou, SPC	
	Key opening address - Ministry of Primary Industries, Fiji	Ms Peninia Cirkiyasawa, Deputy Secretary, Fisheries and Forests	
9:30-10:00	Workshop Overview and Purpose, and introduction of participants	Dr Hermann Fickinger	
10:00-10:30	Morning Tea & Group Photo		
Session 1: Forests and Climate Protection –Regional and International Issues			
10:30-11:00	Regional Perspective on Forests and Climate Protection	Sairusi Bulai	P1
11:00-11:30	GTZ Involvement in Forests, Climate Protection and REDD+	Björn Hecht	P2
11:30-12:00	Project Proposal Presentation	Felix Ries	P3
12:00-12:40	REDD+ Policy Overview	Sean Weaver	P4
12:40-1:30	Lunch		
1:30-2:00	International Developments in Forest Governance	Björn Hecht	P5
2:00-2:30	International Policy Developments for REDD+	Sean Weaver	P6
2:30-3:00	REDD+ MRV 1 – National and Project Scale Remote Sensing & International Policy Developments	Martin Herold	P7
3:00-3:30	REDD+ MRV 2 – National and Project Scale Forest Carbon Inventory & International Policy Developments	Ian Payton	P8
3:30-4:00	Afternoon Tea		
Session 2: Pacific Regional Issues for Implementation of REDD+			
4:00-5:00	Group work session*: regional issues and challenges relating to the implementation of REDD+* 1. Regional positioning on REDD+ and contributions in international negotiations 2. Regional policy and strategic issues for addressing the drivers of deforestation and forest degradation 3. Regional capacity development to undertake REDD MRV		

DAY 2 Tuesday 23 November			
8:50-9:00	Recap Day 1 & Introduction to Day 2 agenda		
9:00-10:00	Group work presentations & discussions		

TIME	ITEM	LEAD	
Session 3: National REDD activities and initiatives in the Pacific			
10:00-10:30	PNG Forests & Climate Programme Overview & developments in REDD	PNG representative	P9
10:30-10:45	Morning Tea		
10:45-11:15	Solomon Islands Forests & Climate Programme Overview & developments in REDD	Solomon Islands representative	P10
11:15-11:45	Vanuatu Forests & Climate Programme Overview & developments in REDD	Vanuatu representative	P11
11:45-12:15	Fiji Forests & Climate Programme Overview & developments in REDD	Fiji representative	P12
Session 4: REDD+ Financing and Markets			
12:15-12:40	REDD+ Financing Instruments and Activity Types	Sean Weaver	P13
12:40-1:10	Carbon Market Case Study: Improved Forest Management	Sean Weaver	P14
1:10-2:00	Lunch		
Session 5: Introduction to Project Planning *(Reference: Project proposal section 4.1.2 & 4.2)*			
2:00 – 2:30	The 3 main Project objectives and proposed measures	Hermann Fickinger	P15
3:00 – 3:40	Introduction to the Result Based/Impact Monitoring	Hermann Fickinger	P16
3:40-4:00	Afternoon Tea		
4:00-4:30	Considerations for a Regional REDD+ Policy (Objective 1) – *facilitated plenary discussion*	Sean Weaver	
4:00-5:00	Considerations for a Regional REDD+ Information Platform (Objective 2) – *facilitated plenary discussion*	Martin Herold	
5:00	Wrap up Day 2	Ian Payton	

DAY 3 Wednesday 24 November			
Session 6: Elaboration of Plan of Operation			
9:00 – 9:30	Introduction to the Project Plan of Operation matrix and Impact chain	Hermann Fickinger	P17
9:30-10:30	Group work: *Elaboration of Plan of Operation: main Outputs and major Activities*		
	1. Regional REDD+ Policy Lead resource person: Sean Weaver	Group 1	
	2. Regional REDD+ Information Platform Lead resource person: Ian Payton	Group 2	
	3. REDD+ Readiness Lead resource person: Martin Herold	Group 3	
10:30-11:00	Morning Tea		

TIME	ITEM	LEAD	
11:00-1:00	Continue development of Plan of Operation & formulation of main Outputs and Activities		
1:00-2:00	Lunch		
2:00-3:30	Group work presentations, discussions and confirmations	Plenary	
3:30-4:00	Afternoon Tea		
4:00-4:10	Next steps	Hermann Fickinger	
4:10-4:40	Final statements and recommendations from Country representatives	Country reps	
4:40-4:50	Final remarks from resource experts	Sean Weaver, Martin Herold, Ian Payton	
4:50-5:10	Official closing		

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APPENDIX 4. COP15 DECISION ON REDD MRV (2009)

Decision 4/CP.15

Methodological guidance for activities relating to reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

The Conference of the Parties,

Recalling decisions 1/CP.13 and 2/CP.13,

Acknowledging the importance of reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries,

Noting the progress made by the Subsidiary Body for Scientific and Technological Advice in its programme of work on methodological issues related to a range of policy approaches and positive incentives,

Also noting the range of ongoing activities and cooperative efforts being undertaken by Parties and international organizations, in accordance with decision 2/CP.13, paragraphs 1, 2, 3 and 5,

Recognizing the need for full and effective engagement of indigenous peoples and local communities in, and the potential contribution of their knowledge to, monitoring and reporting of activities relating to decision 1/CP.13, paragraph 1 (b) (iii),

Recognizing the importance of promoting sustainable management of forests and co-benefits, including biodiversity, that may complement the aims and objectives of national forest programmes and relevant international conventions and agreements,

Noting experiences and lessons learned from ongoing activities and efforts in capacity-building, testing methodologies and monitoring approaches, and a range of policy approaches and positive incentives, including those guided by the indicative guidance contained in the annex to decision 2/CP.13,

1. *Requests* developing country Parties, on the basis of work conducted on the methodological issues set out in decision 2/CP.13, paragraphs 7 and 11, to take the following guidance into account for activities relating to decision 2/CP.13, and without prejudging any further relevant decisions of the Conference of the Parties, in particular those relating to measurement and reporting:

(a) To identify drivers of deforestation and forest degradation resulting in emissions and also the means to address these;

(b) To identify activities within the country that result in reduced emissions and increased removals, and stabilization of forest carbon stocks;

(c) To use the most recent Intergovernmental Panel on Climate Change guidance and guidelines, as adopted or encouraged by the Conference of the Parties, as appropriate, as a basis for estimating anthropogenic forest-related greenhouse gas emissions by

sources and removals by sinks, forest carbon stocks and forest area changes;

(d) To establish, according to national circumstances and capabilities, robust and transparent national forest[1] monitoring systems and, if appropriate, sub-national systems as part of national monitoring systems that:

(i) Use a combination of remote sensing and ground-based forest carbon inventory approaches for estimating, as appropriate, anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes;

(ii) Provide estimates that are transparent, consistent, as far as possible accurate, and that reduce uncertainties, taking into account national capabilities and capacities;

(iii) Are transparent and their results are available and suitable for review as agreed by the Conference of the Parties;

2. *Recognizes* that further work may need to be undertaken by the Intergovernmental Panel on Climate Change, in accordance with any relevant decisions by the Conference of Parties;

3. *Encourages*, as appropriate, the development of guidance for effective engagement of indigenous peoples and local communities in monitoring and reporting;

4. *Encourages* all Parties in a position to do so to support and strengthen the capacities of developing countries to collect and access, analyse and interpret data, in order to develop estimates;

5. *Invites* Parties in a position to do so and relevant international organizations to enhance capacity-building in relation to using the guidance and guidelines referred in to paragraph 1 (c) above, taking into account the work of the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention;

6. *Requests* the secretariat, subject to availability of supplementary funding, to enhance coordination of the activities referred to in paragraph 5 above, in the context of existing initiatives;

7. *Recognizes* that developing country Parties in establishing forest reference emission levels and forest reference levels should do so transparently taking into account historic data, and adjust for national circumstances, in accordance with relevant decisions of the Conference of the Parties;

8. *Invites* Parties to share lessons learned and experiences gained in the application of the guidance referred to in paragraph 1 above and the annex to decision 2/CP.13 through the web platform on the UNFCCC website;

9. *Urges* relevant international organizations, non-governmental organizations and stakeholders to integrate and coordinate their efforts in order to avoid duplication and enhance synergy with regard to activities relating to decision 2/CP.13.

9th plenary meeting
18–19 December 2009

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1 Taking note of, if appropriate, the guidance on consistent representation of land in the Intergovernmental Panel on Climate Change *Good Practice Guidance for Land Use, Land-Use Change and Forestry*.

APPENDIX 5. UNFCCC DECISION COP-16 (2010)

C. Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

Affirming that, in the context of the provision of adequate and predictable support to developing country Parties, Parties should collectively aim to slow, halt and reverse forest cover and carbon loss, according to national circumstances, consistent with the ultimate objective of the Convention, as stated in Article 2,

Also affirming the need to promote broad country participation in all phases described in paragraph 73 below, including through the provision of support that takes into account existing capacities,

68. *Encourages* all Parties to find effective ways to reduce the human pressure on forests that results in greenhouse gas emissions, including actions to address drivers of deforestation;

69. *Affirms* that the implementation of the activities referred to in paragraph 70 below should be carried out in accordance with annex I to this decision, and that the safeguards referred to in paragraph 2 of annex I to this decision should be promoted and supported;

70. *Encourages* developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:

(a) Reducing emissions from deforestation;
(b) Reducing emissions from forest degradation;
(c) Conservation of forest carbon stocks;
(d) Sustainable management of forest;
(e) Enhancement of forest carbon stocks;

71. *Requests* developing country Parties aiming to undertake activities referred to in paragraph 70 above, in the context of the provision of adequate and predictable support, including financial resources and technical and technological support to developing country Parties, in accordance with national circumstances and respective capabilities, to develop the following elements:

(a) A national strategy or action plan;

(b) A national forest reference emission level and/or forest reference level[6] or, if appropriate, as an interim measure, subnational forest reference emission levels and/or forest reference levels, in accordance with national circumstances, and with provisions contained in decision 4/CP.15, and with any further elaboration of those provisions adopted by the Conference of the Parties;

(c) A robust and transparent national forest monitoring system for the monitoring and reporting of the activities referred to in paragraph 70 above, with, if appropriate, subnational monitoring and reporting as an interim measure,[7] in accordance with national

6 In accordance with national circumstances, national forest reference emission levels and/or forest reference levels could be a combination of subnational forest reference emissions levels and/or forest reference levels.

7 Including monitoring and reporting of emissions displacement at the national level, if appropriate, and reporting on how displacement of emissions is being addressed, and on the means to integrate subnational monitoring systems into a national monitoring system.

circumstances, and with the provisions contained in decision 4/CP.15, and with any further elaboration of those provisions agreed by the Conference of the Parties;

(d) A system for providing information on how the safeguards referred to in annex I to this decision are being addressed and respected throughout the implementation of the activities referred to in paragraph 70, while respecting sovereignty;

72. *Also requests* developing country Parties, when developing and implementing their national strategies or action plans, to address, inter alia, drivers of deforestation and forest degradation, land tenure issues, forest governance issues, gender considerations and the safeguards identified in paragraph 2 of annex I to this decision, ensuring the full and effective participation of relevant stakeholders, inter alia, indigenous peoples and local communities;

73. *Decides* that the activities undertaken by Parties referred to in paragraph 70 above should be implemented in phases beginning with the development of national strategies or action plans, policies and measures, and capacity-building, followed by the implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results-based demonstration activities, and evolving into results-based actions that should be fully measured, reported and verified;

74. *Recognizes* that the implementation of the activities referred to in paragraph 70 above, including the choice of a starting phase as referred to in paragraph 73 above, depends on the specific national circumstances, capacities and capabilities of each developing country Party and the level of support received;

75. *Requests* the Subsidiary Body for Scientific and Technological Advice to develop a work programme on the matters referred to in annex II to this decision;

76. *Urges* Parties, in particular developed country Parties, to support, through multilateral and bilateral channels, the development of national strategies or action plans, policies and measures and capacity-building, followed by the implementation of national policies and measures, and national strategies or action plans, that could involve further capacity building, technology development and transfer and results-based demonstration activities including consideration of the safeguards referred to in paragraph 2 of annex I to this decision, taking into account the relevant provisions on finance including those relating to reporting on support;

77. *Requests* the Ad Hoc Working Group on Long-term Cooperative Action under the Convention to explore financing options for the full implementation of the results-based actions[8] referred to in paragraph 73 above, and to report on progress made, including any recommendations for draft decisions on this matter, to the Conference of the Parties at its seventeenth session;

78. *Also requests* Parties to ensure coordination of the activities referred to in paragraph 70 above, including of the related support, particularly at the national level;

79. *Invites* relevant international organizations and stakeholders to contribute to the activities referred to in paragraphs 70 and 78 above.

8 These actions require national monitoring systems.

Annex I

Guidance and safeguards for policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

1. Activities referred to in paragraph 70 of this decision should:

(a) Contribute to the achievement of the objective set out in Article 2 of the Convention;

(b) Contribute to the fulfilment of the commitments set out in Article 4, paragraph 3, of the Convention;

(c) Be country-driven and be considered options available to Parties;

(d) Be consistent with the objective of environmental integrity and take into account the multiple functions of forests and other ecosystems;

(e) Be undertaken in accordance with national development priorities, objectives and circumstances and capabilities and should respect sovereignty;

(f) Be consistent with Partiesí national sustainable development needs and goals;

(g) Be implemented in the context of sustainable development and reducing poverty, while responding to climate change;

(h) Be consistent with the adaptation needs of the country;

(i) Be supported by adequate and predictable financial and technology support, including support for capacity-building;

(j) Be results-based;

(k) Promote sustainable management of forests;

2. When undertaking activities referred to in paragraph 70 of this decision, the following safeguards should be promoted and supported:

(a) Actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements;

(b) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;

(c) Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;

(d) The full and effective participation of relevant stakeholders, in particular, indigenous peoples and local communities, in actions referred to in paragraphs 70 and 72 of this decision;

(e) Actions are consistent with the conservation of natural forests and biological diversity, ensuring that actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are instead used to incentivize the protection and

conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits;[1]

(f) Actions to address the risks of reversals;

(g) Actions to reduce displacement of emissions.

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[1] Taking into account the need for sustainable livelihoods of indigenous peoples and local communities and their interdependence on forests in most countries, reflected in the United Nations Declaration on the Rights of Indigenous Peoples, as well as the International Mother Earth Day.

Annex II

Subsidiary Body for Scientific and Technological Advice work programme on policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

In the development of its work programme, the SBSTA is requested to:

(a) Identify land use, land-use change and forestry activities in developing countries, in particular those that are linked to the drivers of deforestation and forest degradation, to identify the associated methodological issues to estimate emissions and removals resulting from these activities, and to assess their potential contribution to the mitigation of climate change, and report on the findings to the Conference of the Parties at its eighteenth session on the outcomes of the work referred to in this paragraph;

(b) Develop modalities relating to paragraphs 71 (b) and (c), and guidance relating to paragraph 71 (d) of this decision, for consideration by the Conference of the Parties at its seventeenth session;

(c) Develop as necessary, modalities for measuring, reporting and verifying anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, forest carbon stock and forest area changes resulting from the implementation of activities referred to in paragraph 70 of this decision, consistent with any guidance for measuring, reporting and verification of nationally appropriate mitigation actions by developing country Parties agreed by the Conference of the Parties, taking into account methodological guidance in accordance with decision 4/CP.15, for consideration by the Conference of the Parties at its seventeenth session;

APPENDIX 6. CARBON MARKET CASE STUDY: IMPROVED FOREST MANAGEMENT

This project is about trying to help Maori owners of indigenous forest in New Zealand to sell carbon instead of timber to generate a revenue stream from their forests. All tall indigenous forests are excluded from the carbon credit instruments developed by the New Zealand government (the NZ ETS, and the Permanent Forest Sink Initiative - PFSI) during the Kyoto Protocol First Commitment Period (KPCP1) 2008-2012. This is because New Zealand elected to not undertake Article 3.4 of the Kyoto Protocol relating to forest management of pre-1990 forests, and all tall indigenous forests were established prior to 1990. As such, carbon trading through the government system requires eligible forests to have been established after December 31st 1989. This means that Maori owners of tall indigenous forest currently have no option for carbon trading in the government-based system and/or the Kyoto Protocol.

But there is an alternative to the government carbon trading system in New Zealand, and this comes in the form of the voluntary carbon market. The voluntary carbon market is also a carbon trading option for developing countries seeking to undertake REDD activities. To be eligible for carbon trading in the voluntary carbon market, a forest carbon project needs to be ineligible for carbon trading in the New Zealand government carbon trading system. Hence, Maori owners of tall indigenous forest still have carbon trading options – at least *in principle*.

This feasibility study involved developing a carbon project to the point at which it would be almost ready to bring to market. This involved developing a carbon project methodology (Weaver et al 2010a) suitable to the forests in question, and then using this methodology as the basis for calculating the volume of carbon credits that the case study project might expect to sell (Weaver et al 2010b).

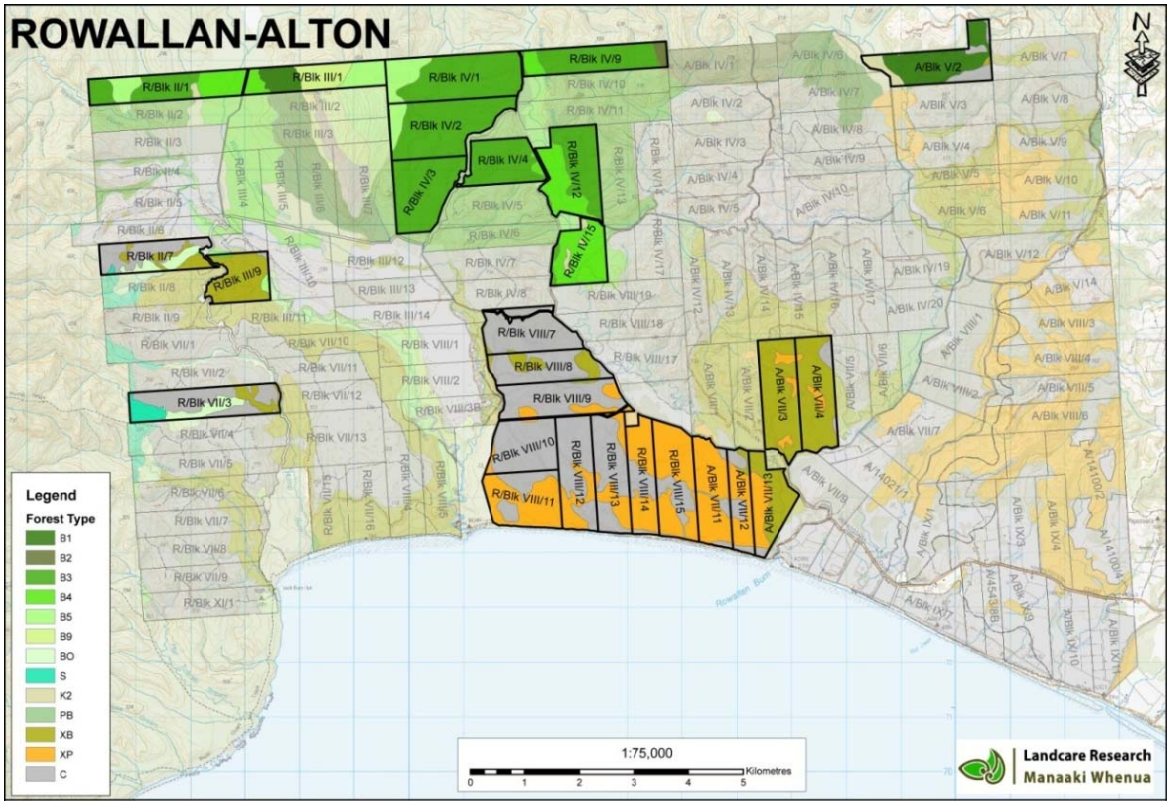
The outcome of this case study (see Weaver and Hewitt 2010) showed that carbon credits generated through the voluntary carbon market can compete with timber harvesting when comparing these options on a purely financial basis (and using conservative carbon price estimates). Whereas carbon credit sales are likely to generate slightly less annual net income per hectare than timber, the carbon revenues are still the same order of magnitude as timber revenues for landowners. Furthermore, carbon credits can be forward sold in a futures market (e.g. transacting 50 years of carbon up front), which reduces financial risk to the seller. This is the key advantage carbon credits have over timber harvesting, particularly when the forest owners lack the capital to command a position higher up the timber value chain.

Case Study Example

The purpose of this project was to test the commercial feasibility of a voluntary carbon market project in non-Kyoto indigenous forest on Maori-owned land in Western Southland. If put into practice this would also comprise a demonstration activity for any Maori forest owners throughout New Zealand seeking to use carbon finance to protect indigenous forests, while generating a viable income for the owners.

Figure 13: Project location in western Southland, New Zealand

Figure 14: Land Parcels Comprising the 'Rowallan-Alton Carbon Project'



Given the anticipated complexities of this task and the possibility of a carbon project not being commercially viable for these forests, a fallback position was also anticipated in the form of a Payment for Ecosystem Services (PES) project. In the event that a PES project approach is pursued, it would be based on the methodology used for the carbon project but instead of selling carbon it would aim to sell a forest conservation outcome to a corporate sponsor.

The baseline (business-as-usual) activity for these forests is low impact selective logging, because no other type of logging activity is permitted under New Zealand forestry laws and regulations. Such low levels of baseline timber harvesting would make it challenging for a carbon project to achieve commercial viability.

In order to test the commercial feasibility of a voluntary carbon project on these Maori lands it was necessary to undertake the following:

1. **Forests:** Define an aggregation of potentially eligible forest lands of a scale that would *prima facie* be sufficient for meeting the demands of a carbon project (i.e. in terms of transaction costs), and gain approval by the owners of this land to prepare a proposal for a carbon project.

2. **Carbon Product:** Define suitable carbon product types and associated carbon finance options associated with those product types. These product types include the kind of carbon unit to be generated and the associated carbon market standard.

3. **Methodology:** Develop a project methodology in accordance with a carbon market standard. This involves selecting an existing methodology (approved or soon to be approved by an international quality assurance standard) and adapting it to a context suitable for a) this project case study, and b) extension to other Maori indigenous forest lands throughout New Zealand.

4. **PDD:** Populate the methodology with data from the SILNA forest case study.

5. **Carbon Revenues:** Calculate the potential carbon revenues capable of being generated from the case study forests should a carbon project proceed, and on the basis of the different carbon product scenarios (i.e. under different standards). This calculation of carbon revenues under different scenarios takes into account the costs of bringing a carbon project to market (e.g. project development and transaction costs) for the different standards.

6. **Scale:** Should the benefit-cost analysis prove unfavourable for a carbon project of this scale, the next step would be to estimate how large a project would need to be

(in terms of the area of eligible forest lands) in order to attain commercial viability for this project type as a function of scale.

7. **PES:** Should a carbon project be deemed unviable for this particular aggregation of lands, then develop a 'Payment for Ecosystem Services' (PES) project for these forests with the view to seeking corporate sponsorship to achieve the protection of these forests.

8. **Strategic Considerations:** The options for progressing this initiative need to be presented to the funder and the forest owners.

The summary findings arising from each of the seven steps above are:

1. **Forests:** The aggregation of eligible lands comprised 1,425 hectares of indigenous forest-land made up from 21 land parcels in the Rowallan-Alton area of Western Southland. The owners of the land comprise two groups:
    a. The Rowallan-Alton Incorporation – an incorporation of Maori owners, and
    b. A group of Maori forest blocks managed on behalf of the owners by the Office of the Maori Trustee.

2. **Carbon Product:** The most suitable international voluntary carbon market product selected for this project were:
    a. VCU - Voluntary Carbon Units issued and quality assured by the Voluntary Carbon Standard[30] (VCS), or
    b. VERs – Verified Emission Reductions issued by Markit Environmental Registry and quality assured by the ISO 14064-2 standard, with the further option of certifying the community and biodiversity co-benefits with the Climate Community and Biodiversity Standard (CCB).

    These two options are available to the forest owners should they choose to pursue a carbon project. They differ in the project development and transaction costs associated with bringing them to market, and also differ in the likely value of the carbon units and associated carbon revenues generated from a carbon project.

    The lowest cost path to market would involve pursuing option b in 2. above: the VER/ISO path which would likely cost approximately NZ$30,000 for project validation/auditing/certifying by ISO, whereas the VCS path may cost as much as NZ$90,000 in transaction costs.

[30] The Voluntary Carbon Standard is the largest international carbon market standard commanding about 50% of all international voluntary carbon market transactions.

3. **Methodology:** A New Zealand-specific methodology was developed for the project and was based on the Voluntary Carbon Standard (VCS) and adapted for New Zealand conditions and simplified to lower project development and transaction costs. The methodology type is: Improved Forest Management (IFM), Conversion of Logged to Protected Forest (LtPF).

   This methodology was based on the Green Collar IFM-LtPF VCS methodology (soon to be approved by the Voluntary Carbon Standard), the VCS Standard, VCS guidance documents, and VCS methodological tools as guiding documents. It was also closely aligned with the existing New Zealand forest carbon accounting methodologies already developed for compliance carbon accounting under the Kyoto Protocol. This New Zealand-specific methodology is applicable to any voluntary carbon project in similar indigenous forests in New Zealand and could be incorporated into a national scheme to protect indigenous forests ineligible under the Emissions Trading Scheme or the Permanent Forest Sinks Initiative.

4. **PDD:** The data from the project forests was populated into the methodology in the form of a Project Description Document (PDD) in order to:
   a. Define the eligible forest area (1,425ha).
   b. Determine the project scope in terms of carbon accounting.
   c. Determine the baseline (business as usual) scenario carbon stocks and stock change. The baseline scenario was determined as timber harvesting under a sustainable forest management plan at a rate of extraction that is commercially viable under current prices.
   d. Determine the project scenario (forest protection) carbon benefits. The project scenario determined the annual carbon benefits accruing to the project to be 6849 tCO_2/yr. The project period was set provisionally at 50 years, but which could be changed (e.g. to 100 years) if the owners so choose.
   e. Demonstrate additionality (i.e. show that forest protection would not happen anyway). The project is judged to meet the VCS additionality requirements.
   f. Define a monitoring regime. The monitoring regime involves a 5 yearly assessment of the project in terms of confirmation of no change in the project boundaries, and no commercial timber harvesting.

   NB: further work is needed to complete the PDD (tasks for the next phase of this project).

5. **Carbon Revenues:** The potential gross carbon revenues arising from this cases study are estimated for the ISO certification path and assuming it can secure a buyer/s:
   a. Scenario 1: 342,450 tCO_2 benefits @ NZ\$5/tCO_2 forward sold for a 50 year project = NZ\$1.71 million.

b. Scenario 2: 342,450 tCO_2 benefits @ NZ\$10/tCO_2 forward sold for a 50 year project = NZ\$3.42 million.
c. Scenario 3: 684,900 tCO_2 benefits @ NZ\$5/tCO_2 forward sold for a 100 year project = NZ\$3.43 million.
d. Scenario 4: 684,900 tCO_2 benefits @ NZ\$10/tCO_2 forward sold for a 100 year project = NZ\$6.85 million.

When comparing potential carbon revenues with potential timber revenues, it is clear that carbon revenues are similar in scale to stumpage revenues under a timber-harvesting path. The advantage of carbon over stumpage relates to the fact that carbon can be forward sold thereby lowering financial risk to forest owners.

This showed that the project would be potentially commercially viable for carbon trading should the forest owners choose to proceed, provided it can secure a buyer and an acceptable reserve price.

This also indicates that it may be commercially viable to undertake voluntary carbon projects in a range of indigenous forests on Maori owned land elsewhere in New Zealand.

6. **Scale:** The economic information arising from this case study indicate that it is potentially commercially viable to transact carbon in lieu of timber at a scale of 1,425ha. The NZ-specific methodology developed in this project provides for a programmatic approach, which allows a single project to be validated (e.g. NZ\$30k auditing/validation cost) but then grow in size as new lands are added to the programme through time. This would allow other Maori forest owners to opt into this programme without having to repeat the cost of project validation.

7. **PES:** A 'Payment for Ecosystem Services' (PES) project may not be necessary given that carbon trading appears to be commercially feasible. Alternatively, a PES transaction could be considered should the resource owners seek to certify the project under the Climate Community and Biodiversity (CCB) standard, which certifies the biodiversity and community co-benefits but not the carbon component of the project. The key here is securing a buyer willing to pay a reserve price for a product that contains non-certified carbon, packaged with certified co-benefits.

   The PES methodology is the same as the carbon methodology developed and used in this case study, but would produce a PDD that would be sent to a third party to certify the biodiversity and community co-benefits, or sent to a potential buyer seeking a partnership. Such a path would require further work to document the biodiversity and community co-benefits of the project in greater detail than contained in the current PDD.

8. **Strategic Considerations:** The carbon project option appears to be viable on the basis of the information presented in the PDD. A carbon project on these lands would also incorporate added value from biodiversity and Maori cultural and socio-economic co-benefits. These co-benefits need to be further documented in the PDD. There is also an option to certify these co-benefits (e.g. through certification by the Climate Community and Biodiversity standard) but this would add to the project transaction costs (e.g. an additional NZ$20-30k). Self certified but well documented and monitored biodiversity and cultural co-benefits would still add value to the carbon and may enable a higher carbon price per tonne than carbon sold without documenting these co-benefits.

   The New Zealand-specific IFM-LtPF methodology developed in this project provides for a programmatic carbon project/programme to be rolled out. This option would enable the forests subject to this project to form the initial core of a programme generating a combination of carbon, biodiversity and Maori cultural co-benefits. Here, the project validation cost of NZ$30,000 would benefit all Maori forest owners who elected to opt into this programme. Because the methodology is applicable to any New Zealand forest land, it could also be used for carbon projects on non-Maori lands. For such lands to be incorporated into a carbon project under this methodology they would, however, need to establish a separate project or programme and would incur their own project/programme validation cost (i.e. NZ$30,000).

Conclusion & Relevance to Pacific Island REDD

This Improved Forest Management (IFM) case study was undertaken against a backdrop of

a. Low baseline emissions (from sustainable forest management – low intensity selective logging), and
b. Covering a relatively small total area (less than 2,000ha) made up of an aggregation of even smaller forest areas (approximately 100ha each).

The fact that the forecast net carbon revenues arising from this project are in the same order of magnitude as net revenues from timber harvesting demonstrates that small community scale carbon projects are possible in the Pacific Islands. This is particularly relevant given the fact that baseline emissions in IFM forest carbon projects in the Pacific Islands are likely to be significantly higher due to the legal sanction and common practice to harvest timber at much higher rates than the low levels expected of sustainable forest management regulations in New Zealand.

The Improved Forest Management methodology is also particularly relevant to Pacific Island countries where a great deal of forest sector emissions arises from forest degradation rather than deforestation. For this reason, the IFM methodology rather than a REDD methodology is likely to be more relevant to the majority of indigenous forest carbon

project scenarios in Pacific Island countries. As such, the methodology developed, and the path to market defined in this in this case study could be adapted to Pacific Island country contexts relatively easily in the form of pilot projects in REDD+. The value of using this methodology also relates to the fact that it only needs to be modified slightly to suit Pacific Island contexts – rather than having to go to the trouble of developing a new methodology from scratch.