

**Readiness Preparation Proposal (R-PP)
for Country: Bhutan
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Version 6

Forest Carbon Partnership Facility (FCPF)

The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (**UN-REDD**)

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General Information

Contact Information

Contact Institution

	Mr. Chencho Norbu
	Director General
	Department of Forests & Park Services
	Ministry of Agriculture & Forests, Royal Government of Bhutan, Post box no. 130, Thimphu BHUTAN
	+975 2 323055
	+975 2 322395
	cndofps@gmail.com
	http://www.dofps.gov.bt , www.moaf.gov.bt

Contact Person

	Dr. Pema Wangda
	Chief Forest Officer
	Watershed Management Division
	Department of Forests & Park Services, Ministry of Agriculture & Forests, Royal Government of Bhutan, Post box no. 130, Thimphu BHUTAN
	+975 2 323539/323568
	+975 2 321462
	pemaparop@gmail.com
	http://www.dofps.gov.bt/wmd

R-PP Development Team

	Name	Organization
1	Mr. Chencho Norbu, Director General	Department of Forests & Park Services
2	Mr. Jigme Tenzin, Forestry Officer, (REDD+ Focal Officer)	Department of Forests & Park Services
3	Mrs. Sigyel Delma, Senior Forestry Officer	Department of Forests & Park Services
4	Dr. Sangay Wangchuk, Nature Conservation Specialist	Department of Forests & Park Services
5	Dr. D.B. Dhital, Forest Resource Management Specialist	Department of Forests & Park Services
6	Mr. B.B. Chhetri, Social Forestry Specialist	Department of Forests & Park Services
7	Mr. K.B. Samal, Watershed Management Specialist	Department of Forests & Park Services
8	Dr. Pema Wangda, Chief Forest Officer	Department of Forests & Park Services
9	Dr. Purna B. Chhetri, Sr. Research Officer	Department of Forests & Park Services
10	Mr. Shacha Dorji, Chief Forest Officer	Department of Forests & Park Services
11	Mr. Ngawang Gyeltshen, Dy. Chief Forest Officer	Department of Forests & Park Services
12	Mrs. Kezang Yangden, Senior Forest Officer	Department of Forests & Park Services
13	Mr. Arun Rai, Senior Forest Officer	Department of Forests & Park Services
14	Mr. Younten Phuntsho, Forest Officer	Department of Forests & Park Services
15.	Mr. Phub Dhendup, Forest Officer	Department of Forests & Park Services
16.	Dr. M.R. Moktan, Principal Policy and Planning Officer	Council for RNR Research of Bhutan Secretariat
17	Mr. Thinley Namgyel, Chief Environment Officer	National Environment Commission Secretariat
18	Mr. Jigme Wangchuck, Chief Livestock Officer	Department of Livestock
19	Mrs. Karma Dema, Program Director	Department of Agriculture
20	Mr. Chandra Shekar Dhakal, Senior. Finance Officer	Department of Public Accounts, Ministry of Finance
21	Mr. Norbu Wangchuk, Deputy Chief Planning Officer	Gross National Happiness Commission Secretariat
22	Dr. Om Katel, Lecturer	College of Natural Resources, Royal University of Bhutan
23	Mr. Nedup Tshering	National Consultant
24	Mr. Ashit Chettri, Regional Manager	Natural Resources Development Corporation Limited (Corporation)
25	Mr. Chukey Wangchuk Chief Program Officer	Bhutan Trust Fund for Environment Conservation (NGO)
26	Mr. Dago Tshering, Senior Program Officer	Royal Society for Protection of Nature, (NGO)
27	Dr. András Darabant	BC-CAP Project, DoFPS

Summary of the R-PP

Dates of R-PP preparation (beginning to submission):	November 2012 – November 2013
Expected duration of R-PP implementation (month/year to month/year):	July 2014 – June 2018
Total budget estimate:	US \$ 4.612 million
Anticipated sources of funding:	FCPF: US \$ 3.8 million RGoB contribution: US \$ 0.372 million Other donors: US \$ 0.440 million
Expected government signer of R-PP grant request (name, title, affiliation):	Ministry of Finance, Royal Government of Bhutan, Thimphu
Expected key results from the R-PP implementation process:	Outcome 1) Development of the national REDD+ strategy and implementation framework Outcome 2) Building national capacity on REDD+ implementation Outcome 3) Development of National Forest Monitoring System Outcome 4) Development of national GHG Database system Outcome 5) Development of national forest Reference Emission Levels / Reference Levels

Executive summary

Bhutan is a small landlocked country located in the Eastern Himalayas. It has a geographical area of 38,394 square km and a population of 0.734 million. The country is characterized by fragile mountainous ecosystems with elevations ranging from about 130 masl in the foothills to over 7,500 masl along the main ridge of the Himalayas, within a distance of just 170 km. The most dominant land cover is forest, making up 80.89% (including shrub forest) of the land area.

The Constitution of Bhutan enshrines protection and conservation of the environment and mandates to maintain 60% forest cover in perpetuity. Over the years, a set of strong laws and policies have evolved to ensure the protection, management and sustainable use of forests. These acts of legislation are essentially geared towards the development philosophy of Gross National Happiness (GNH), maximizing human well-being instead of economic profit. The policies are translated and implemented by the Royal Government of Bhutan (RGoB) through Five Year Plans (FYP). The 11th FYP began implementation in August 2013 after being endorsed by the National Assembly. The Department of Forests & Park Services (DoFPS) will implement three programs in the 11th FYP:

- Sustainable Management of Government Reserve Forests (GRF)
- Sustainable management of forest landscapes and conservation of biodiversity
- Integrated watershed management to ensure sustainable environmental service delivery

REDD+ activities cut across all three programs of DoFPS and are explicitly mentioned in program 3 under output 1, which is titled “REDD+ Readiness activities initiated to implement climate change adaptation in watersheds”. DoFPS expects to be ready for implementing REDD+ activities by the end of the 11th FYP in 2018.

The Gross National Happiness Commission, (GNHC) is the central government body for coordinating and spearheading planning and policy formulation. National Environment Commission (NEC) is a high-level policy decision making body on matters related to environmentally sustainable development and the development of measures to integrate environmental management into the overall development process. DoFPS is the main agency responsible for developing and implementing strategies and policies for conservation and sustainable management of GRFs. DoFPS implements its various GRF-related programs through its functional division and field division offices located across the country.

The local governance is structured with 20 Dzongkhags containing 205 Geogs. The Dzongkhag Administration develops and implements all local level plans and programs. As part of the decentralization program, the Dzongkhag Administration also implements decentralized forestry plans and programs. The Dzongkhags will be the local level administration for REDD+ activities.

Two Non-Governmental Organizations, Tarayana Foundation and the Royal Society for Protection of Nature (RSPN), will be involved in all programs related to REDD+. RSPN is represented in the Technical Working Group (TWG) as part of the technical advisory body to the REDD+ Secretariat. The Tarayana Foundation will also contribute to REDD+ activities by improving socio-economic conditions of the local vulnerable communities, thereby reducing pressure on forest.

The process leading to the formulation of the R-PP began in 2010 when an initial National REDD+ Seminar was held. In 2011, Bhutan joined the UN-REDD Programme and Watershed Management Division (WMD), under DoFPS, Ministry of Agriculture and Forests (MoAF) was designated as the focal point for REDD+. Subsequently, numerous stakeholder consultation meetings, awareness raising workshops and a large number of media programs on REDD+ were conducted to raise awareness among stakeholders.

Additional REDD+ institutions will be established during Readiness phase. They include higher level strategic planning bodies (NCCC and MSTCCC), as well as the setup of Technical Working Groups, the REDD+ Secretariat and the REDD+ Taskforce.

Of the drivers of deforestation and forest degradation, those leading to forest degradation are more prominent in Bhutan. The forest cover showed slight increase until 2010, even though this likely is an artifact resulting from more accurate assessment methods, as previously applied. At the same time, the construction of major hydropower projects along with associated high-tension power lines has started mostly after the satellite data for the last forest cover assessment has been acquired, and accordingly, deforestation is presumed to have increased considerably. The key processes, acting at landscape scale that are thought to be drivers of forest degradation and/or forest cover changes are: loss of forest to development activities, Tsamdo and livestock, Tseri or slash-and-burn agriculture, forest fire, firewood, timber, poaching and illegal logging, harvesting of NWFPs and leaf litter collection.

An estimate of the potential costs and benefits for the emerging REDD+ strategy are extremely speculative at this stage as no details have yet been prepared for pilot sites, where interventions will be tested and potential reductions in carbon dioxide emissions assessed. Pilot activities, which will be supported during Readiness phase will help to identify optimal REDD+ intervention strategies. Such pilots will include:

Community Forests (CFs): At present there are 510 CFs with a total area of 57,825 hectares. The CFs will be an easy pilot to ensure multiple benefits for local livelihoods, conservation and biodiversity, as well as to ensure people's participation in REDD+ activities.

Protected Areas: As more than half of Bhutanese territory is under protected area management, there is ample scope for trialing REDD+ in a National Park or other protected area. Revenues could be used for sustainable livelihood interventions and park management enhancement.

Forest Management Units (FMUs): Forest management can be considerably improved to meet standards as outlined in the Forest Management Code of Bhutan.

Landscape and Market Approaches: The Bhutanese mountainous landscape offers a good opportunity to follow a landscape approach, making use of the natural ecosystem boundaries and structure.

Bhutan has a successful trust fund, the Bhutan Trust Fund for Environmental Conservation (BT FEC). One option for management of REDD+ finance would therefore be to establish a REDD+ sub-fund under BT FEC. These and other options will be examined during R-PP implementation.

Bhutan also has some experience with benefit sharing under PES schemes. A PES Feasibility Study was undertaken by FAO in 2009 and identified certain positive conditions for PES implementation. As per the recommendations of the feasibility study, PES was piloted for three environmental services in three locations in the country.

RELS/RLs will be developed and will ensure that GHG emissions and removals are directly comparable to the emissions and removals in the National Forest Monitoring System (NFMS) component, using the same metrics to ensure consistency between RELS/RLs and the NFMS.

In order to develop the NFMS, transparent and effective institutional arrangements need to be determined for 1) the production and sharing of land use monitoring and forest carbon stocks data, 2) compilation of the national GHG inventory for the LULUCF sector, and 3) compilation and reporting of the National Communication to the UNFCCC.

Forest carbon stock data is currently being collected through the National Forest Inventory (NFI). Bhutan started the NFI field work in 2012 based on the methodology developed through a series of consultative workshops and meetings with national and international experts.

Verification standards for REDD+ are lacking in Bhutan. Thus, during Readiness phase, it is proposed to develop national standards and guidelines for independent and transparent verification. These standards will outline the verification bodies, processes and reporting. Capacity building measures, specifically

training for government staff, community members and NGOs on the verification requirements will be undertaken during the implementation of R-PP.

Transparent and accountable institutional arrangements will be essential to ensure the effective functioning of the system; RGoB will therefore aim to formalize these arrangements through an MoU to ensure long-term accountability and sustainability of the NFMS for the REDD+ implementation phase. In order to specify the steps that Bhutan will take to develop and implement its NFMS, DoFPS will lead the formulation of a NFMS Action Plan (NFMS-AP) document.

Forest monitoring data and information including forest areas and types, deforestation statistics, forest governance structures, etc. will be shared at the national and international level through a freely accessible web-GIS portal using a GIS mapping interface.

With regard to compliance with safeguards and monitoring of co-benefits, the aim will be to have a unified monitoring system that covers changes in forest composition and carbon stocks, as well as co-benefits and social and environmental impacts. Data on changes and improvements to livelihoods and other co-benefits resulting from REDD+ interventions will be collected by relevant government agencies, local communities and the private sector.

Strategic Environmental and Social Assessment (SESA) will be carried out during Readiness phase, which will include stakeholder analysis, description of the initial social and environmental situation of the forestry sector in Bhutan, analysis of the possible impacts of different REDD+ strategy option scenarios, analysis of impacts of different REDD+ alternatives, and development of an Environmental and Social Management Plan (ESMP). The results from SESA analysis will be used to suggest measures to mitigate negative impacts and improve the efficiency of positive impacts in REDD+ strategy options. The development of Environmental and Social Management Framework (ESMF) will be an output of the SESA process. It will aim to ensure that REDD+ policy/REDD+ activities 'do no harm' and, instead, should 'do good' to all environmental and social aspects.

Bhutan has an existing robust grievance redress system, implemented at various levels of local administration. REDD+ implementation will use these existing mechanisms to address grievances.

The purpose of the M&E Framework is to provide the REDD+ Secretariat with the means to manage the REDD+ Readiness phase in an effective, efficient and transparent manner, to ensure coordination among different initiatives, to identify gaps in REDD+ Readiness that need to be addressed, and to assess progress in REDD+ Readiness activities.

The total budget for implementation of the R-PP is calculated at US\$ 4.612 m. The Royal Government of Bhutan will finance US\$ 0.372 m. The FCPF will be requested to finance US\$ 3.800 m. Additional funding will be requested from other donors such as BTFEC, UNDP, FAO, GEF/World Bank, UN REDD Secretariat, Government of Austria and the UNFCCC.

Acronyms or abbreviation

AAA	Adaptation Action Areas
AAC	Annual Allowable Cut
ACC	Anti-Corruption Commission
ACM	Anti Corruption Measures
ADB	Asian Development Bank
BAP	Biodiversity Action Plan
BC-Cap	Climate Change Adaptation Potentials of Forests in Bhutan Project
BDS	Benefit Distribution System
BTFEC	Bhutan Trust Fund for Environmental Conservation
CBA	Cost Benefit Analysis
CBD	Convention on Biological Diversity
CC	Climate Change
CCBA	Climate, Community and Biodiversity Alliance
CDM	Clean Development Mechanism
CF	Community Forestry
CFMG	Community Forest Management Group
CFO	Chief Forest Officer
CITES	Convention on International Trade in Endangered Species
CNR/RUB	College of Natural Resources/Royal University of Bhutan
Common Approach	The Common Approach provides an overarching framework for the World Bank and development agencies to be Delivery Partners to provide R-PP Formulation and/or Preparation grants to FCPF REDD Country Participants.
COP	Conference of the Parties
CORRB	Council for Renewable Natural Resources Research of Bhutan
CSO	Civil Society Organization
DEC	Dzongkhag (District) Environment Commission
DG	Director General
DHI	Druk Holding and Investments
DHPS	Department of Hydropower and Power Systems
DNA	Designated National Authority
DOA	Department of Agriculture
DOFPS	Department of Forests & Park Services
DOL	Department of Livestock
DPA	Department of Public Accounts
DT	Dzongkhag Tshodu
EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
FAO	Food and Agriculture Organization
FCPF	Forest Carbon Partnership Facility
FMP	Forest Management Plan
FMU	Forests Management Unit
FPED	Forest Protection and Enforcement Division
FPIC	Free Prior Informed Consent
FRMD	Forest Resource Management Division
FYP	Five Year Plan
GCCA	Global Climate Change Alliance
GDP	Gross Domestic Products
GHG	Greenhouse Gas
GIS	Geographic Information System
GLOF	Glacial Lake Outburst Flood
GNHC	Gross National Happiness Commission
GRF	Government Reserve Forests
Ha	Hectares

ICIMOD	International Centre for Integrated Mountain Development
IEDMP	Integrated Energy Development Master Plan
IEE	Initial Environmental Examination
INC	Initial National Communication to the UNFCCC
IPCC	Intergovernmental Panel on Climate Change
IPNM	Integrated Plant and Nutrient Management
JICA	Japan International Cooperation Agency
LCMP	Land Classification Mapping Project
LDC	Least Developed Country
LULUCF	Land Use, Land-Use Change and Forestry
M & E	Monitoring and Evaluation
Masl	Meters above sea level
MoAF	Ministry of Agriculture and Forests
MoF	Ministry of Finance
MRV	Measurement, Reporting and Verification System
MRV	Measurement, Reporting and Verification
MSTCCC	Multi Sectoral Technical Committee on Climate Change
NAPA	National Adaptation Program of Action
NBC	National Biodiversity Centre
NCCC	National Committee on Climate Change
NEC	National Environment Commission
NECS	National Environment Commission Secretariat
NFI	National Forest Inventory
NFMS-AP	National Forest Monitoring System – Action Plan
NFMS	National Forest Monitoring System
NGO/CSO	Non-Governmental Organization
NORAD	Norwegian Agency for Development Cooperation
NPM	National Park Management
NRDCL	Natural Resource Development Corporation Limited
NRED	Nature Recreation and Eco-tourism Division
NWFP	Non-Wood Forest Products
PES	Payment for Environmental Services
PLaMS	Planning and Monitoring System
PPD	Policy and Planning Division
QA/QC	Quality Assurance and Quality Control
REDD	Reducing Emissions from Avoided Deforestation and Forest Degradation
REDD+	Policy approaches and positive incentives for issues relating to reducing emissions from deforestation, reducing emissions from forest degradation, conservation of forest carbon stocks, sustainable management of forests and enhancement of forest carbon stocks
REL/RL	Forest Reference Emission Level / Forest Reference Level
RGoB	Royal Government of Bhutan
RNR	Renewable Natural Resource
RNR-RDC	Renewable Natural Resources Research Development Center
RSPN	Royal Society for Protection of Nature
SA	Sub-Activities
SAPA	Sectoral Adaptation Plan of Action
SE	Social and Environment
SESA	Strategic Environmental and Social Assessment.
SFM	Sustainable Forest Management
SLM	Soil and Land Management
SLMS	Satellite Land Monitoring System
SNC	Second National Communication to the UNFCCC
SNV	Netherlands Development Organization
TA/DA	Travelling Allowance/Daily Allowance

TCC	Tree Canopy Cover (assessment)
ToR	Terms of Reference
TWG	Technical Working Group
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	UN-REDD Programme
UN-REDD TS	UN REDD Targeted Support
UWICE	Ugyen Wangchuk Institute of Conservation and Environment
WB	The World Bank
WCD	Wildlife Conservation Division
WG	Working Group
WMD	Watershed Management Division
WS	Working Scheme

Glossary of Bhutanese terms

Chhu	River
Chiwog	Local area
Dzongda	District Administrator
Dzongkha	National language of Bhutan
Dzongkhag	District or province
Dzongkhag Tshogdu	District Development Committee
Geog	Block (local level of administration)
Geog Tshogde	Block Development Committee
Gup	Geog Head
Mangmi	Geog Leader
Resoop	Village forest guard
Sanam Rigpa	Agriculture Knowledge
Sokshing	A category of land where people can only collect leaf litter
Thram	Land registration certificate
Tseri	Slash and Burn agricultural practices
Tsenden	Cypress (<i>Cupressus corneyana</i>)
Tsamdo	Pasture Land
Tshogpa	Village Leader

Component 1: Organize and Consult

1a. National Readiness Management Arrangements

Country profile

Bhutan is a small mountainous landlocked country located in the Eastern Himalayas. It has a geographical area of 38,394 square km and a population of 0.734 million (National Statistics Bureau, 2012). The country is characterized by fragile mountainous ecosystems with elevations ranging from about 130 masl in the foothills to over 7,500 masl in the north; within a distance of 170 km from the northern to the southern border. The most dominant land cover is forest, making up 70.45% of the land area, while shrubs account for 10.43%, and cultivated agricultural land and meadows account for 2.93% and 4.10%, respectively. Snow cover constitutes 7.44% while bare areas constitute 3.20%. Degraded areas, water bodies, built up areas, marshy areas and non-built up areas constitute less than 1% each (DoFPS, 2011; Ministry of Agriculture and Forests, 2011).

National Policies, Legislation and Plans for Environmentally Sustainable Development

Environmental conservation constitutes an important part of Bhutan's national spatial planning strategic framework and has always enjoyed a high priority on the country's development agenda. Bhutan's protection and conservation of the environment and the safeguarding of forest and wildlife is ensured under the Constitution of the Kingdom of Bhutan. The Constitution directs every Bhutanese citizen to protect environments and natural resources. The Constitution of Bhutan (2008) under Article 5, section 2(d) mandates Bhutan to maintain 60% forests cover all the time. Over the years, set of strong laws and policies have evolved to ensure the protection, management and sustainable use of forests (Royal Government of Bhutan, 2010b). These legislations are essentially geared towards contributing to the development philosophy of Gross National Happiness (GNH).

The single unifying idea that guides the nation's long-term development is the uniquely Bhutanese concept of maximizing GNH. The spirit and intent of this concept as articulated in the Bhutan Vision 2020 document is to "maximize the happiness of all Bhutanese and to enable them to achieve their full and innate potential as human beings" (Planning Commission, 1999). Reflecting the importance of the concept, the promotion of enabling conditions for GNH has also been enshrined as an important principle of state policy under Article 9 of the Constitution.

The policies and legislations are translated and implemented by the Government through the Five-Year Plans. The 10th Five-Year Plan (FYP) ended in June 2013 (Gross National Happiness Commission, 2008). Almost all targets for the 10th FYP, including the following important objectives, were achieved:

1. 75 Non Wood Forest Products(NWFP) groups formed with net worth of Nu.185 million
2. 500 Community Forest established covering 22,257 households and 57,038 hectares
3. Three Protected Areas, Wangchuck Centennial Park, Phibsoo Wildlife Sanctuary and Toorsa Strict Nature Reserve operationalized
4. Bio-exploration and Research Unit established at the National Biodiversity Center for bio prospecting.

In addition, following steps were taken to bring in important changes and revisions in policies and laws

which were considered necessary for meeting the revised objective of forest management in the country in the light of REDD+ and international commitments:

- i. National Forest Policy 2011 revised
- ii. Final draft of Subsidized Timber allotment Policy, 2012 submitted to the Cabinet.
- iii. Non Wood Forest Product (NWFP) interim framework developed
- iv. Framework for Wang River Basin Management published
- v. Access and Benefit Sharing Policy (ABS) developed
- vi. Bio-safety Bill 2013 drafted and submitted to Cabinet
- vii. National RNR Research Policy of Bhutan- 2011 drafted, approved and being implemented.

In the 10th FYP, the following challenges were faced:

- Increased land fragmentations and loss of prime land to urbanization and industrial sites
- Difficult farming terrain - steep slopes and shallow soil depth
- Unusual weather patterns- droughts, wind storm, hailstones, etc
- Inaccessibility (limited linkages to international markets)
- Limited resources - share of budget allocation for MoAF declined from 39% in 4th plan to less than 10% in 10th plan.
- Lack of human resources with required skills/knowledge in the field of climate change

These factors were taken in to consideration while formulating the 11th FYP. The approved 11thFYP began its implementation in September 2013 after being endorsed by the Government. This FYP also puts strong emphasis on mainstreaming environmental conservation, while focusing on self-sufficiency and self-reliance through inclusive green socio-economic development. The Plan aims at achieving this by improving rural livelihoods with particular emphasis on addressing multi-dimensional poverty, income inequalities, malnutrition and growing urban poverty in the framework of green development.

The Department of Forests & Park Services (DoFPS) has proposed three programs in the 11th FYP, which are:

- a. Sustainable management of Government Reserve Forests (GRFs)
- b. Sustainable management of forest landscapes and conservation of biodiversity
- c. Integrated watershed management to ensure sustainable environmental service delivery

The 11th FYP of DoFPS is geared towards managing the forest resources for supplying economic goods and services through the establishment of Forest Management Units (FMU), Working Schemes (WS), Community Forests (CF), plantations and Non-Wood Forest Product (NWFP) user groups. At the same time the Plan emphasizes biodiversity conservation and the maintenance of ecosystem services through protected area management, watershed management and wildlife management. Increasing community participation in natural resources management and sharing of associated benefits is also one of focal areas of the 11th FYP. The empowerment of the rural communities to manage forests sustainably for socio-economic benefits and to contribute to sustainable management of forest landscapes at the national level has been emphasized in all the three programs.

Table 1a-1: Plan Target baseline (Draft 11th FYP of DoFPS, 2013)

Result (Outcome)	Indicator	Unit	Baseline	11th Plan Target
Program 1: Sustainable management of Government Reserve Forests				
Outcome: Improved management of GRF for sustainable production of economic goods and services to reduce poverty	Forest area under sustainable management increased	Ha	184,611	218,542
	Participation of local communities and institutions in forest management and conservation increased	%	28	50
	Proportion of wood recovery increased by using upgraded technology in forest based enterprises	%	64	75
	Income from sale of forest products from CF & NWFP groups increased (Nu per household/ annually)	Nu	2,000	4,000
Program 2: Sustainable management of forest landscapes and conservation of biodiversity				
Outcome: Sustainable management of forest landscapes and biodiversity conservation enhanced to improve ecosystem services, natural habitats and maintain species persistence	Conservation plans for endangered and endemic species developed	No	1	5
	Forest areas of natural, historical or cultural significance identified and established as heritage sites/reserves	No	12	69
	Human Wildlife Conflict incidences reduced	No	162 cases in a year	50 cases in a year
	Protected areas managed based on functional zones to integrate conservation and development	No	3	10
	Proportion of Nature Based Tourists increased through Nature Recreation and Community Based Ecotourism	%	19	30
Program 3: Integrated watershed management to ensure sustainable environmental service delivery				
Outcome: Water security and ecosystem services ensured through development of effective IWM practices in selected watersheds	Landscapes brought under Integrated Water Resource Management Plan	No	2	10
	Experimental or observatory plots in different ecological zones established	No	0	10
	Forest protection and service delivery improved (Rating)		Medium	High
	People made aware of conservation and watershed management significance	%	10	50
	Areas under afforestation and reforestation in watersheds increased	Ha	24,404	26,658

REDD+ activities cut across all three programs of DoFPS and are explicitly mentioned in program 3 under output 1, which is titled “REDD+ Readiness activities initiated to implement climate change adaptation in watersheds”. DoFPS expects to be ready for implementing REDD+ activities by the end of the 11th FYP in 2018.

Strategies and Programs for Sustainable Resource Management

The Royal Government of Bhutan (RGoB) has adopted various strategies for sustainable management of forest areas. Areas of high conservation value and low population density have been set aside as Protected Areas (PAs). FMUs and Working Schemes were established in forest areas with high volumes of stocking timber and good accessibility in order to satisfy timber demand. Furthermore, Community Forests (CFs) have been introduced for proper management of forest areas in the vicinity of rural settlements.

Protected Areas

With growing population and economic development, the pressure on forests is increasing. Realizing this constraint, RGoB has adopted the policy of establishing PAs to protect representative samples of

pristine Himalayan ecosystems for conservation of biodiversity and genetic resources since 1966. PAs are managed based on sound scientific management principles and operate based on a five-year planning cycle. The PAs are divided into zones based on the guiding principles of zonation such as: Core zone, Multiple-Use Zone and Buffer Zone. Today, Bhutan has ten PAs with biological corridors linking them, covering a total area of 19,703.57km² (DoFPS, 2011).

Table 1a-2: Protected Areas and Biological Corridors (DoFPS, 2011)

	Area in km ²	Percentage of country area
PA System	16,396	43
Biological corridors	3,307	9
Royal Botanical Park	47	0.1
Total PAs and biological corridors	19,704	51

Forest Management Units and Working Schemes

DoFPS has established FMUs and Working Schemes (WSs) to fulfill wood demand for domestic and commercial based on the principles of sustainability. All forest areas identified for harvesting have to be inventoried to determine growing stock, assess the Annual Allowable Cut (AAC) and to identify conservation needs. Based on the inventory the FMUs/WSs implement long-term sustainable forest management plans over a ten-year planning cycle. Each of the FMUs is in principle required to operate within the limits of the AAC. There are currently 17 FMUs and 3 WSs operational in Bhutan, covering an area of 6% of the total forest cover (DoFPS, 2011).

Community Forests

The Forest and Nature Conservation Act (FNCA) 1995 recognized CFs and the subsequent Community Forest Rules established procedures for their creation and management (Royal Government of Bhutan, 1995). Under the National Forest Policy of Bhutan (2011), CFs are to empower rural communities to manage forests sustainably for socio-economic and environmental benefits, poverty reduction and to contribute in overall sustainable forest management at the national level through strengthening rights, responsibilities and capacities of local communities (Royal Government of Bhutan, 2010a). CFs are rapidly growing in number, presently at 510, with a total area covering 57,825 hectares. As of now the Community Forest Management Groups are discussing the issue of networking of CFMGs.

National Climate Change and REDD+ Framework

In 1995, Bhutan ratified the United Nations Convention on Biological Diversity (UNCBD), the United Nations Framework Convention on Climate Change (UNFCCC). Subsequently, Bhutan also became a member of the United Nations Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) in 2002, the United Nations Convention to Combat Desertification (UNCCD) in 2003, and the Ramsar Convention on Wetlands in 2012.

In 1995, RGoB designated the National Environment Commission (NEC) as the focal point to the UNFCCC and UNCBD. NEC is also the Designated National Authority (DNA) of the Clean Development Mechanism (CDM) of the Kyoto Protocol. Two mini hydropower projects are being implemented under the CDM and one medium-sized hydropower plant is being constructed under CDM.

In 2000, the First National Communication was completed and submitted to the UNFCCC. Bhutan's Second National Communication (SNC) Report is the country's most recent official communication to the UNFCCC and provides a comprehensive report of actions taken by Bhutan as required under the UNFCCC, including an assessment of national circumstances related to climate change, vulnerability to climate change, capacity building and technology needs and the implementation of climate change-related policies. The SNC also includes a national greenhouse gas (GHG) inventory, which details the gains and losses of GHGs from all sectors of the economy.

In 2006, Bhutan was one of the first Least Developed Country (LDC) members to prepare and submit a National Adaptation Program of Action (NAPA) to the UNFCCC. Bhutan's NAPA 2012 is a report of

prioritized adaptation activities/actions that are needed to address the impacts of climate change. The activities focus mainly on landslide management and flood prevention, reduction of disaster risks through intervention, provision of emergency medical services to vulnerable communities and enhancement of the national capacity for weather and seasonal forecasting in Bhutan. In 2009, Bhutan has developed the National Action Program to Combat Land Degradation for UNCCD and the Biodiversity Action Plan III for UNCBD.

In order to coordinate climate changes issues in Bhutan and in response to climate change, a high level National Climate Change Committee (NCCC) was established. The Prime Minister of Bhutan chairs the NCCC, which comprises of four ministers, one Member of Parliament, two members from Non-Governmental Organizations (NGOs) and the Secretary of NEC as the member secretary (see Table 1a-5).

Under the NCCC, a committee known as Multi-Sectoral Technical Committee on Climate Change (MSTCCC) (see Figure 1a-2; Table 1a-5) is in charge of coordinating climate change issues in the country. MSTCCC has representatives from several government agencies, NGOs and associations. The purpose of the MSTCCC is to serve as an official national forum for discussion and coordination of matters related to climate change in Bhutan and to make recommendations ensuring smooth implementation of climate change activities, policies and programs for consideration by the NCCC. The recommendations of the committee are also shared with the GNH Commission (GNHC). MSTCCC is chaired by the Secretary, NEC. The ToR of MSTCCC is given in Annex 1a-1.

RGoB has developed the Sectoral Adaptation Plan for Action (SAPA) that will serve as the strategic plan for climate change adaptation, in line with the Vision 2020 (Planning Commission, 1999), the RNR 11th FYP and Bhutan NAPA 2012. SAPA focuses on coping and dealing with the consequences of climate change, such as the effects of rising temperature on glaciers, the effects of changing rainfall patterns on crop productivity, and the effects of these changes on livelihoods.

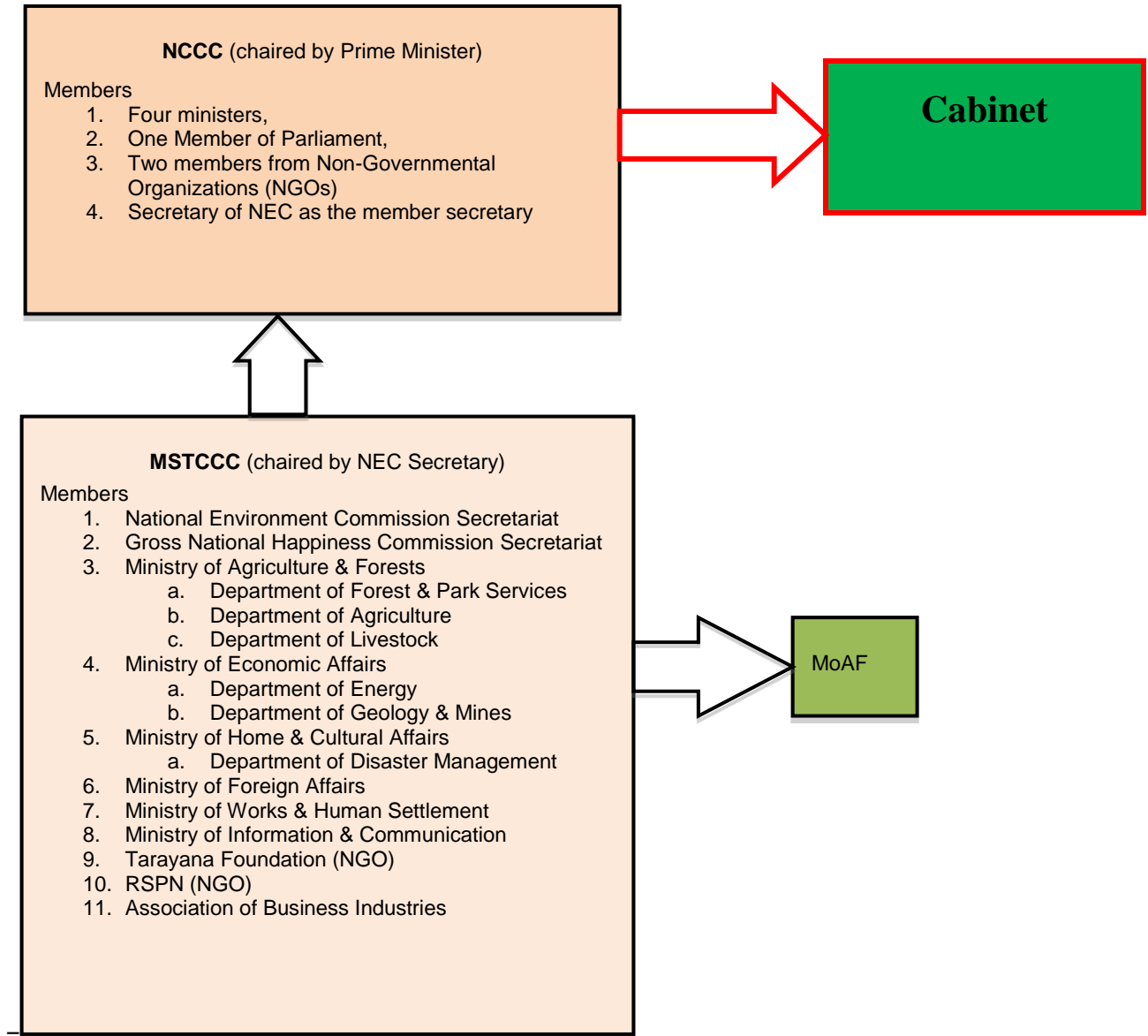


Figure 1a-2. Multi-Sectoral Technical Committee on Climate Change (MSTCCC) and National Climate Change Committee (NCCC)

Existing REDD+ Institutional Arrangements in Bhutan

For preparing the implementation of REDD+ Readiness activities, it is important to look into the existing institutions relevant to REDD+ in the government, as well as outside the government. The relevant government institutions are given in Table 1a-3 and 1a-4 (see also Component 2a).

Table 1a-3: Existing government institutional arrangements relevant to REDD+

Ministry	Current organizational mandates	Potential role in REDD+ Readiness
Gross National Happiness Commission	-Screen all development projects for compliance with GNHC criteria and government five-year plans	-Facilitate and evaluate REDD+ programs, ensure REDD+ programs are in line with government plans and policies
National Land Commission	-Carry out land demarcation, approve land-use change	-Demarcate and approve land for REDD+ implementation
National Environment Commission	-Develop environmental legislation and policy -Monitor environmental impacts -Represent Bhutan in UNFCCC negotiations -Chair the MSTCCC	-Continue to conduct technical climate change policy analysis and make recommendations to MoAF related to REDD+ programs, chair MSTCCC, as secretariat to NCCC
Ministry of Agriculture and Forests -DoFPS -Department of Agriculture -Department of Livestock -Department of Agriculture Marketing and Cooperatives -Council for RNR Research of Bhutan -Bhutan Food and Agriculture Authority -National Biodiversity Center -Information and Communication Services -Policy and Planning Division -Human Resources Division -Administration and Finance Division	-Support agricultural land management -Draft agricultural laws/regulations -Facilitate the achievement of agricultural production targets -Manage genetic resources -Develop livestock program including improvement of breeds and feed resources -Manage GRFs including PA network, FMUs and areas outside FMUs -Facilitate CFs -Develop guidelines for watershed management -Conserve wildlife and manage habitat -Support NWFP management -Conduct research on natural resources -Disseminate information to grassroot level	-Lead the National REDD+ Task Force -Gather baseline information required for REDD+ activities -Coordinate REDD+ Readiness -Coordinate REDD+ Strategy and lead strategy development -Draft REDD+ relevant laws -Represent in the National REDD+ Technical Working Groups (TWGs) -Identify REDD+ plans and programs -Coordinate and implement REDD+ activities and programs -Monitor and evaluate REDD+ activities and plans -Create environmental awareness
Ministry of Economic Affairs	-Develop mines -Develop hydropower projects -Develop private sector	-Involve in REDD+ with national development plans/planning process
Ministry of Foreign Affairs	-Represent Bhutan at government level in UNFCCC negotiations	-Represent Bhutan at government level in all international negotiations
Ministry of Finance	-Budget control/allotment	-Representation in REDD+ TWGs -Control and process budget for REDD+ readiness activities
Ministry of Home and Cultural Affairs -Dzongkhag Administration -Geog Administration -Dzongkhag Tshogdu -Geog Tshogchung	-Enforce laws -Mediate conflicts and grievances -Conduct administration at Dzongkhag level -Develop and implement all local level plans and programs	-Represent REDD+ committee at Dzongkhag level -Implement REDD+ activities in the pilot sites -Prepare and organize consultative workshops on REDD+ early dialogue -Disseminate information to local communities on REDD+

Department of Forest & Park Services

DoFPS is the main custodian of GRFs and is the main agency responsible for developing and implementing strategies and policies for conservation and sustainable management of GRFs. There are six functional divisions and two research and education institutions, which contribute to the conservation and sustainable management of GRFs (see Component 2c; Annex 1a-2).

Watershed Management Division (WMD) is one of the six functional divisions of DoFPS and is responsible for coordinating the preparation of watershed plans and activities. Recently, WMD has been designated as the REDD+ Secretariat and will be responsible for screening all REDD+ related activities, for which it will function as the Competent Authority (CA) and will also be responsible for coordinating periodic environmental monitoring for compliance. At the same time, WMD coordinated the preparation of the present R-PP document.

Local administration

In Bhutan, there are 20 districts and 205 geogs and there are forestry staffs in all the districts and geogs. The Department of Forests and Park Services reach out to the communities through the staffs based at these institutions. The Dzongkhag Administration is cross-sectoral and consists of representatives of all the Ten Ministries and implements plans and programs of various sectors and agencies at the local level. The local communities can use the existing system of local governance, such as the Dzongkhag Tshogdu (DT) and Geog Tshogde (GT), consisting of village representatives, to forward their suggestions for consideration by decision-making committees. The GT is a forum where all development activities for the Geog are planned, implemented and evaluated. The chairperson of the GT is the Gup (Geog Headman) and he/she is also the member of the Dzongkhag Tshogdu (DT), chaired by one of the elected Gups. The plans and programs of the Dzongkhag are approved by the Dzongkhag Tshogdue, which is the highest decision making body at the Dzongkhag level (Local Government Act, 2007).

Additionally, local level committee will be instituted to empower and ensure participation of the local people in planning, implementation and monitoring of REDD+ activities in the designated sites with members from all relevant Geogs or CFs. The chairpersons of these local level committees will represent local communities in REDD+ TaskForce or TWG meetings.

Non-Governmental Organizations

Two NGOs (RSPN and Tarayana Foundation) are active in the field of natural resource management and socio-economic development of rural people in the country. Both NGOs have their activities spread across the country, focusing especially on areas of critical environmental conditions/ecosystems (See component 2a; Table 1a-4). The NGOs have a strong presence in rural areas, as well as at the national level. The two NGOs are also used as a fora for local communities to voice their concerns on social and environmental issues. The NGOs are represented in various fora on climate change, such as the REDD+ Task Force, MSTCCC and NCCC.

Table 1a-4: Non-Governmental Organizations

Name	Roles and Responsibilities
Royal Society for Protection of Nature (RSPN) www.rspnbhutan.org	RSPN supports environmental conservation in Bhutan. RSPN works on environmental education and advocacy, conservation and sustainable livelihoods, research and emerging issues like climate change, solid waste and water
Tarayana Foundation www.tarayanafoundation.org	Tarayana works to uplift and enhance the lives of vulnerable individuals and communities in Bhutan, focusing on small communities in remote areas that lag behind in terms of socio-economic development. The foundation helps local vulnerable communities to strengthen marketing by developing, improving and diversifying local products, e.g. soap, cane & bamboo products and woven materials.

Additional REDD+ institutional arrangements for the Readiness Phase

As a member of the UNFCCC, RGoB pledged at the COP 15 in 2009 that the country will stay carbon-neutral. At the COP 16 in 2010, Bhutan decided to adopt a phased program of implementing REDD+ in securing its ecological and economic benefits. In 2011, Bhutan was approved as a member of the UN REDD program and has been receiving limited financial support from UN-REDD under its Targeted Support (TS) program. Several national level workshops were started from 2010 and local level consultations in the following years at the district and geog level. The Benefit Distribution System and Anti-corruption measures document are being developed with support from the UN-REDD TS and UNDP and will be tested in the pilots mentioned in Component 1c.

Apart from existing institutional arrangements relevant to REDD+ (see above), additional institutional arrangements will be instituted within MoAF to implement REDD+ Readiness activities. These include (See Figure 1a-3):

REDD+ Taskforce

The already established TWG will be upgraded to a REDD+ Taskforce. The Chairperson of the REDD+ Taskforce will be the Director General (DG), DoFPS. The Taskforce will be responsible to oversee the work of the three future TWGs and to inform the Minister, MoAF and MSTCCC through its DoFPS representative on the developments under REDD+ implementation. The Taskforce is also responsible for monitoring and evaluation of REDD+ activities. The detailed ToR of the REDD+ Taskforce is given in Annex 1a-3, which may be revised during Readiness phase if required.

Members of the Taskforce include representatives from various organizations as listed below (see also Table 1a-5):

- NEC
- GNHC
- Tourism Council of Bhutan
- Ministry of Agriculture & Forests
 - Department of Forest & Park Services
 - Watershed Management Division, DoFPS,
 - Social Forestry & Extension Division (SFED), DoFPS,
 - Forest Resources Management Division (FRMD), DoFPS,
 - Wildlife Conservation Division (WCD), DoFPS,
 - Nature Recreation & Ecotourism Division (NRED), DoFPS,
 - Forest Protection & Enforcement Division (FPED), DoFPS,
 - Renewable Natural Resources Research & Development Centre (RNR-RDC), Yusipang, DoFPS,
 - Ugyen Wangchuck Institute for Conservation & Environment (UWICE), DoFPS
 - Department of Agriculture
 - National Soil Service Centre
 - Department of Livestock
- Ministry of Finance
 - Department of Public Accounts
- Ministry of Works & Human Settlement
 - Department of Roads
- Druk Holding & Investment
 - Natural Resources Development Corporation Limited (NRDCL)
 - Druk Green Power Corporation
 - Bhutan Power Corporation
- Royal University of Bhutan (RUB)
 - College of Natural Resources (CNR)
- RSPN (NGO)
- Bhutan Trust Fund for Environmental Conservation (BT FEC - NGO)
- Worldwide Fund for Nature (WWF- Bhutan)

Private Sector Association as special invitee

- Association of Bhutanese Tour Operators (ABTO)

Representative from the Local Communities as special invitee

- Chairperson of the Local Level REDD+ Committee

The two NGO representatives have been identified through a self-selection process, designed and managed by the NGO community.

TWGs

The REDD+ Taskforce will oversee the work of three TWGs . The three groups are:

- TWG on National Forest Monitoring System (NFMS) and Reference Emission Levels (RELS)/ Reference Levels (RLs) (Annex 1a-4)
- TWG on Safeguards, Governance and Benefit Distribution (Annex 1a-5)
- TWG on Strategy Options (Annex 1a-6)

TWG on NFMS and RELS/ RLs

This TWG (see Component 3 and 4a) will 1) support the design and implementation of NFMS, 2) ensure that lessons and experiences from current forest monitoring systems in Bhutan are incorporated into the NFMS design; and that lessons from similar analyses in other countries are integrated into recommendations for Bhutan's system, and 3) assess and support the establishment of RELS/RLs in Bhutan.

Membership will be limited to six members and consists of representatives from:

- REDD+ Taskforce (two members); one of the Taskforce members to be nominated as Secretary of the TWG;
- Relevant offices within line ministries/agencies (three members)
- Non-governmental stakeholder (one member)
- Representative from the Local Level REDD+ Committee as special invitee

TWG on Safeguards, Governance and Benefit Distribution

This TWG will 1) support the assessment and development of safeguards as part of Bhutan's REDD+ Readiness process, and 2) to ensure that lessons and experiences from current or previous Benefit Distribution Systems (BDS) in Bhutan are assessed in the context of REDD+ requirements; and 3) that lessons from similar analyses in other countries are integrated into recommendations for a REDD+ distribution system in Bhutan.

Membership will be limited to six members and consists of representatives from:

- REDD+ Taskforce (two members); one of the Taskforce members to be nominated as Secretary of the TWG;
- Relevant offices within line ministries/agencies (three members)
- Non-governmental stakeholder (one member)
- Representative from the Local Level REDD+ Committee as special invitee

TWG on Strategy Options

This TWG (see Component 2b) will be responsible to lead discussions and generate proposals for strategy options to implement REDD+ activities in Bhutan through a consultative process, including the design of demonstration activities, for subsequent review by the Taskforce.

Membership will be limited to six members and consists of representatives from:

- REDD+ Taskforce (two members); one of the Taskforce members to be nominated as Secretary of the TWG;
- Relevant offices within line ministries/agencies (three members)
- Non-governmental stakeholder (one member)

- Representative from the Local Level REDD+ Committee as special invitee

Local Level REDD+ Committee

For proper implementation of REDD+ activities, a local committee called as Local Level REDD+ Committee will be instituted at the pilot sites. The committee will be either group of villages or Community Forests Management Groups in the REDD+ Sites. The committee will have the direct responsibility of planning and coordinating the implementation and monitoring of REDD+ activities. The committee will also be a forum to discuss the concerns and issues with regard to REDD+ and for forwarding to higher committees like REDD+ Task Force and Climate Change committees. Refer Annexure 1a-7 for ToR.

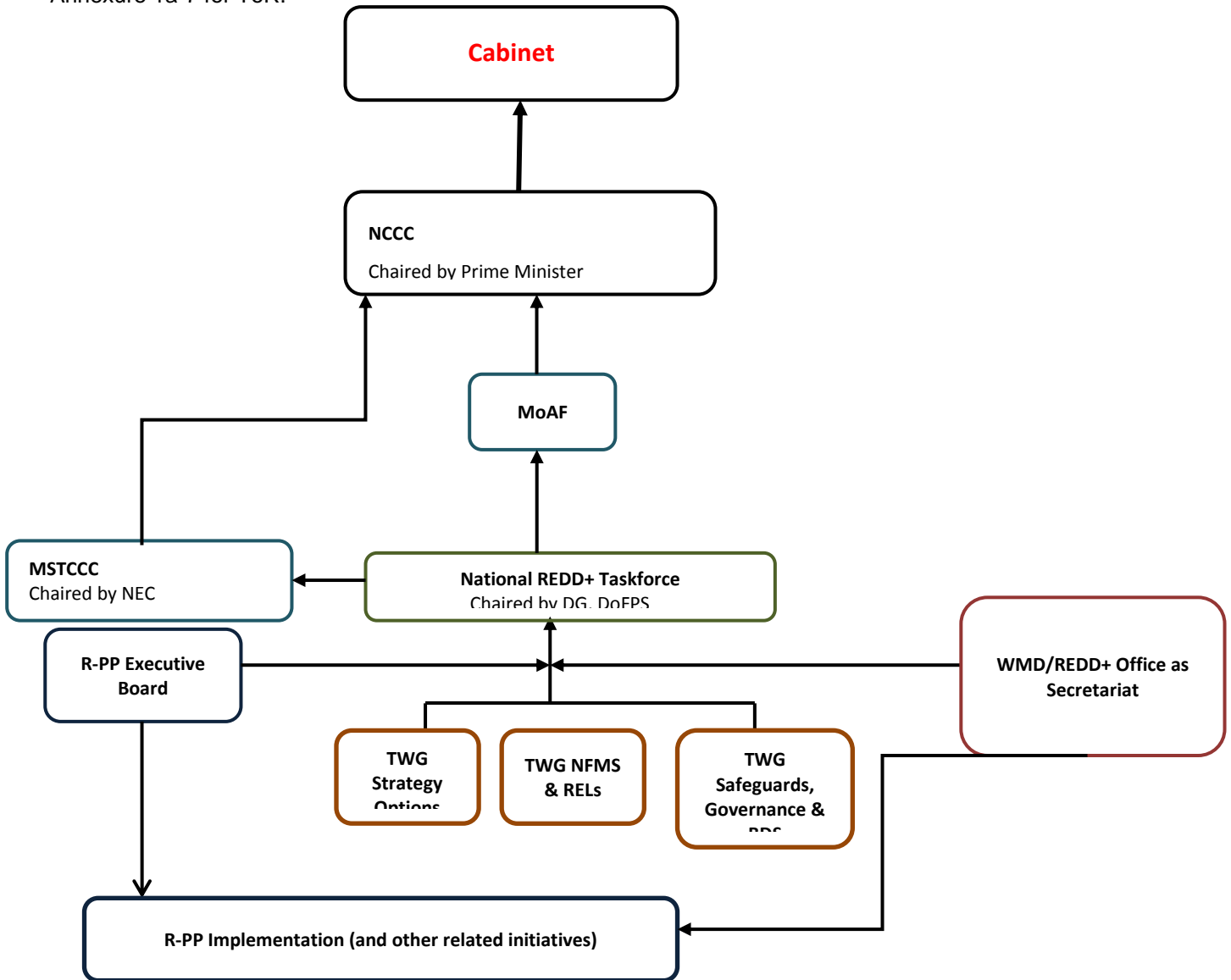


Figure 1a-3: Institutional arrangements for REDD+ Readiness implementation

Table 1a-5 Committees relevant to REDD+ with stakeholder representatives

National Climate Change Committee/ National Environment Commission	Multi-Sectoral Technical Committee on Climate Change	REDD+ Task Force	REDD+ TWG	Local Level REDD+ Committee
<p>Chairperson: Prime Minister Member Secretary: Secretary, NEC</p> <p>Members:</p> <ul style="list-style-type: none"> • Minister, Ministry of Agriculture and Forests and Minister In-charge, NEC • Minister, Ministry of Works and Human Settlements • Minister, Ministry of Economic Affairs • Chairperson, Parliamentary Committee for Environment, National Assembly <p>NGO Members:</p> <ul style="list-style-type: none"> • Executive Director, Royal Society for Protection of Nature (RSPN) • Director, Bhutan Trust Fund for Environment Conservation (BTF-EC) 	<p>Chairperson: Secretary, NEC</p> <ul style="list-style-type: none"> • Gross National Happiness Commission • Ministry of Agriculture & Forests <ul style="list-style-type: none"> ○ Department of Forests and Park Services ○ Department of Agriculture ○ Department of Livestock • Ministry of Foreign Affairs • Ministry of Works & Human Settlement • Ministry of Economic Affairs <ul style="list-style-type: none"> ○ Department of Energy ○ Department of Geology & Mines • Ministry of Home & Cultural Affairs <ul style="list-style-type: none"> ○ Department of Disaster Management • Ministry of Foreign Affairs • Ministry of Information & Communication • Association of Business Industries <p>NGO Members:</p> <ul style="list-style-type: none"> • Tarayana Foundation (NGO) • RSPN (NGO) 	<p>Chairperson: DG, DoFPS</p> <ul style="list-style-type: none"> • Gross National Happiness Commission • Tourism Council of Bhutan • National Environment Commission • Ministry of Agriculture & Forests <ul style="list-style-type: none"> ○ Department of Forest & Park Services ○ Department of Livestock ○ Department of Agriculture • Ministry of Finance • Ministry of Works and Human Settlement <ul style="list-style-type: none"> ○ Department of Roads • Druk Holding and Investment <ul style="list-style-type: none"> ○ Natural Resources Development Corporation Limited ○ Druk Green Power Corporation ○ Bhutan Power Corporation • Royal University of Bhutan <ul style="list-style-type: none"> ○ College of Natural Resources <p>NGO Members:</p> <ul style="list-style-type: none"> • Royal Society for Protection of Nature (NGO) • Bhutan Trust Fund for Environmental Conservation (NGO) • Worldwide Fund for Nature (WWF-Bhutan) <p>Special Invitee: Private Association</p> <ul style="list-style-type: none"> • Association of Bhutanese Tour Operators (ABTO) <p>Special Invitee: Representative from the Local Committees</p> <ul style="list-style-type: none"> • Chairpersons of the Local Level Committee 	<ul style="list-style-type: none"> • REDD+ Taskforce (two members); one of the Taskforce members to be nominated as Secretary of the TWG; • Relevant offices within line ministries/agencies (three members) • Non-governmental stakeholder (one member) <p>Special Invitee: Representative from the Local Committees</p> <ul style="list-style-type: none"> • Representative of the Local Level Committee 	<ul style="list-style-type: none"> • Chairperson to be elected from the members • Representatives from the Geog/ Villages • Representatives from the CFs/ NWFP Groups • Geog Extension Officers (RNR)

REDD+ Secretariat

WMD will serve as Secretariat to the Taskforce (REDD+ Secretariat), pending on the establishment of a REDD+ Office in the long term. There are around 1600 forestry personnel under the DoFPS, distributed across the country. Most of them will be engaged as and when required during implementation of the project. In the 11th FYP, additional staffs at different positions will be recruited.

The main tasks of the REDD+ Secretariat headed by the CFO, WMD will include:

- I. Facilitate and manage all REDD+ Readiness activities,
- II. Plan and implement the R-PP,
- III. Coordinate and lead capacity building efforts through workshops, seminars and other media, such as local radio and television for REDD+ readiness,
- IV. Coordinate and participate in international REDD+ dialogues and provide information and material on Bhutan to the Chairperson, REDD Taskforce, NEC during negotiations at international fora, such as COPs,
- V. Document all progress made for REDD+ implementation in collaboration with TWGs and MSTCCC members to be submitted to DoFPS, and
- VI. Disseminate all information on REDD+ Readiness at national and sub-national levels.

REDD+ Readiness in Bhutan will be supported by a number of internationally funded initiatives, among which the Forest Carbon Partnership Facility (FCPF) will be the main donor. Implementation of the R-PP and coordination with other initiatives will be the responsibility of the REDD+ Secretariat.

R-PP Executive Board

An R-PP Executive Board will be established to oversee implementation of the R-PP and to facilitate coordination with other initiatives. Members of the R-PP Executive Board will include representatives of key governmental and non-governmental stakeholders, and of relevant Development Partners.

REDD+ Information Center

The REDD+ Information Center will be established to serve the requirements of the carbon registry in REDD+ activities and transactions. It will also generate information and materials with regard to REDD+ activities. The information center will serve as center for understanding and learning about REDD+ (see Component 2c REDD+ Information System and Activity Registry).

The REDD+ Information Center will also serve as the common platform for communication and reporting among the technical working groups in relation to regular meeting minutes, preparation and dissemination of reports

However on the information collection, necessary consultation and brainstorming session will be conducted among the stakeholders, government and non-government agencies having stake on REDD+ program on what information attributes to be collected from the different perspectives, how these information will be stored and shared, how these information attributes will be related and how to generate the new knowledge and information based on these known knowledge and information through integration.

Capacity Building for REDD+

Implementation of REDD+ Readiness would require capacity building of all the stakeholders including local communities, local leaders, members of the local level REDD+ Committees and other relevant committees which are proposed or will be formed during the readiness phase, REDD+ TWG members and other relevant staffs of the Department and Ministry. The capacity building would be required at different levels and on different topics as specified in components 1a, 1b, 1c, 2a, 2b, 2c, 2d, 3, 4a and 4b. The capacity building would not only ensure smooth implementation of R-PP, but also would contribute to the overall human resource capacity building of the Department, Ministry and other stakeholders in implementing REDD+ and related programs in future.

To ensure efficient utilization of available funds from FCPF and other donors for capacity building, a detailed training needs assessment for implementing REDD+ Readiness programs will be carried out at the beginning of the Readiness Phase. The assessment will cover all aspects of capacity building required as specified in different components.

Grievance Mechanisms

Social Grievance Existing Mechanism

Bhutan has an existing robust grievance redress system. Any issues on grievances are verified at the Geog level by the Gup. The most serious grievance issues are put up to the Ministry of Home and Cultural Affairs by the Dzongkhag Administration, which can subsequently be forwarded to His Majesty's Secretariat for decision and compensation.

Informal traditional dispute mechanisms, based primarily on negotiations between aggrieved parties and through community meetings to reach consensus on a satisfactory resolution, are therefore already practiced in Bhutan. These traditional dispute practices appear to function well and are generally accepted by all community members as a satisfactory means for resolving disputes and grievances. The implementation of REDD+ makes use of these existing systems for addressing grievances. However, to make the grievance redress process more systematic, but still working within traditional community norms and practices, aggrieved parties will follow the below stated steps:

- Any complaining parties will submit a formal complaint to the Tshogpa of the Chiwog for consideration,
- If it cannot be resolved within the jurisdiction of the Tshogpa, the grievance case will be submitted to the Geog Administration. The Geog Administration will review the grievance case and call a public hearing,
- Where the complainant does not agree with the recommendation of the public hearing, he/she can file the case with the Dzongkhag Administration for review and intervention. The Dzongkhag Administration will review the case and make recommendations to resolve the case, and
- The complainant can always file his/her case in court at any time, and where the case cannot be resolved by the Geog Administration, it will be reviewed and settled by the Dzongkhag Administration.

Any appeals to the above-mentioned committees will be recorded in a register, identifying the name of the aggrieved party, date of grievance registered, nature of the grievance, and measures suggested to address the grievance, including escalating resolution of the grievance to MoAF or RGoB for recourse through traditional judicial practices, and date of grievance redress.

Consultations and Grievance Recourse Mechanisms for REDD+

Broad stakeholder consultations will be inbuilt into the national REDD+ planning and implementation process. A team will conduct and record consultations with relevant stakeholders, including local-level organizations, communities, forest user committees or water-user committees, schools/clubs and other stakeholders as part of the assessment. During implementation, the site supervision team will consult regularly with the impacted people/communities, as well as local stakeholders for their observations and feedback. The REDD+ Taskforce will periodically monitor the REDD+ implementation process in consultation with the stakeholders.

For grievances, the REDD+ implementation staff at the local level will keep a feedback register and inform local stakeholders that they may register their complaints, comments and/or suggestions related to REDD+ activities. The REDD+ staff members will review the feedbacks and take appropriate action. Complaints may also be registered at the Geog/Dzongkhag offices. The Geog will take up these

complaints with the REDD+ implementation team and forward the complaints to the Dzongkhag authorities.

Administratively, Bhutan is divided into 20 Districts (Dzongkhags) and 205 Blocks (Geogs), and Blocks into a number of Villages (Chiwogs). Each village is headed by Tshogpa and Block by Gup. The complainant/local people can use the existing customary practice of addressing grievances at the local level. There are two existing mechanisms of filing complaints/grievances. If you are close to Gup's office, one could directly visit the office. For the remote village or community, normal channel is through Tshogpa who is elected/appointed village leader by the community members. Tshogpa mediates or negotiates the issue and if not settled, Tshogpa takes up the issue with the Gup of Block (Geog). The Gup could settle it or forward to the Dungkhag or District court depending on the nature of grievances/complaints. If disputes are not resolved at the village, Geog or District levels, they can be referred to the national level before the High Court and Supreme Court. An alternative local community complaint mechanism is provided via a parallel Prime Minister Grievance Cell. This could be another complaint mechanism for REDD+ grievances resolution.

The complainant(s) will have the option of filing the case with the Dzongkhag Administration or even at court. All stakeholders will be fully and freely informed of their rights and the grievance process prior to the implementation of REDD+ activities.

Anti Corruption Measures

The success of REDD+ directly depends on whether national and legal policies ensure inclusion of transparency and accountability. Forest dependent communities, must receive the benefits of REDD+ and it is also widely acknowledged that REDD+ would be more sustainably implemented by putting in place effective, transparent, and accountable governance systems that would contribute to yield positive results, impacts and outcomes.

Additionally, investments made by donors into REDD+ initiatives have to be accounted transparently. Curtailing corruption is therefore an essential aspect of REDD+, which needs to be addressed.

Incidences of corruption, although at a small scale, have been reported when Anti-Corruption Commission (ACC) in 2007 found out irregularities in utilization of rural timber where people take advantage of the rural timber allotment. Incidences where rural residents claim rural timber entitlements as a matter of right instead on need base and sell them to commercial sawmill operators were rampant.

Incidences of corruption are also reported in CF where rural communities complain local government officials and CF managers of colluding and sharing the benefits of CFs. It's either the financial gains that are shared among the local government officials and the CF managers or the CF products.

While Bhutan has strong anti-corruption measures in place, as stated in the Constitution (2008), the Anti-Corruption Act (2006), and the Forest and Nature Conservation Act (Royal Government of Bhutan, 1995) (see Component 2a), it is necessary to design specific Anti-Corruption Measures (ACM) for REDD+.

Bhutan will adopt the following approach to implementing ACM in REDD+

- Review international and national experiences of sharing the benefits of carbon payments and Payments for Environmental Services (PES) schemes
- Define Anti-Corruption mechanisms and Measures at various levels, both grand and petty corruption
- Identify relevant ACMs at all levels
- Propose relevant anticorruption mechanisms that could be applicable within the country

Experiences gained in CF management will be used along with the review of international experiences to design a bottom-up ACM framework for Bhutan.

Description of activities to implement Component 1a

Output 1: All REDD+ Readiness management arrangements are operational

The implementation of REDD+ Readiness activities and REDD+ activities later in the implementation phase require putting in place institutional arrangements as well as structures. The required institutional settings and structures will be established and institutional capacity building completed during Readiness phase.

Under this output, following activities will be implemented.

Activity 1.1: Establishment and operationalization of REDD+ Taskforce and Technical Working Groups

Under this activity, the Taskforce and Technical Working Groups (TWGs) will be established and made operational through identification of appropriate members. The members of the groups are responsible to facilitate the REDD+ Readiness program through effective dissemination of information, review of international REDD+ strategy examples, elaboration of a methodology to implement REDD+ strategies and the development of proposals for concrete REDD+ activities in Bhutan.

Under this activity, the following sub-activities will be implemented:

1. Conduct consultative meeting with stakeholders for identifying appropriate members
2. Conduct regular meetings of the TWGs and the Taskforce
3. Prepare and disseminate reports

Expected outputs:

- REDD+ Taskforce strengthened and working
- TWG members selected and TWGs functioning

Activity 1.2: Establishment of REDD+ Information Centre

Under this activity, the REDD+ Information Center will be established for generating and sharing information on REDD+ and its implementation.

The following sub-activities will be implemented:

1. Procure hardware and set up database for information management
2. Collect information on REDD+
3. Hire information specialist

Expected outputs:

- REDD+ Information Centre established and functioning

Activity 1.3: Establishment and strengthening of REDD+ Secretariat

The REDD + Secretariat will be strengthened and will establish regional REDD+ offices for successfully implementing Readiness preparation activities and subsequent REDD+ activities:

The sub-activities are:

1. Strengthen REDD+ Secretariat
2. Establish regional REDD+ Offices

Expected outputs:

- REDD+ Secretariat strengthened and functioning
- REDD+ Regional Offices established

Activity 1.4: Capacity building for staff of the REDD+ Secretariat, REDD+ Regional Offices, and TWGs members

Capacity building will be an important component of the REDD+ Readiness Phase. Therefore, series of capacity building workshops will be necessary during the Readiness Phase for implementing REDD+ activities. Before, such workshops/ training are organized, training needs assessment will be carried out at different levels for organizing right kind of training and involving right kind of people.

To fully operationalize the TWGs, capacity building of members is essential, enabling them to develop good strategies and proposals for implementing REDD+ Readiness activities and subsequent REDD+ activities. At the same time, for better coordination, staff at the REDD+ Secretariat as well as in the regional REDD+ offices needs to be trained.

The sub-activities under this activity are:

1. Conduct capacity building workshops for TWG members
2. Train REDD+ Secretariat and regional REDD+ office staff
3. Attend international meetings, seminars and study tours

Expected outputs

- Training needs assessed and report ready
- Technical Working group members' capacity built in relevant fields
- Capacity of local staff and stakeholders built
- Reports and information from seminars and study tours reflected in the strategy

[Please include each component's standard box like this one in your submission]

**Standard 1a the R-PP text needs to meet for this component:
National Readiness Management Arrangements:**

The cross-cutting nature of the design and workings of the national readiness management arrangements on REDD-plus, in terms of including relevant stakeholders and key government agencies in addition to the forestry department, commitment of other sectors in planning and implementation of REDD-plus readiness. Capacity building activities are included in the work plan for each component where significant external technical expertise has been used in the R-PP development process.

Table 1a. Summary of national Readiness management arrangements activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands US\$)				
		2014-15	2015-16	2016-17	2017-18	Total
Establishment and operationalization of REDD+ Taskforce and TWGs	TWG and REDD+ Taskforce Meetings	10	10	10	10	40
	Dissemination of reports	5	5	5	5	20
	Capacity building needs assessment	5	0	0	0	5
	Capacity building of Working Groups & Taskforce	15	20	10	10	55
Establishment of REDD+ information centre	Hardware for database management and operating cost	25	10	5	5	45
	Hire an information specialist	10	10	5	5	30
Establishment of REDD+ secretariat	National Office space operating costs	10	10	10	10	40
	Regional Office space cost	25	25	25	25	100
	National operating cost (amenities and furniture and computers)	20	5	5	5	35
	Capacity building of the local staff	10	10	10	10	40
	Attending International meetings, seminars	30	30	30	30	120
Total		165	135	115	115	530
Royal Government of Bhutan		10	10	10	10	40
FCPF		155	125	105	105	490

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands US\$)				
		2014-15	2015-16	2016-17	2017-18	Total
Support REDD+ readiness process	Technical support	5	5	5	5	20
	Capacity building	5	5	3	5	18
Establishment of REDD+ information centre	Hardware for database management	5	5	2	2	14
Establishment of REDD+ secretariat	Capacity building	10	10	5	5	30
	Attending International meetings, seminars	5	5	5	3	18
Total		30	30	20	20	100

1b. Information Sharing and Early Dialogue with Key Stakeholder Groups

Introduction

Considering that local people's participation is a key to sustainable management of natural resources, RGoB has framed various enabling policies and legislations to ensure public participation from initial decision making to implementation. The Constitution of Kingdom of Bhutan in Article 5 states that every Bhutanese citizen is a trustee of the Kingdom's natural resources and environment and Article 22 states "Local Governments shall ensure that local interests are taken into account in the national sphere of governance by providing a forum for public consideration on issues affecting the local territory (2008). This is also supported by the Local Governments Act of Bhutan, 2007 under section 26 (e). The FNCA 1995 recognizes traditional and cultural rights of local people to forest use and thereby establishes their legitimate access to forest resources. This provides a strong legal framework to pursue people-centric forest management programs (Royal Government of Bhutan, 1995). In line with this, the Forest and Nature Conservation Rules 2003 (revised in 2006) has a dedicated chapter to Bhutan's Social and Community Forestry Program to guide implementation of this program in a participatory manner (Royal Government of Bhutan, 2006).

RGoB has always accorded high priority to information sharing and to public consultation before starting any new programs, clearly reflected in previous FYPs. These policy decisions and programs were supported and implemented through the recruitment of extension officers (agriculture, livestock and forestry) at Dzongkhag and Geog levels and delegation of the responsibilities to them as per the Decentralization Policy of the Government (1994). These existing institutions and mechanisms will help to ensure that all stakeholders and communities effectively participate in decision making, planning and implementation of REDD+ activities. The 11th FYP takes into account people's participation and good governance as important components.

Environmental awareness raising activities

MoAF, with the support of RGoB and development partners, has carried out various environmental awareness raising activities through the celebration of events, including World Environment Day, Social Forestry Day, World Earth Day and World Wetland Day. During celebration of such events, messages on the importance of conservation and sustainable management of natural resources are circulated through various media resources, such as newspapers (see e.g. <http://www.thebhutanese.bt/redd-iness/>), radio, television, as well via the websites of MoAF (www.moaf.gov.bt) and DoFPS (www.dofps.gov.bt) and also through exhibitions (see e.g. <http://www.moaf.gov.bt/moaf/?p=6037>). For example, a radio and a television program is hosted by the Bhutan Broadcasting Service (BBS) since 2010 on integrated natural resources management (farming, livestock and forestry) in collaboration with MoAF, known as "Sanam Rigpa" which literally means "enhancing knowledge". The following themes were discussed in the interactive live shows over the past year (see also <http://www.moaf.gov.bt/moaf/?s=sanam+rigpa>):

- Payment for Environmental Services (PES) & REDD+ initiatives,
- Importance of conserving wetlands in Bhutan,
- Post forest fire plantation,
- Forest fire prevention and
- Community Forestry programs

Apart from thematic discussions, MoAF also airs regular television and radio documentaries including Music Televisions (see also <http://www.moaf.gov.bt/moaf/?p=5994>):

1. TV and Radio Documentaries
 - Waste Management in GRF,
 - Facilities available at Royal Botanical Park, Lamperi,
 - Community-based ecotourism in Nabji-Korphu,
 - Tsenden documentary “Searching for Giants”,
 - Takin documentary,
 - Human-Wildlife Conflict documentary,
 - Documentary on CF,
 - Documentary on sustainable forest management in Bhutan and
 - Documentary on conservation of wetlands in Bhutan
2. Music Television (MTVs)
 - MTV on Bhutan’s Forests and
 - MTV on Takin at Jigme Dorji National Park

REDD+ awareness raising activities and programs

RGoB acknowledges the potential of REDD+ to deliver significant benefits to local communities living in and around forests and to resource managers for conserving and sustainably managing natural resources. The risks associated with the implementation of REDD+ activities to local communities need to be identified, reduced and mitigated in collaboration with all relevant stakeholders. The process requires considerable awareness raising efforts and capacity building of staff and local communities in identifying risks and benefits of REDD+ and to develop appropriate measures to mitigate the risks. Therefore, RGoB considers the awareness raising programs as the first step in implementing REDD+ activities (see also

<http://www.unredd.org/Newsletter39/BhutanREDDAwarenessProgramme/tabid/129662/Default.aspx>).

WMD, as the focal point for REDD+ activities, began selection of stakeholders and sharing of information. The aim of stakeholders’ participation was to determine and identify key stakeholders from sectors that contribute directly or indirectly to drivers of deforestation and forest degradation, as well as those, whose support will be needed to implement actions that are necessary to address the problems. In addition, the process focused on identification of beneficiaries of REDD+ activities. Members of one TWG have already been identified and the TWG is operational.

Stakeholder Mapping

A preliminary stakeholder mapping exercise was undertaken to identify stakeholder groups with an interest in REDD+, along with identifying relationships among the groups. Table 1b-1 provides a list of stakeholders by type and geographic influence.

REDD+ awareness and consultation workshops

REDD+ was formally introduced to Bhutan through a two-day seminar in Thimphu in June 2010. The seminar was also used as a platform to raise awareness of all relevant stakeholders. As a follow up to the seminar, DoFPS hired a consultant to carry out a REDD+ feasibility study (van Noord, 2010). During the feasibility study, the consultant held a series of consultations with various stakeholders, which helped in enhancing knowledge on REDD+ concepts.

With financial support from UN REDD, the Ministry implemented awareness workshops at national (see <http://www.moaf.gov.bt/moaf/?p=7895>) and sub-national levels, targeting a diverse range of government and civil society organizations, along with local communities living in and around forest areas. The summary of workshops carried out on REDD+ is given in the Table 1b-3.

Table 1b-1: REDD+ Readiness stakeholder mapping

Level	Government institutions and agencies	NGOs	Private Sector/ Corporation	Knowledge Institutions	Development Partners
National	<ul style="list-style-type: none"> • Gross National Happiness Commission • National Environment Commission • National Land Commission • Ministry of Agriculture and Forests <ul style="list-style-type: none"> ○ Department of Forests and Park Services <ul style="list-style-type: none"> ▪ Watershed Management Division ▪ Social Forestry & Extension Division ▪ Forest Resource Management Division ▪ Wildlife Conservation Division ▪ Nature Recreation & Ecotourism Division ▪ Forest Protection & Enforcement Division ▪ RNR-RDC Yusipang ▪ UWICE ○ Department of Agriculture ○ Department of Livestock • Ministry of Home & Cultural Affairs <ul style="list-style-type: none"> ○ Department of Local Government • Ministry of Economic Affairs <ul style="list-style-type: none"> ○ Department of Geology and Mines • Ministry of Finance • Ministry of Foreign Affairs • Tourism Council of Bhutan 	<ul style="list-style-type: none"> • RSPN • WWF • Tarayana Foundation • Bhutan Trust Fund for Environmental Conservation • Association of Bhutanese Tour Operator (ABTO) 	<ul style="list-style-type: none"> • Natural Resource Development Corporation Limited (NRDCL) • Druk Green Power Corporation • Mining sector • Tour Operators • Saw millers and furniture units 	<ul style="list-style-type: none"> • Council for RNR Research of Bhutan • RNR-RDC Yusipang • Ugyen Wangchuk Institute for Conservation and Environment • College of Natural Resources • Sherubtse College • Regional Development Training Centre 	<ul style="list-style-type: none"> • IFC/WB • UN REDD • UNDP • FAO • UNEP • EU • NORAD • JICA • ADB
Regional	<ul style="list-style-type: none"> • Territorial Forest Divisions • National Parks • Wildlife Sanctuaries 	<ul style="list-style-type: none"> RSPN Phobjikha Tarayana Foundation 	NRDCL	RNR-RDCs	
Dzongkhag	<ul style="list-style-type: none"> • Dzongkhag Administration 		NRDCL	RNR-RDCs	
Local Level	<ul style="list-style-type: none"> • Geog Administration • Chiwog level • Village level • Community Forestry management Groups, • Non- Wood Forest Products management Groups 	<ul style="list-style-type: none"> RSPN Tarayana Foundation 			

Table 1b-2: Awareness workshops carried out on REDD+ between 2010 and 2012 at national level

Workshops	Target Audience	Date	Number of Participants	Number of participants by stakeholder category	Objectives of the workshop
Awareness Raising Seminar on REDD+	National Stakeholders involved in natural resources management	June 2010	37 (3 female)	Secretary, MoAF 1 DoL 2 DoA 2 CoRRB 1 SAARC Forestry Center 2 NRDCL 2 Development organizations 3 WWF 2 UN 1 RSPN 2 PPD 2 DoFPS 23 NEC 1 GNHC 1 NBC 1 UN 1	<ul style="list-style-type: none"> •Familiarize with the basic concepts & different forms of REDD+ in international perspectives and negotiations •Sensitize key issues on various aspects •Inform policy makers of socio-economic and equitable sharing of benefits
National Workshop on REDD+ Strategy Development in Bhutan http://www.moaf.gov.bt/moaf/?p=7895	Multi-sector stakeholders REDD+	April 2012	61 (6 female)	SAARC Forestry Center 1 DoFPS 24 NSSC 1 ICS, MoAF 1 NBC 1 Dzongkhag Administration 7 CNR 2 UN 5 Other development organizations 4 Independent consultant 1 CoRRB 2 NEC 3 BAFRA 1 DAMC 1 Media 3 GNHC 1 DHI 1 NRDCL 1	<ul style="list-style-type: none"> •To bring all stakeholders together and provide opportunity for the participants to familiarize themselves with the concept of the REDD+ mechanism and educate them on the process of REDD+ strategy development; •To institutionalize the REDD+ advisory committee and TWGs and finalize their mandates; •To share and identify the processes for the development of a National REDD+ Strategy

Table 1b-2: Awareness workshops carried out on REDD+ between 2010 and 2012 at national level (cont.)

Workshops	Target Audience	Date	Number of Participants	Number of participants by stakeholder category	Objectives of the workshop
REDD+ Environmental Safeguard and Multiple Benefits workshop http://www.dofps.gov.bt/node/507	National REDD+ stakeholders and probable implementers (District Officers)	October 2012	37 (3 female)	SAARC Forestry Center 1 DoFPS 16 NSSC 1 CoRRB 1 BTFC 1 GNHC 1 RUB 1 NEC 1 NRDCL 1 DHPS 1 RSPS 1 Dzongkhag Administration 8 Independent consultant 1 UN 2	Build national awareness of, and capacity on REDD+ safeguards and multiple benefits
National Forest Monitoring System Workshop	National REDD+ stakeholders, technical NFI, remote sensing/GIS and GHG inventory staff	November 2012	39 (2 female)	<ul style="list-style-type: none"> • DoFPS 21 • NEC 1 • NSSC 1 • CoRRB 1 • DHPS 1 • BTFC 1 • Dzongkhag Administration 8 • NRDCL 1 • CNR 1 • DoL 1 • FAO 1 • UNDP 1 	<ul style="list-style-type: none"> • To enhance knowledge among Bhutanese REDD+ stakeholders on: 1) REDD+ activities and the negotiation process under the UNFCCC; 2) UNFCCC guidance on national forest monitoring systems for REDD+; 3) IPCC Guidance and Guidelines • Determine next steps for capacity building activities and support to the implementation of forest monitoring and measurement systems

In addition to the above workshops, DoFPS took the opportunity to clarify and explain REDD+ and its associated risks and benefits in many forums, including:

Annual Forestry Conference, December, 2011

The conference (see <http://www.moaf.gov.bt/moaf/?p=5927>) was attended by officials from Territorial Forest Divisions, National Parks, Wildlife Sanctuaries, Dzongkhag Forestry Sectors, RNR-RDC Yusipang, UWICE and Geog Forest Extension Officers to discuss the proposed plans and programs of DoFPS pertaining to REDD+, which was presented to participants as one of these new programs. The conference was also attended by representatives from NGOs and other relevant autonomous agencies.

Annual Livestock Conference, 2012

Similarly, the Annual Livestock Conference (see <http://www.moaf.gov.bt/moaf/?p=7145>) was attended by officials from Dzongkhag Livestock Office, Regional Veterinary Laboratory Offices, Regional Research Centres and Geog Livestock Extension Officers to discuss new plans and programs for the 11th FYP. DoFPS presented the plans and programs of 11th FYP that are relevant to the Livestock Department including REDD+.

Annual Agriculture Conference, 2012

The Agriculture Conference was another platform DoFPS used to raise awareness on REDD+ to the participants from Dzongkhag Agriculture Offices, National Seed Program, Agriculture Machinery Centre, National Soil Service Centre, National Plant Protection Centre and Regional Research Centers. During the presentation, support was sought for jointly preparing for REDD+ implementation.

REDD+ was also touched upon in many of the workshops on climate change and its impacts organized by different agencies and NGOs.

R-PP early information sharing and dialogue activities

The series of awareness programs on REDD+ at national level and sub-national level has helped in reaching the message on REDD+ to the most important stakeholders. The formulation of R-PP also started with consultation of REDD+ TWG members comprising of representatives from DoA, DoL, DoFPS, CNR (RUB), Ministry of Finance, Department of Public Accounts (MoF - DPA), GNHC, NRDC, RSPN (NGO), BTFEC and NEC. WMD has organized four TWG meetings so far to discuss R-PP and REDD+. The members of the TWG also have the responsibility to discuss and inform their parent organizations on R-PP and REDD+. WMD has printed reports of all national REDD+ workshops held so far (Table 1b-2) and circulated them.

Apart from the national level REDD+ workshops, WMD also initiated awareness workshops at district level (Table 1b-3) so as to involve local people represented by their local leaders. The participants consisted of Gups (Geog Leader) and Mangmis (Geog Deputy Leader), GAOs (Geog Administration Officer), Tshogpas and Renewable Natural Resources Extension Agents (Agriculture, Forest and Livestock). The workshop was carried out in 14 out of 20 districts in the country. The Gups and representatives of government agencies were entrusted to carry out similar workshops at the village level involving local people.

The stakeholder consultation meeting had more than 1,200 people, including 150 women from 13 Dzongkhags who learned new subjects and issues about REDD+ activities, including drivers and impacts of climate change, adaptation measures, PES, R-PP and roles and responsibilities, challenges, risks and benefits of REDD+:

Table 1b-3 REDD+ awareness raising at Dzongkhag level

Sl. No	District	Month date	No. of participants	Participants by Stakeholder Category	Region
1	Chhukha	29 th April 2013	122 (15 female)	37 RNR staff 82 community representatives 3 DoFPS	South
2	Dagana	6 th May 2013	108 (4 female)	73 community representatives 32 RNR staff 3 DoFPS	
3	Gasa	18 Jan 2013	21 (0 female)	7 community representatives 11 RNR staff 3 DoFPS	North
4	Haa	7 th Jan 2013	30 (2 female)	6 community representatives 21 RNR 3 DoFPS	West
5	Paro	8 th Jan 2013	43 (13 female)	10 community representatives 30 RNR staff 3 DoFPS	
6	Punakha	16 th Jan 2013	55 (8 female)	18 community representatives 35 RNR staff 3 DoFPS	
7	Thimphu	27 th Feb 2013	65 (15 female)	28 community representatives 8 CNR trainees 27 RNR staff 2 DoFPS	
8	Trashigang	13 th May 2013	105 (7 female)	57 community representatives 45 RNR staff 3 DoFPS	East
9	Mongar	17 th May 2013	100 (9 female)	46 community representatives 51 RNR staff 3 DoFPS	
10	Trashigang	15 th May 2013	47 (0 female)	19 community representatives 26 RNR staff 2 DoFPS	
11	Trongsa	29 th May 2012	45	22 community representatives 19 RNR staff 4 DoFPS	Central
12	Tsirang	8 th May 2013	138 (9 female)	99 community representatives 36 RNR staff 3 DoFPS	
13	Wangdue	21 May 2013	46 (5 female)	22 community representatives 20 RNR staff 3 DoFPS	

Record of discussions put forward by the Communities

While participants welcomed the idea of REDD+ as a global initiative to compensate rural communities involved in conservation of forest and its allied resources, there were several issues and concerns as well suggestions and benefits, which are:

Benefits of REDD+

- Increased watershed protection for hydropower generation
- Contribution to Bhutan's constitutional mandate to protect 60% of forests
- Increased aesthetic and recreational value may lead to development of nature-based tourism sector

Issues/ Concerns

- While the participants acknowledged that conservation polices have helped in maintaining an intact environment providing various goods and services, they were of the opinion that introduction of new restrictions would directly impinge on their livelihoods, given limited alternatives.

- REDD+ may hinder developmental activities within forested areas,
- Concerns were raised about the flow of benefits to the communities living in and around forest areas.
- The participants also raised the concern of the HWC issue. They were of the view that REDD+ might lead to increase in forest cover, thereby promoting conflicts and causing damage to agricultural crops. The participants also questioned, whether the funds coming from REDD+ can be used for compensation of damages.
- Leakage of resources: Exploitation of resources from non- REDD+ sites.

Suggestions/ Recommendations

- A need was felt for a transparent and equitable benefit distribution for the revenue generated from REDD
- Some suggested that benefits from REDD+ should be distributed based on the forest cover percentage of different Dzongkhags
- The communities expressed the need for demonstration sites prior to an agreement on REDD+ activities,
- The participants in all regions expressed that the awareness programs were a powerful tool to engage a wide range of stakeholders in sustainable management of forest resources. Therefore, such awareness programs should be taken to the community or village levels to discuss the REDD+ process in detail. They expressed that any new program has to be discussed with local communities so as to avoid future implications, as ultimately it was the local governments who would be implementing the REDD+ program.

Methods and tools used during the awareness raising and consultation on REDD+

During the REDD+ awareness raising at national and Dzongkhag levels, WMD used the following methods and tools for information sharing and early dialogue:

- Consultative meetings,
- Interviews,
- Focus group discussions,
- Poster presentation,
- Workshops and
- Video presentation.

Awareness programs in the Readiness phase

During the initial discussion on REDD+ with local communities and other stakeholders, it was felt that detailed consultation on the REDD+ on the following issues was necessary:

- Process,
- Readiness phase,
- Benefits and risks,
- BDS and anti-corruption measures
- Institutional arrangements.

In order to address the above issues, various levels of consultations will be carried out with different stakeholders in consultation with local government authorities. During the R-PP formulation phase, awareness raising programs were conducted at the District level because of resource constraints. Although there were women participants, the numbers were less which could be because of the distance of their villages from the District. Some villages are located at even 3 to 4 days walking distance from the Districts. The resources delivered by the R-PP grant will allow for a comprehensive readiness implementation phase that will enable awareness raising programs to be conducted at the Geog and

village levels to ensure participation of more women and youth. Taking programs to the Geog and villages will also ensure participation of other vulnerable and marginalized groups through the removal of geographic and resource constraints. NGOs like Tarayana Foundation who focus on engaging with marginalized groups will also be used as a platform for carrying out the awareness and consultation processes. Due to involvement of different levels of stakeholders, from the communities in and around the forests to government agencies, different communication and information materials will be needed to ensure adequate understanding and knowledge of REDD+ and related issues. Proper understanding will enhance participation and ensure involvement in the decision-making process. Therefore, the following activities will be undertaken:

- Updating and mapping of relevant stakeholders and ensuring participation of relevant stakeholders in all consultative meetings,
- Organize consultative meetings with different stakeholders on the REDD+ Readiness phase at national, regional and Dzongkhag levels, and
- Organize awareness workshops in schools and institutions.

Description of activities to implement component 1b

Output 1: Information sharing and early dialogue with key stakeholder groups carried out

Recognizing the potential for REDD+ in Bhutan, the stakeholder workshops held across the country have provided a substantial contribution to mainstreaming REDD+. Continuation of this approach towards capacity building and greater awareness across all stakeholder groups at national to community levels will be needed to reach 'Readiness' by 2018 and also to successfully implement REDD+ activities with the help of local communities.

Activity 1.1: Carry out intensive awareness raising and dialogue with stakeholders and local communities on REDD+

Building on the REDD+ awareness workshops done so far, further detailed awareness creation and dialogue with stakeholders, especially with local communities needs to be carried out to enable proper decision-making in relation to REDD+.

The sub-activities to be implemented under this activity are:

1. Conduct workshops and seminars in all Dzongkhags and at the national level
2. Develop awareness materials
3. Capacity Building of local trainers (ToT)
4. Develop website
5. Organize art and photo competition and develop Bhutan REDD+ logo
6. Publish awareness messages in print media, radio and television
7. Develop REDD+ documentary in English as well as in Dzongkha

Expected outputs:

- Communities and local government officials aware of REDD+ program
- Awareness materials developed
- Local trainers trained for carrying out trainings and workshops at community level
- REDD+ website developed
- Bhutan REDD+ logo developed

[Keep this box in your R-PP submission]

**Standard 1b the R-PP text needs to meet for this component:
Information Sharing and Early Dialogue with Key Stakeholder Groups:**

The R-PP presents evidence of the government having undertaken an exercise to identify key stakeholders for REDD-plus, and commenced a credible national-scale information sharing and awareness raising campaign for key relevant stakeholders. The campaign's major objective is to establish an early dialogue on the REDD-plus concept and R-PP development process that sets the stage for the later consultation process during the implementation of the R-PP work plan. This effort needs to reach out, to the extent feasible at this stage, to networks and representatives of forest-dependent indigenous peoples and other forest dwellers and forest dependent communities, both at the national and sub-national level. The R-PP contains evidence that a reasonably broad range of key stakeholders has been identified, voices of vulnerable groups are beginning to be heard, and that a reasonable amount of time and effort has been invested to raise general awareness of the basic concepts and process of REDD-plus including the SESA.

Table 1b. Summary of information sharing and early dialogue with key stakeholder groups activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Preparation of information sharing and consultation process	Developing awareness program materials (documentary, posters, brochures)	20	0	20	0	40
	Capacity Building of local communities and Training of trainers (TOT)	30	30	0	0	60
Communication media	Developing website	5	2	2	2	11
	Media campaign process	10	10	10	10	40
Workshops and seminars	20 Dzongkhag level workshops	90	90	90	90	360
	National Level	10	10	10	10	40
Total		165	142	132	112	551
Government		15	5	10	10	40
FCPF		150	137	122	102	511

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Preparation of information sharing and consultation process	Develop awareness raising materials	5	1	1	0	7
	Capacity Building of local communities and Training of trainers (TOT)	3	3	3	2	11
Workshops and seminars	Regional workshops	10	5	5	5	25
	National Level	4	10	3	5	22
Total		22	19	12	12	65

1c. Consultation and Participation Process

Introduction

Recognizing the multiple benefits of forests and their potential to enhance socio-economic development, RGoB has always emphasized the importance of conservation and sustainable management of forest resources for the long-term benefit of the people. With close to 69% of the population dependent on subsistence agriculture (National Statistics Bureau, 2012), forests play a major part in the overall productivity of farming systems (Roder et al., 2003) and their contribution in enhancing the economic development of the rural population. Considering that local people's participation is a key to sustainable management of natural resources, RGoB has framed various enabling policies and acts of legislation to ensure public participation from initial decision-making to implementation.

The consultation and awareness process conducted thus far on the REDD+ and R-PP in particular has indicated strong support from the relevant stakeholders in view of enhanced benefits from the program. The R-PP was developed by the group consisting of representatives from the different stakeholders in an inclusive and participatory approach to generate a sense of ownership. The R-PP has been uploaded on the Ministry's and Department's website for seeking comments and feedbacks from the public domain (see: <http://www.moaf.gov.bt/moaf/?p=16261>) and has attracted positive comments. Some relevant concerns have also been raised by the stakeholders that will be addressed during the implementation phase of the R-PP to ensure success of the REDD+ program.

MoAF will therefore institutionalize active participation and engagement of relevant stakeholders in REDD+ Readiness. The adoption of participatory processes will ensure transparency in decision-making, improve the empowerment of stakeholders, involve them in implementation, monitoring and evaluation of REDD+ activities.

Consultation and participation process

Since 2010, Bhutan has gained experience in conducting early information sharing and dialogue for the formulation phase and understood the importance of participatory processes in relation to REDD+ and other forestry activities. Summary of issues, concerns, recommendation and suggestions during the earlier consultation process is provided in Component 1b under sub-heading "record of discussions put forward by the Communities".

During the implementation of Readiness phase, DoFPS will undergo extensive consultations with relevant stakeholders on the various components of REDD+ by building on the early information and social mobilization campaign and dialogue conducted during R-PP formulation phase.

DoFPS will present a realistic overview of REDD+ to all stakeholders, before implementing the activities. In Bhutan, there are four major ethnic groups living in Bhutan. Ngalong in the west, Sharchop in the east, Khengpas in the central and Lhotshampa in the South. There are also few indigenous groups with distinctive religion, language and culture. Brokpas from Sakten-Merak in the Sakten Wildlife Sanctuary; Moenpas in Jigme Singye Wangchuk National Park and Doyaps in the western part of the country. During the management plan preparation of these parks, the Moenpas and Brokpas are engaged right from planning till implementation. The plans are prepared in a participatory manner and people living inside parks are involved starting from demarcation and zoning of park boundaries. Therefore, undertaking of any programs or activities does not deprive people of their traditional rights on resource utilization and management.

The government structure is such that the lowest or smallest unit of government, village, appoints a representative to serve on the next unit of government, Chiwog – 2 to 3 villages, and they then are represented within the Geog and finally at the Dzongkhag level. All planning and decision making follows

this path to ensure representative and transparent decision making on behalf of all ethnic/cultural groups. The same inclusive structure will be followed as the backbone for REDD+ engagement and decision making process. Participation plan to involve minorities, ethnic groups, women, and youth with an emphasis on marginalized and vulnerable groups is included in Component 1b under Awareness Programs in the Readiness Phase on page number 38-39. Additionally, stakeholder participation plan/guideline will be prepared during Readiness process based on existing legislations, FPIC and tailored to local context to ensure inclusiveness of all stakeholders from diverse backgrounds. The comprehensive stakeholder engagement process will be supported by a robust grievance redress mechanism (Component 1a under Consultations and Grievance Recourse Mechanisms for REDD+ on page number 26).

The consultation and participation process will be developed in steps, so that there is adequate time for understanding, consolidation and sharing of information amongst stakeholders. The main focus of consultation and participation will be:

- To share experiences of civil society organizations, local forest-dependent communities, private sector and other relevant stakeholders to improve local decision-making when developing plans for REDD+ activities,
- To conduct consultations with all the relevant agencies at national, Dzongkhag and Geog level so as to provide clear understanding on issues of REDD+ activities and their benefit to local communities, and
- To involve all sectors of governmental organizations, while developing a cross-sectoral framework for REDD+ activities.

Goals and objectives

The overall goal of the consultation and participation of stakeholders within REDD+ programs will be to increase awareness through wholesome participation of stakeholders when taking decisions on and implementing REDD+ activities following FPIC Guidelines (UN-REDD Programme Secretariat, 2013), and Guidelines on Stakeholder Engagement in REDD+ Readiness (Forest Carbon Partnership Facility, 2012).

Key stakeholders to target for consultation and participation

Local-level community representatives in Dzongkhags and Geogs will exchange information and conduct dialogue with RGoB and NGOs to formulate REDD+ activities following the FPIC Guidelines and Guidelines (UN-REDD Programme Secretariat, 2013), and Stakeholder Engagement in REDD+ Readiness (Forest Carbon Partnership Facility, 2012). Furthermore, consultations on the social and environmental impacts and risks associated with different options will be held and the Environmental and Social Management Framework (ESMF; see Component 2d) will be developed depending on location. During the implementation of Readiness phase, the stakeholder analysis will be built upon the exercise described in Component 1b. Lessons will be identified and appropriate steps taken to address the concerns of stakeholders. This will include:

- Participatory mechanisms and structures will be identified at the initial stage of information sharing to enhance the active engagement and inclusion of stakeholders, especially of forest-dependent communities,
- The government sectors and NGOs will ensure that mitigation measures of REDD+ are identified, implemented and monitored,
- Dzongkhags and local institutions will be provided information to understand their role in facilitating REDD+ Readiness through good governance,
- National Land Commission (NLC) will be engaged to provide approval for any land use change and ownership change,
- The private sector and local communities will be informed, particularly on agro-industries, non-wood forest products, energy, mining and small entrepreneurship development within the area of

- REDD+ activities,
- Local NGOs and associations will be involved in community development and conservation, and
- Women and youth of the local communities will also be involved in the decision-making process related to REDD+ activities.

Key issues to address during consultation and participation

RGoB acknowledges the potential of REDD+ to deliver significant benefits to local communities living in and around the forests for conserving and sustainably managing their resources. For resource managers, REDD+ could be a platform to enhance their capacity to manage forests, improve their knowledge base and promote sustainable forest management. However, the risks associated with the implementation of REDD+ activities to local communities needs to be identified, reduced and mitigated in collaboration with all relevant stakeholders.

Based on the REDD+ strategy options (see Component 2c) that identify issues affecting land use, benefit sharing and forestry, the following will be key discussion topics:

- Main causes and drivers of deforestation and forest degradation,
- Economic, social and environmental impacts of REDD+ and mitigation of risks,
- Experiences on equitable distribution of income from existing community forests,
- Setting up effective grievance and feedback redress mechanisms.

Table 1c-1: Participation of key stakeholders in REDD+ activities

Activities	Central Government	Dzongkhag	Geog	Local Communities	NGOs	Private sector
Measurement, Reporting and Verification (MRV), and Monitoring	Yes	Yes	Yes	Yes	Yes	Yes
REDD+ forest governance	Yes	Yes	Yes	Yes	Yes	Yes
Multiple benefit system	Yes	Yes	Yes	Yes	Yes	Yes
Transparent, equitable and accountable management	Yes	Yes	Yes	Yes	Yes	Yes
Grievance mechanism	Yes	Yes	Yes	Yes	Yes	No
Safeguards – Social and Environmental Impacts (SEI)	Yes	Yes	Yes	Yes	Yes	Yes
Carbon and socio-economic inventory	Yes	Yes	Yes	Yes	Yes	Yes

Consultation process

Step 1. Awareness raising and capacity building

DoFPS and the REDD+ Taskforce (see Component 1a) will endorse plans related to REDD+, forestry and climate change. In addition, they will provide advice, oversee and monitor the planning process and the implementation of REDD+ activities.

The REDD+ Taskforce will ensure the institutional representation of different stakeholders during the process and representation of members from the grassroot level to NGOs and government agencies. In order to guarantee the effectiveness and efficiency of the REDD+ implementation process, the Taskforce will be expected to proactively provide innovative ideas, monitor program activities, and prepare a comprehensive REDD+ Strategy (see Component 2b) through consultative meetings, workshops, and publishing information through printed media and online. Additionally, CSO/NGOs will be involved in REDD+ Readiness capacity building.

For conducting the awareness and capacity building the following consultation/ outreach methods will be used:

- Consultative meetings,
- Interviews,
- Focus group discussions,
- Poster presentation,
- Workshops and
- Video presentation.

Step 2. Pilot project

Bhutan is proposing to implement demonstration pilot activities during Readiness phase (see Component 3). While selecting pilot projects under REDD+, different geographic, climatic conditions, traditional practices, existence of current projects and willingness of local community will be considered. The pilot projects during the readiness phase will be designed to field test to gain confidence and experience on measurements, synthesis, reporting to the local community and international community, analyses of risk, benefits and tradeoff sharing, developing manuals, coaching stakeholders, to be ready for implementing the REDD+ activities at the beginning of the next five year plan. The activities will be designed to include monitoring mechanisms, provide information to stakeholders and prepare activities for the final REDD+ program.

During the pilot project phase, components like BDS and ACM will tested. The BDS and ACM are currently under development with funding from UN REDD TS and UNDP. The core component of Anti-corruption measures will be complete transparency and whole hearted engagement of the stakeholders. The grievance settlement mechanism (See component 1a) will also be part of ACM. The CFMGs and

NGOs would be given a prominent role in the ACM. Details are being worked out in the draft ACM document with funding from UNDP and UN-REDD Targeted Support.

Step 3. Ready for REDD+

The third step of the consultation process will be to evaluate these pilot projects to enable Readiness for REDD+. A series of consultation workshops at local, regional and national levels involving all relevant government agencies, research institutions, civil society, local government and private sectors will be organized.

A detailed plan on the consultation and participation process for Readiness implementation will be formulated during Readiness phase using the approach shown in figure 1c-1.

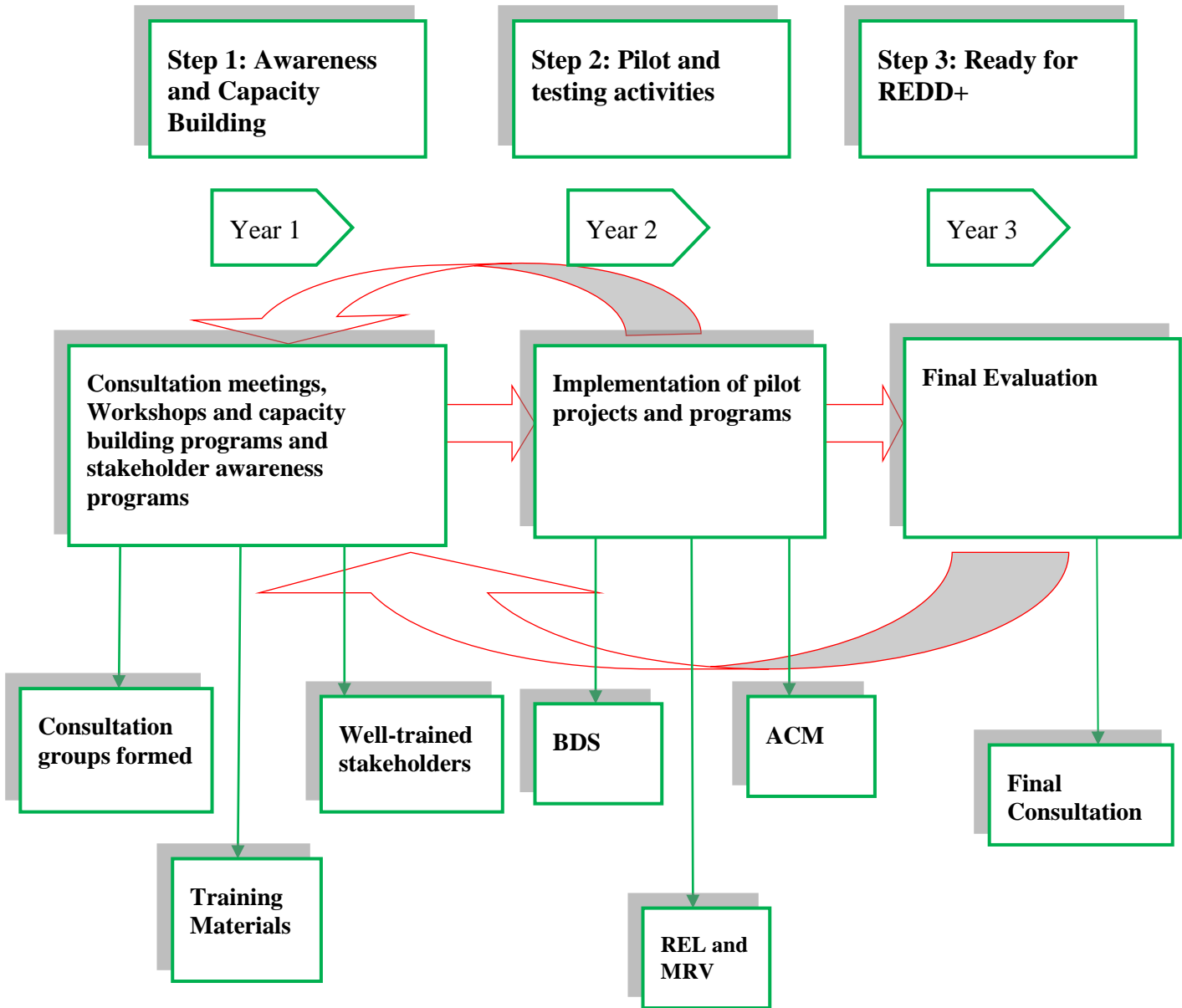


Figure 1c-1: Consultation and participation plan during Readiness phase

Box 1c-1: The Cancun COP Decision 1/CP.16, Considerations to Address in National Action Plans

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

Source: <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

Box 1c-2: The Cancun COP Decision 1/CP.16, Appendix I: Guidance and safeguards for policy approaches to REDD-plus (selected text)

*“(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 the actions referred to in paragraphs 70 and 72 of this decision;...”*

Source: <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

**Standard 1c the R-PP text needs to meet for this component:
Consultation and Participation Process:**

Ownership, transparency, and dissemination of the R-PP by the government and relevant stakeholders, and inclusiveness of effective and informed consultation and participation by relevant stakeholders, will be assessed by whether proposals and/ or documentation on the following are included in the R-PP (i) the consultation and participation process for R-PP development thus far (ii) the extent of ownership within government and national stakeholder community; (iii) the Consultation and Participation Plan for the R-PP implementation phase (iv) concerns expressed and recommendations of relevant stakeholders, and a process for their consideration, and/or expressions of their support for the R-PP; (v) and mechanisms for addressing grievances regarding consultation and participation in the REDD-plus process, and for conflict resolution and redress of grievances.

Table 1c. Summary of consultation and participation activities and budget						
Main Activity	Sub-Activity	Estimated cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Consultation meeting at national/regional/Dzongkhag level	MRV and monitoring	10	0	0	10	20
	BDS	10	8	10	10	38
	Grievance mechanism meeting	8	5	5	5	23
	Climate change Taskforce meeting	2	2	2	2	8
	Stakeholders meeting	20	20	20	20	80
Capacity building at Dzongkhag and community level	Stakeholders capacity building in 20 Dzongkhags	0	0	0	0	0
Implementation of pilot project activities	CFs/PAs/FMUs	45	45	20	10	120
Total		95	80	57	57	289
Royal Government of Bhutan		12	12	7	7	38
FCPF		83	68	50	50	251

Other donors						
Main Activity	Sub-Activity	Estimated cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Consultation meeting at national/regional/Dzongkhag level	Stakeholder participation plan/guideline	60	0	0	0	60
	BDS	6	5	3	0	14
	ACM	6	5	3	0	14
	Grievance mechanism meeting	6	4	2	0	12
Total		78	14	8	0	100

Component 2: Prepare the REDD-plus Strategy

2a. Assessment of Land Use, Land Use Change Drivers, Forest Law, Policy and Governance

Introduction

This sub-component assesses land use, land use change drivers and forest law, policy and governance in Bhutan. This assessment will help to identify 1) key drivers of deforestation and forest degradation, and activities related to conservation, sustainable management of forests, and enhancement of forest carbon stocks; as well as 2) shortcomings in current land use, forest law, policy and governance structures that contribute to drivers of deforestation and forest degradation.

Land classification

Bhutan is situated on the southern slopes of the Eastern Himalayas with an altitudinal gradient from less than 130 meters on the southern border with India to 7,500 meters in the north (see Figure 3-2 in Component 3). The country's climate is as varied as its topography and, like most of Asia, is affected by monsoons. Rainfall can differ within relatively short distances due to rain shadow effects. Based on the agro-climatic conditions determined by altitude, temperature and rainfall distribution, the country is classified into six major agro-ecological zones, as shown in Table 2a-1.

Table 2a-1: Agro-ecological zones of Bhutan (National Biodiversity Centre, 2009)

Agro-ecological zone	Altitude m.	Temperature °C			Rainfall (mm)
		Max	Min	Mean	
Alpine	>3500	12.0	-1.0	5.5	<650
Cool temperate	2500-3500	22.0	1.0	10	650-850
Warm temperate	1800-2500	26.0	1.0	13	650-850
Dry sub-tropical	1200-1800	29.0	3.0	17	850-1200
Humid sub-tropical	600-1200	33.0	5.0	20	1200-1500
Wet sub-tropical	150-600	35.0	12.0	24	2500-5500

The combination of topographic and climatic diversity contributes to Bhutan's wide array of ecosystems and immense biodiversity, making it part of the Himalayan global biodiversity hotspot (Mittermeier et al., 2004). Bhutan ranks among the top ten percent of countries with the highest species diversity on Earth, and it has the highest fraction of land in PAs, as well as the highest proportion of forest cover of any Asian nation (National Biodiversity Centre, 2009).

The vegetation types of Bhutan can be divided into the Alpine Zone, above 4,000m, where there is no forest cover; the Temperate Zone, between 1,000 to 4,000m, including major conifer/broadleaf forests; and the Subtropical Zone, from 150 to 1,000m, characterized by subtropical vegetation.

Forest types include the following (Grierson and Long, 1983; Ohsawa, 1987):

- Fir (*Abies densa*) forests at 3,200 to 3,800m, frequently occupy upper catchment areas with high precipitation. Birch (*Betula alnoides*) is present on disturbed sites. Toward the tree line, at 3,600-

- 3,800m, fir becomes stunted and grades into juniper (*Juniperus recurva*) and rhododendron (*Rhododendron* spp.) scrub. Total area 345,302 ha.
- Mixed conifer forests, which occupy the largest portion of the temperate conifer region, range from 2,600 to 3,200m. These forests may be dominated by spruce (*Picea spinulosa*) on drier and hemlock (*Tsuga dumosa*) on moister sites. Total area 486,827 ha.
 - Blue pine (*Pinus wallichiana*) forests are mostly mono-specific and are found in temperate regions between 2,100 and 3,000m in Haa, Paro and Thimphu valleys in the west and Bumthang valley in central Bhutan. These forests mostly represent a successional stage on potential mixed conifer sites. Total area 128,593 ha.
 - Chir pine (*Pinus roxburghii*) forest, a low-altitude (900-1,800m) forest type occurs in the deep, dry valleys of the Punatsangchhu, Mangdechhu, Kurichhu and Kulong/Dangmechhu river basins, essentially under subtropical and warm-temperate conditions. Chir pine forests are heavily influenced by human activities, including tapping for resin, felling for timber and burning to produce fresh fodder for livestock grazing or new shoots of lemongrass (*Cymbopogon flexuosus*) growth. Total area 100,899 ha.
 - Broadleaf mixed with conifer occurs in extensive areas where the gradation is very gradual. These are generally oak forests mixed with blue pine, or upper hill forest mixed with spruce or hemlock. Total area 135,789 ha.
 - Upland hardwood forests on temperate hillsides, 2,000 to 2,900m, including evergreen oak forest and cool broad-leaved forest. Total area 450,000 ha.
 - Lowland broadleaf forest, include forests in subtropical hills, and tropical forests in hills below 130m to 2,000m. The former are very rich and mixed with a wide variety of subtropical and temperate genera. The latter are broadly classified as semi-evergreen, vary from almost totally deciduous on exposed dry slopes to almost totally evergreen in moist valleys. These forests are multi-storeyed, with particularly rich species diversity. Total area 440,000 ha.
 - Forest scrub, which includes alpine and temperate scrub occurs naturally between the limits of the tree line and barren rocks. Dwarf juniper (*Juniperus squamata*), Rhododendron setosum and *R. lepidotum* and sometimes even dwarf oaks and willows are common species in the forest scrub. On the drier and higher ridges, however, xerophytic scrub is much more common. Temperate scrub consists of dense bamboo or other xerophytic, spiny shrubs, which grow in cleared temperate forests that are not converted for agriculture or pasture. Total area 325,730 ha.

The relative frequency of each forest type is shown in Figure 2a-2.

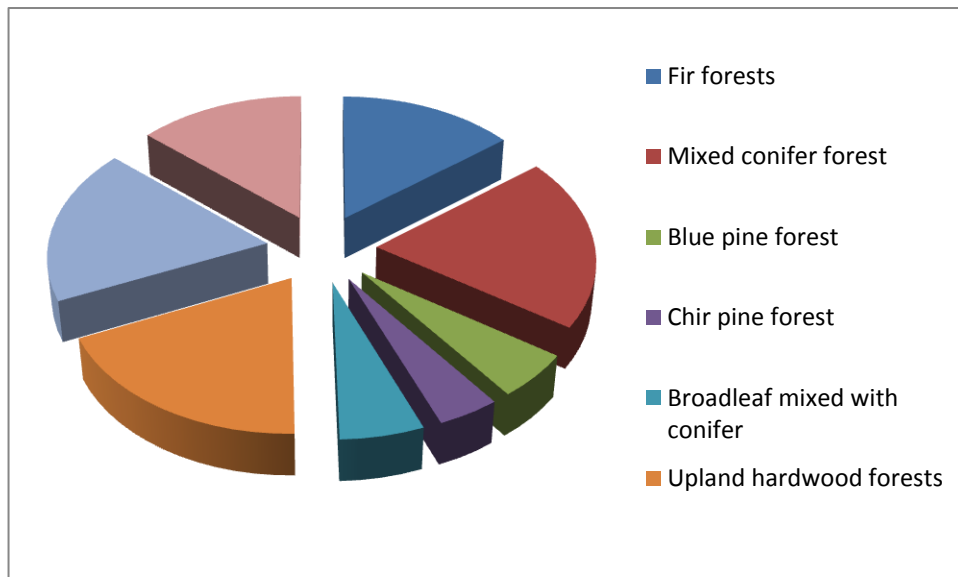


Figure 2a-2: Frequency of different forest types in Bhutan (LUPP, 1995; Ministry of Agriculture and Forests, 2011)

Trends in forest resources

Bhutan’s total forest area has expanded slowly over the past 15+ years (LUPP, 1995; Ministry of Agriculture and Forests, 2011). Bhutan has 24,400 hectares under forest plantations (DoFPS 2012 Draft 11th FYP). Forest cover has slightly increased along with the cover of shrub forests over the past 15+ years. Grassland cover remained constant, while agricultural land decreased substantially (Figure 2a-4). However, these changes might have resulted because of use of different datasets. Mosaic of different aerial photos and array of satellite imageries were used during LUPP and during LCMP, the ALOS (10 M) satellite images were exclusively used.

Table 2a-2: Trends in forest and other land cover types, 1990-2010 (LUPP, 1995; Ministry of Agriculture and Forests, 2011)

Broad National Classes	1995	2011
Forests	2579	2705
Scrub/Shrub	325	401
Grassland/pasture	156	158
Agriculture	315	113
Others	632	463
Total	4007	3839 ¹

¹After boundary revision

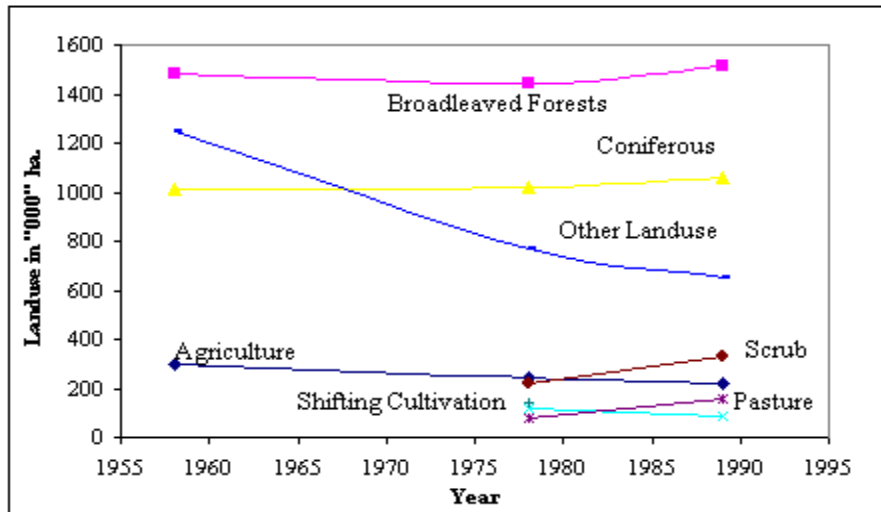


Figure 2a-3: Change in landuse over four decades (LUPP, 1995)

Forest Resource Assessment (FRA) 2010 also reports on estimates of forest carbon in Bhutan (Table 2a-3).

Table 2a-3: Estimates of forest carbon for Bhutan (FAO, 2010)

FRA 2010 categories	Carbon (million metric tons)			
	Forest			
	1990	2000	2005	2010
Carbon in above-ground biomass	216	228	236	245
Carbon in below-ground biomass	80	85	88	91
Carbon in dead wood	n.a	n.a	n.a	n.a
Carbon in litter	49	55	58	60
Carbon in soils	212	218	223	226
TOTAL	557	586	605	622

Economic importance of forest resources

The overall contribution of the forest sector to the GDP stood at 3.18% (2.7 billion Nu) in 2011. In spite of a continuous increase in the overall output of the forestry sector, its contribution to the GDP is in steady decline due to faster growth of other sectors, such as hydropower and tourism. Between July 2008 and June 2011 16.5 million cft of timber and 5.7 million cft of firewood have been supplied at subsidized rate to rural communities. During the same period, the entire commercial timber and firewood production of the country stood at 8.2 million and 3.6 million cft, respectively, highlighting the strong dependence of rural communities on forest products. Rural communities also receive permits to collect NWFPs upon payment of minimal royalty fees. These fees amounted to 21.4 million Nu during the years 2008-11 (National Statistics Bureau, 2012). Apart from these direct benefits, indirect benefits such as ecosystem services are also derived from forests. The country's economy is based on hydropower and about 80% of the water comes from watersheds. With the country's goal to harness 10,000 MW of hydropower by 2020, the dependency on forests for continuous supply of clean water will further increase, while development activities would likely result in reduced forest cover.

Legal Framework

Article 5 (Environment) of the Constitution of Bhutan states (2008):

“1. Every Bhutanese is a trustee of the Kingdom's natural resources and environment for the benefit of the present and future generations and it is the fundamental duty of every citizen to contribute to the protection of the natural environment, conservation of the rich biodiversity of Bhutan and prevention of all forms of ecological degradation including noise, visual and physical pollution through the adoption and support of environment friendly practices and policies.

2. The Royal Government shall:

- (a) Protect, conserve and improve the pristine environment and safeguard the biodiversity of the country;
- (b) Prevent pollution and ecological degradation;
- (c) Secure ecologically balanced sustainable development while promoting justifiable economic and social development; and
- (d) Ensure a safe and healthy environment.

3. The Government shall ensure that, in order to conserve the country's natural resources and to prevent degradation of the ecosystem, a minimum of sixty percent of Bhutan's total land shall be maintained under forest cover for all time.

4. Parliament may enact environmental legislation to ensure sustainable use of natural resources and maintain intergenerational equity and reaffirm the sovereign rights of the State over its own biological resources.”

In support of Article 5 of the Constitution, RGoB has established laws, policies, regulations and rules for the protection and conservation of forest areas including biodiversity. The most important of these are:

National Forest Policy, 1974 and 2011

The National Forest Policy 2011 replaced the National Forest Policy 1974 (Royal Government of Bhutan, 1974) and consists of a long term goal, major policy objectives and specific statements to enable various aspects of forest production, use and management. It has five guiding principles i.e., equity and justice in terms of access, poverty alleviation through integrated approach, deregulation and devolution, integration of science and indigenous knowledge and allowing import of logs and sawn timber (Royal Government of Bhutan, 2010a). Development of Payment for Environmental Services schemes is mandated under the policy and is already operational in one location (See Component 2c).

Bhutan Sustainable Hydropower Development Policy 2008

This policy has provision under Section 12.4 provides for improved watershed management to support hydropower development and to offset its negative effects on biodiversity (RGoB, 2008). The policy stipulates that 1% royalty from the total revenue will be ploughed back to MoAF annually for sustainable management of watersheds. DoFPS is in the process of developing a mechanism/guideline to access these funds for implementing relevant conservation activities.

Draft Access and Benefit Sharing Policy (2012)

The draft Access and Benefit Sharing Policy (Royal Government of Bhutan, 2012) states that equitable and transparent use of benefits from Bhutan's intact biodiversity will support the fulfilling of the country's biodiversity conservation goals. The policy governs the use of genetic material and traditional knowledge on biodiversity for commercial and research purposes.

Bhutan Forest Act (1969)

The Forest Act, 1969 was the first legislation that substantially changed natural resource property rights and provided considerable power to forest officials to protect, manage and control access to forests. At the same time it appropriated many areas used as village and community forests as government property. The act stipulated that at least 60% of the country should remain forested at all time. It established centralized control over the utilization of forest resources and provided the first legal framework for regulating forest resources in the country and consolidated numerous directives relating to forest rights, forest products and royalties. The act also provided, for the first time, strong penalties for forest offences (Royal Government of Bhutan, 1969).

The Land Act of Bhutan, 1979 and 2007

The Land Act (2007) provides legal perspective on rights of possession of lands and other land matters. The Act describes the rights of Thram holder over his owned land, Tsamdo and Sokshing, uses of Sokshing, rights over trees growing in a registered land; forming legal restrictions over forest management in these areas.

Forest and Nature Conservation Act (FNCA, 1995)

In 1995, the National Assembly repealed the Forest Act 1969, (Royal Government of Bhutan, 1969) and expanded its content to enact a new act, the "Forest and Nature Conservation Act, 1995" addressing changed social and economic needs of society (Royal Government of Bhutan, 1995). An important objective of the new act is to ensure adequate supply of basic forest products to meet the needs of the population with due recognition of the multiple responsibilities over forest resources and their sustainable management and use.

The new act recognizes community forests and deals in detail regarding their creation, utilization and management. The new act also provides a legal perspective on protection of flora and fauna and categorizes their status. It lists twenty-four wild animals and seven plants as totally protected species. The new act provides special legal protection to forests from fires.

To implement the provisions of the FNCA 1995, the Forest and Nature Conservation Rules was promulgated in 2000, which was subsequently revised in 2003 and 2006 (Royal Government of Bhutan, 2006).

Anti-Corruption Act of Bhutan (2006):

Clause 138 (I) defines Corruption as; "Any person with a corrupt intention accepts or obtains or agrees to accept or attempts to obtain; gives or agrees to give or offers any gratification to any person or entity as an inducement or reward for doing or forbearing to do an act relating to the exercise or non-exercise of power in office or in the course of official duty, rendering the gratification an undue gratification. "Corrupt intention" includes any action motivated by or resulting inter alia in the following:

- (1) Unethical and dishonest act;
- (2) Abuse of authority;

- (3) Use of position of trust for dishonest gain;
- (4) Giving or enabling a person to receive preferential treatment; or
- (5) Abuse and misuse of public resources.

Clause 54 (C) of the Act also states that Anti-Corruption Commission (ACC) would curb and root out corruption through timely and effective monitoring of embezzlement, misappropriation or other diversion of public resource by a person for his benefit or for the benefit of another person or entity; and (d) stated that the commission would receive any complaint of corruption and investigate such a complaint as provided under the Act.

ACC officials, after receiving reports of corrupt practices, both petty and grand corruption, investigates the case and forward the case to court. It is either the local residents, beneficiaries of REDD+ activities or officials working for REDD+ who will report the matter to ACC.

The Middle Path (National Environment Strategy (1998))

The Middle Path – National Environment Strategy (National Environment Commission, 1998) identified several needed reforms that are relevant to REDD+, including:

- The conservation of protected areas must not be left to the forestry sector alone. Other sectors benefiting from well preserved, up-stream catchments should contribute to the continued protection of watersheds, especially within the hydropower sector.
- Forestry conservation and use must be organized according to a “bottom-up” approach so that public participation is maximized.
- Although preventing forest degradation through strict enforcement of rules and regulations is important, educating people about the importance of forest conservation is also needed.
- In all cases concerning either conservation or exploitation of forests, it is necessary to conduct an initial environmental examination and, if needed, a thorough Environmental Impact Assessment (EIA). Private and public-sector industries must be made to pay adequate compensation when violations occur.

The strategy also noted that enacting these reforms would require the active participation of several stakeholders, especially forestry, agriculture and industry.

Environmental Assessment Act (2000)

The Environmental Assessment Act (2000) responded to one of the reforms identified in the National Environment Strategy described above. It established that all strategic plans, policies, programs and projects, which may have an impact on the environment, require environmental assessment. Clearance is granted if:

- The effects of the project on the environment are foreseeable and acceptable;
- The applicant is capable of carrying out the terms of the environmental clearance;
- The project, alone or in connection with other programs or activities, contributes to the sustainable development of the Kingdom and the conservation of its natural and cultural heritage;
- Adequate attention has been paid to the interests of concerned people; and,
- The project is consistent with the environmental commitments of the Kingdom.

Other relevant acts, policies, and regulations include

- Regulation for Environmental Clearance of Projects (2002)
- Timber Pricing and Marketing Policy (1999)
- RNR Sector Goals (2001)
- The Water Act of Bhutan (2011)
- Mines and Minerals Management Act (1995)
- Biodiversity Act of Bhutan (2003)
- Economic Development Policy of Bhutan (2010)

Identified gaps in the legal framework

New trends and developments, as well as the recent ratification of the Ramsar Convention by Bhutan necessitated regulation of newly emerging sectors and activities. Accordingly, the ongoing revision of the Forest Act as well as of the Forest and Nature Conservation Rules contain regulation on:

- Watershed Management
- Wetland Conservation
- Ecotourism
- PES

Compensation modalities for forest loss of forest cover to development activities shall be considered for inclusion. In recent years, hydropower projects (e.g. Mangdue Chhu, Punatshang Chhu and Tala Hydropower Projects) have been providing compensation for forest losses by rehabilitating substitute degraded areas under their Environment Management Plans.

Institutions

Government organizations

DoFPS was established in 1952 to oversee conservation and utilization of the country's significant forestry resources. As part of MoAF, DoFPS includes in its mandate (for organizational setup see Component 1a and 2b):

- Ensuring the maintenance of a minimum of 60% of the country's geographical area under forest cover for all times to come as mandated by the Constitution of Bhutan (2008);
- Conservation, protection, sustainable management and utilization of state forests, forest soil, water resources and biodiversity through insightful application of good science and science based management prescriptions;
- Facilitate development of forest based industries to contribute to local and national economics, and to create employment opportunities;
- Facilitate the empowerment of rural communities for the stewardship and management of local forest resources and NWFPs for income generation and livelihood enhancement, and contribute to poverty reduction through enactment of enabling policies, legislations, strategies, plans and programs;
- Ensuring transparent and enhanced delivery of forestry services to the public through appropriate development of forestry administration, organization, capacity and facilities;
- Ensuring Bhutan's commitments to international and regional conventions, treaties and non-legally binding instruments through participation, facilitation and enactment of enabling policies, legislations, strategies, plans, and programs.

State enterprise

Following a period of unsustainable harvesting in the 1970s, the Logging Division of the then Department of Forestry was upgraded to a Corporation. Presently, this state-owned corporation is known as NRDCL and is mandated to manage sand, stone and other natural resources in addition to timber.

University

A Forest School was first established in 1971. Now part of RUB, CNR offers a 2-year Diploma in Forestry and a 4-year Bachelor of Science in Forestry, with a Master of Science program scheduled to start in 2014.

Non-governmental organizations

The main NGOs working on forest-related issues in Bhutan are (see Component 1a):

Royal Society for the Protection of Nature (RSPN): Established in 1987, RSPN has promoted environmental education and advocacy, conservation and sustainable livelihoods, research and emerging issues like climate change, water and solid waste. RSPN is active in the conservation of endangered

species such as the black-necked crane (*Grus nigricollis*) and through its Environmental Education and Advocacy Program, RSPN in collaboration with Ministry of Education has established school-based nature clubs in all schools across the country to create environmental awareness in schools and the surrounding communities.

Tarayana Foundation: The Tarayana Foundation is a non-profit organization working to uplift and enhance the lives of vulnerable individuals and communities in Bhutan, focusing on small communities in remote areas that lag behind in socio-economic development. The organization also helps local vulnerable communities through marketing local products.

Worldwide Fund for Nature (WWF): WWF began working in Bhutan in the 1970s, and works closely with communities in and around protected areas through various educational and participatory initiatives in an effort to raise awareness and promote sustainable livelihood alternatives like eco-tourism. WWF aims to reduce human induced pressures and threats on the environment. A particular focus of WWF's work is the conservation and management of the natural biodiversity of the Bhutan Biological Conservation Complex (B2C2: all protected areas, including buffer zones and the connecting biological corridors).

Drivers of Deforestation and Forest Degradation

Deforestation is not considered to be a major problem in Bhutan, as the forest cover showed slight increase during the period 1995 to 2010, though this might be due to the use of different datasets during the LUPP and LCMP mapping processes (LUPP, 1995; Ministry of Agriculture and Forests, 2011).

The most relevant drivers leading to forest degradation are activities linked to the unsustainable use of forest and other land resources. Even though no comprehensive assessment of drivers of deforestation and degradation has been carried out in the country, various studies and informed opinions generally indicate a rise in degradation processes (van Noord, 2010). A thorough assessment of drivers will be carried out during Readiness phase. In doing so, past scenarios or the impact of different drivers on DD, the magnitude (%) of impact of each driver will be assessed to determine where priority needs to be focused.

The key processes, acting at landscape scale that are thought to be drivers of forest degradation and/or forest cover changes are:

1. Loss of forest to development activities (electric transmission lines, hydropower projects, housing, roads, mining & quarrying),
2. Tsamdo and livestock,
3. Tseri or slash-and-burn agriculture,
4. Forest fire,
5. Firewood,
6. Timber,
7. Poaching and illegal logging,
8. Harvesting of NWFPs,
9. Leaf litter collection
10. Invasive species, pests and diseases, large, infrequent disturbances

Additionally, it is also necessary to analyze or carry out assessment of indirect drivers of deforestation and degradation, such as but not limited to:

1. Policies and legislations
2. Institutions and institutional linkages
3. Governance issues

Loss of forest to development activities

Population increase and economic growth have led to urban expansion and sharp rise in establishment of new infrastructure that came at the cost of forests. Infrastructure development is concentrated on areas of high population density, such as the inner dry valleys at high altitude (1200-2800 m) and the southern belt (100-600 m).

The number of mining and quarrying activities has increased. The farm roads constructed (3,289 km; <http://www.moaf.gov.bt/moaf/?p=13715>) over the last decade provide access to remote communities, but also lead to increased occurrence of landslides, erosion and slope instability along the road alignments. Four major hydropower projects have been completed and a few more are in the anvil. Although, detailed estimate of how much future hydropower projects would add to deforestation has not been assessed as of now, it is expected that the impact may not be significant, since most of the hydro-power generation will be from run-of-the-river projects, which do not involve significant loss of forests. Besides, biodiversity offset programs are always an integral part of the hydropower projects in Bhutan.

More than 8900 ha (22,235.34 acres) of GRF land was allotted by DoFPS for the above stated purposes in just three fiscal years (Figures 2a-4 and 2a-5). The allotment of GRF shows an increasing trend, leading to deforestation and partially to forest degradation.

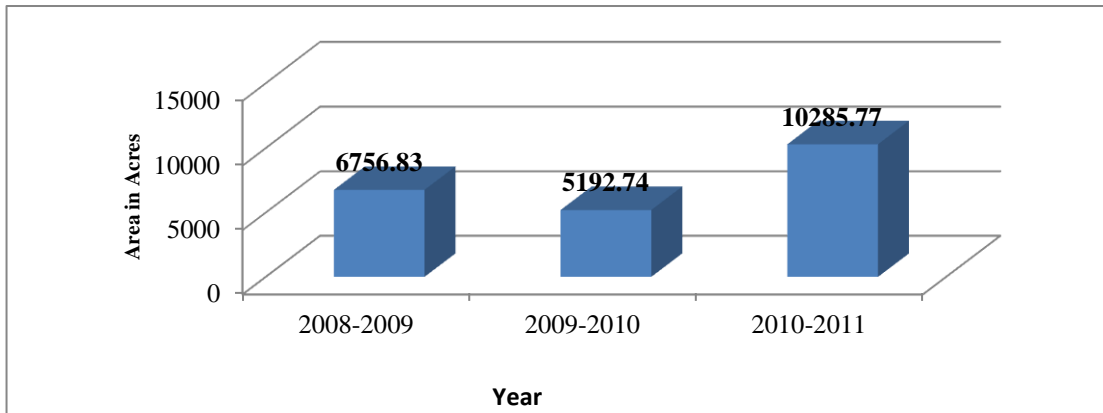


Figure 2a-4. GRF land allotted for various purposes (see Fig 2a-5) from July 2008 - June 2011 (DoFPS, 2011).

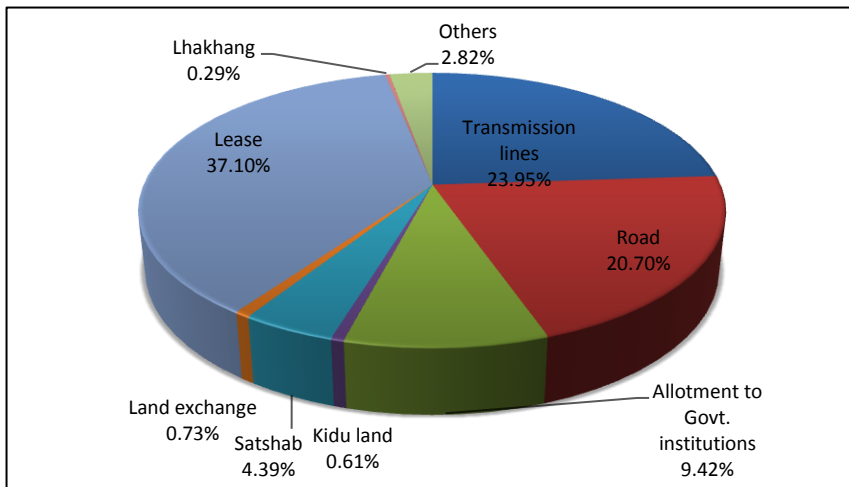


Figure 2a-5. GRF land allotment to various purposes between July 2008 and June 2011 (DoFPS, 2011).

Tsamdo and livestock

Livestock (Figure 2a-6) grazing in forests is an established practice in Bhutan (Norbu, 2002). The traditional land tenure of grazing land is named tsamdo, and can be registered in a variety of vegetation types, ranging from high-altitude pasture land to sub-tropical broadleaf forests. Migratory cattle move from

temperate areas and sub-alpine areas in the summer to the pastures in the southern foothills in winter. Forested areas provide most of the grazing resources to these migratory cattle.

Tsamdo practices lead to negative impacts on forest quality by intensive browsing of tree seedlings, soil trampling, compaction and lopping of tree branches by herders as fodder for their herds, leading to forest degradation and localized deforestation. The problem is severe in areas where winter grazing by yaks and summer grazing by cattle coincides, e.g. Sheytemi in Radhi, Trashigang. The figures for 2007, as reported by Dr. Pema Choephel (2009), indicate a total tsamdo area of 406,513 ha, roughly 1% of the total land area of Bhutan (Table 2a-4).

Transhumance herding and forest grazing is declining and is connected to intensification of livestock rearing practices (Wangchuk et al. submitted). However, grazing pressure in most forests is still above carrying capacities (Wangchuk et al., 2012a), seriously impeding forest regeneration (Norbu, 2002).

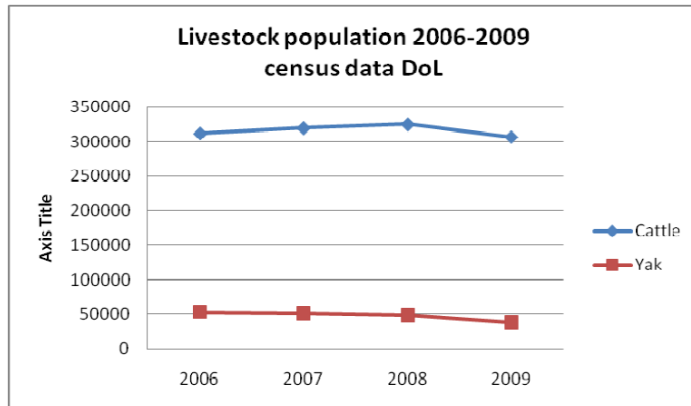


Figure 2a-6: Livestock population 2006-2009 (data from DoL)

Table 2a-4: Area of Tsamdo by Dzongkhag (Choephel, 2009)

Dzongkhag	Tsamdo (ha)	Dzongkhag	Tsamdo (ha)
Tsirang	662	Punakha	17,569
Pemagatshel	3,162	Gasa	13,893
Samdrup Jongkhar	8,764	Zhemgang	18,775
Sarpang	365	Samtse	15,775
Trashigang	1,665	Haa	60,778
Mongar	7,142	Bumthang	26,671
Dagana	9,235	Chhukha	21,014
Lhuentse	9,108	Wangdue	50,719
Trongsa	21,687	Thimphu	77,317
Paro	1,767	Trashigang	40,445
TOTAL			406,513

Tseri or slash-and-burn agriculture

Traditional slash-and-burn (swidden) agriculture (tseri) has for centuries been practiced in Bhutan by farming communities (Roder et al., 1992). The Land Act (2007) banned the Tseri practice due to its negative impacts on forests, such as forest fires and the clearing of land, but it continues to a limited extent in private registered land mainly in the eastern and southern-central parts of the country. Due to lack of labor force resulting from rural-urban migration, as well as due to socio-economic development, this land-use practice is in a state of decline.

Forest fire

Forest fire is one of the main causes of forest degradation in the country. Most forest fires are anthropogenic in nature, originating usually from burning of agricultural debris and intentional burning to promote growth of new fodder grass (Chhetri, 1992; McKinnon, 2000). Fire management and suppression is hampered by limited accessibility in harsh terrain, lack of fire fighters, adequate training and equipment. DoFPS, on an average, has recorded about 62 forest fire incidences annually in the last 15 years (Figure 2a-6) causing damage to about 18,188.23 acres of forest land annually (Figure 2a-7).

At the same time, Chir Pine forests are fire-adapted ecosystems, where fire suppression is not always advisable. Guidelines for prescribed burning as a management tool in these forests have been developed (Darabant et al., 2012), and prescribed burning has been approved accordingly as a land management tool in the Forest Fire Rules of Bhutan 2012 (Department of Forest and Park Services, 2012).

Climate change scenarios predict more climatic extremes in the years ahead, which could have serious implications for the severity, frequency, extent and number of forest fires (National Environment Commission, 2011). Proper analysis and research will be required to estimate the climatic extremes and their effects on fire behavior in different forest types, which are proposed as part of other ongoing projects on climate change with DoFPS.

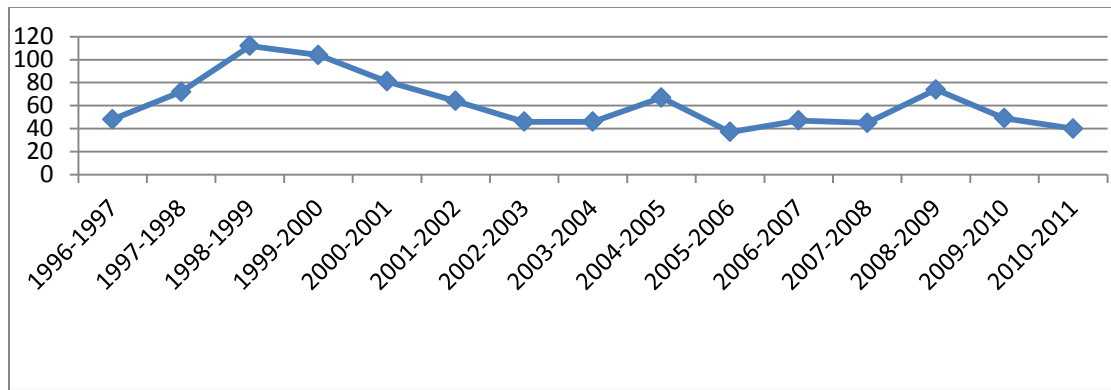


Figure 2a-7: Occurrence of forest fires 1996-2011 (DoFPS, 2011).

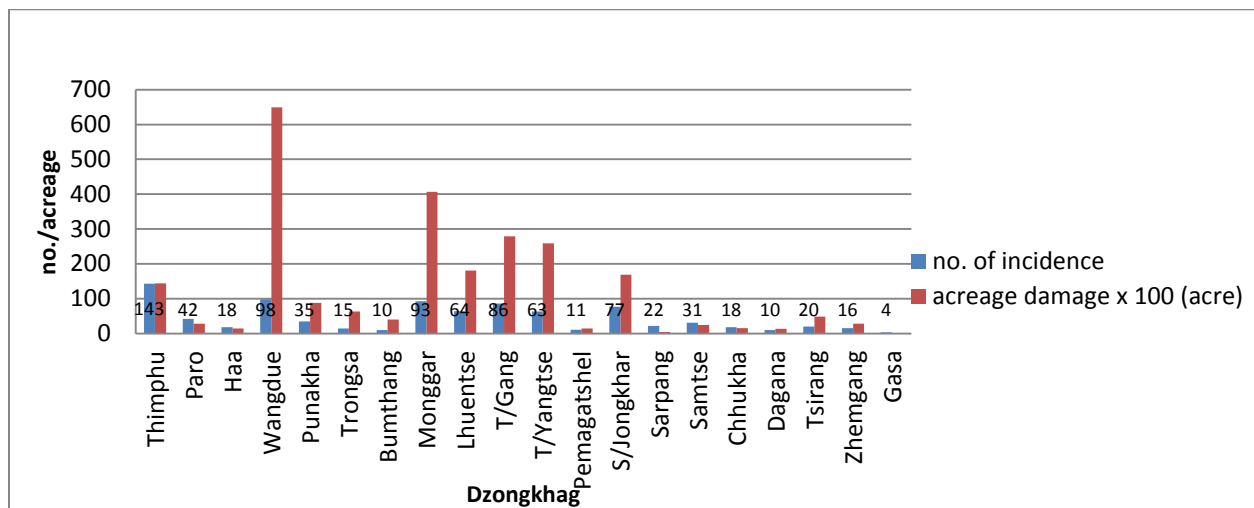


Figure 2a-7: Forest fire incidences and damage by Dzongkhag (DoFPS, 2011).

Leaf litter collection

The practice of collecting leaf litter from the forest floor is regulated through a right-of-use granted to individual households. Sokshing is important to ensure sustained yields from agriculture and forms an important input of essential nutrients to the topsoil of dry- and wetland (Roder et al., 2003). Leaf litter is

collected from both conifer forest (needles and litter) and broadleaf, especially oak forest (leaves and litter). The area of sokshing is limited with about 8,500 ha registered according to the records of NLC. The continuous removal of leaves, needles and litter exposes the forest floor to erosion process resulting in decrease of nutrient availability of the forest and eventually leading to forest degradation. The Land Act (2007) appropriated sokshing registered in individuals' names as GRF. At the same time, previous land title holders were entitled to convert their registration into long-term lease. The implementation of this provision of the Land Act however is on halt, since NLC has not been able to elaborate the regulations pertaining to land lease and therefore old practices continue unchanged.

Firewood

Firewood (or fuelwood) consumption in Bhutan is very high, with firewood constituting 56.8% of the primary energy consumption. The recent Integrated Energy Development Master Plan of the Department of Energy (The Energy and Resources Institute, 2010), gives a comprehensive overview of residential, government and industrial demand for fuelwood, together with firewood demand projected, considering several growth scenarios. The country consumed approximately 91000 m³ (3.2 million cubic feet) of fuelwood during 2010-11, covering about 90% of the energy use in the residential sector (See Figure 2a-8). The IEDMP states "Dependence of the residential sector on firewood is alarming, but with strategic planning, this dependency can be reduced to minimum by 2020." The report also indicates that: "Heavy dependence of the residential sector on firewood would be a cause of concern in the years to come." and cites experiences, according to which electrification reduced firewood consumption by 30-35%. The report uses various economic growth and energy efficiency scenarios to predict the use of various energy sources. According to business-as-usual or high energy efficiency, vs. high economic growth scenarios, 5.5% / 1% of urban and 40% / 30% of rural households are expected to use firewood in 2020. The resulting reduction in projected residential firewood consumption is therefore substantial (Figure 2a-8). However, projected wood demand for non-energy intensive industries (Figure 2a-9), as well as of the commercial sector (Figure 2a-10) are expected to rise steeply, irrespective of the scenarios. The rise under any scenario is large enough to offset projected reduction of demand for residential fuel wood. The balance of projected demands under various sectors is likely to lie at 200000 t of additional fuel wood in 2020.

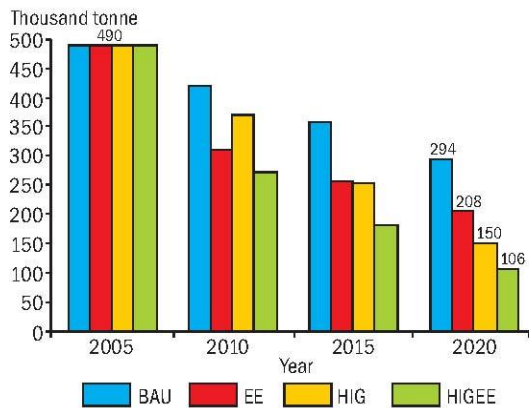


Figure 2a-8: Projected firewood demand in the residential sector under different economic and energy efficiency scenarios (BAU – business-as-usual, EE – energy efficient, HIG – high economic growth, HIGEE – high economic growth and energy efficient)

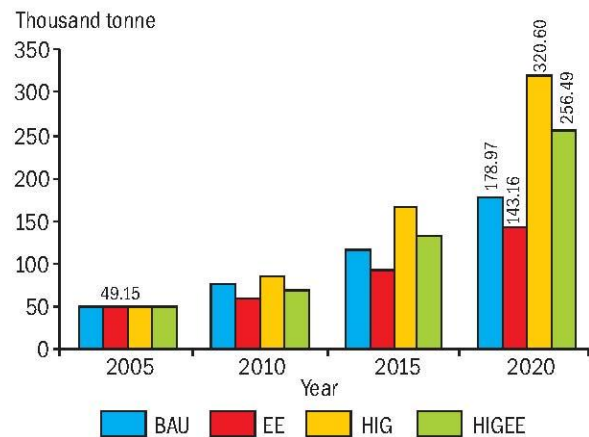


Figure 2-a9: Project firewood demand of non-energy intensive industries

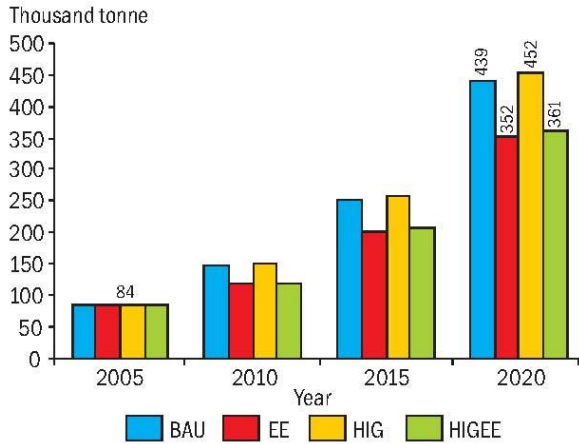


Figure 2a-10: Fuelwood demand projections of the commercial sector

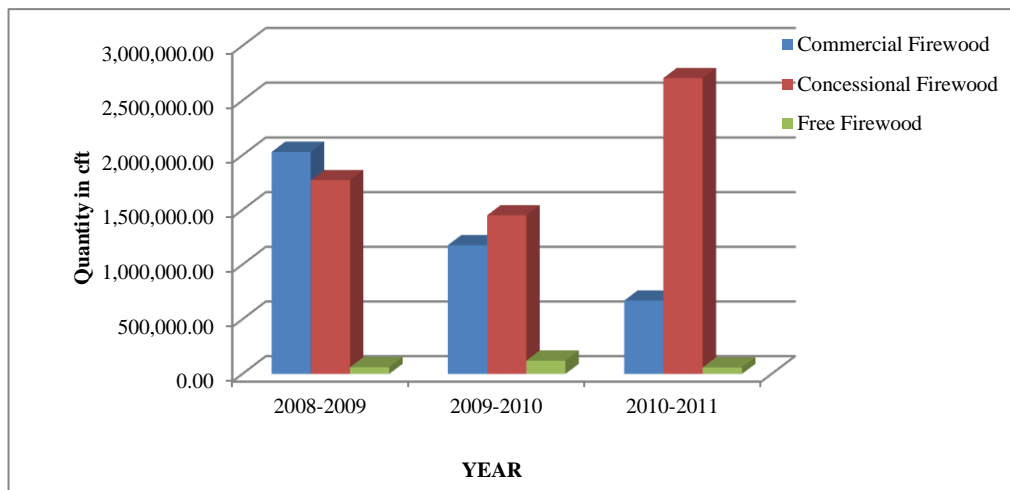


Figure 2a-11 Firewood supplied (DoFPS, 2011)

The net impact on forest is manifested in continued pressure through firewood collection, resulting in forest degradation. The projected increase in firewood demand is worrying and requires focused policy development to be able to meet future demand in a sustainable manner, coupled with an increased focus on energy efficiency and the development of alternative renewable sources.

Tourism and trekking has limited impact on firewood consumption. Bhutan's Tourism Policy (http://tcb.cms.ebizity.net/attachments/tcb_031313_tcb-trekking-module.pdf) emphasizes low-volume, high-value tourism which limits impacts on the environment. Additionally, tour operators are advised to carry LPG stoves for outdoor cooking, limiting the use of firewood.

Timber

Timber is categorized as commercial logs or rural construction timber and substantial amounts are needed to cater to the market demand. The Bhutanese construction technique requires considerable amounts of timber and the rapid economic development has been accompanied by frenzied construction. Timber is supplied mainly from FMUs and Ws, managed by NRDCL and from forests designated for concessional (subsidized) rural timber allotment. Every rural household is entitled to 2,500 cft of sawn timber at minimal subsidized rate for construction of a new house once every 25 to 30 years. Besides, the households are also given subsidized timber for maintenance of houses once every five years and also for making agricultural equipments and other necessary household items. The regulation of subsidized provision of timber to rural households exerts considerable pressure on forest resources. Due to changes in society and economic circumstances, pressure on forest resources shows an increasing trend (Table 2a-5). While in the past extended families occupied a common house, separation of new households

leads to increased availing of subsidized timber. The establishment of CFs over the past decade could offset this trend only to a small extent. Between July 2008 and June 2011, 11.34 million cft of timber (excluding fire wood and wood chips) was supplied for rural and 10.01 million cft for commercial purpose (Table 2a-6).

Table 2a-5 Timber supply trend by NRDCL (DoFPS, 2011)

Year	Concessional (cft)	Commercial (cft)	Total (cft)
2008	152,526.10	1,559,657.00	1,712,183.10
2009	180,325.65	1,888,526.00	2,068,851.65
2010	248,114.77	1,751,292.00	1,999,406.77
2011	213,690.82	1,757,873.54	1,971,564.36
Total	794,657.34	6,957,348.54	7,752,005.88

Table 2a-6: Total timber (excluding firewood and wood chips) supplied for rural and commercial purpose by DoFPS between July 2008 and June 2011

Year	Concessional (cft)	Commercial (cft)	Total (cft)
2008-2011	10,549,614.00	3,057,420.00	13,607,035.00

Annual increase in demand for timber leads to deforestation and considerable degradation of the production circles of certain FMUs and other forest areas used for timber extraction. Timber extraction leads to more open forests, with loss of biodiversity and changes in species composition. Allotment of concessional timber from FMUs jeopardizes their long-term sustainability, as such allotments frequently are not considered within the AAC.

Poaching and illegal logging

Poaching or taking of forest resources (both floral and faunal) as deemed illegal in the Forest and Nature Conservation Rules (Royal Government of Bhutan, 2006) is today identified as the greatest threat to the survival and continuous existence of these resources. Incidences of poaching of wildlife, timber and other NWFPs are reported from different parts of the country (Figure 2a-9) and show a decreasing trend after a peak in 2007 (Figure 2a-10).

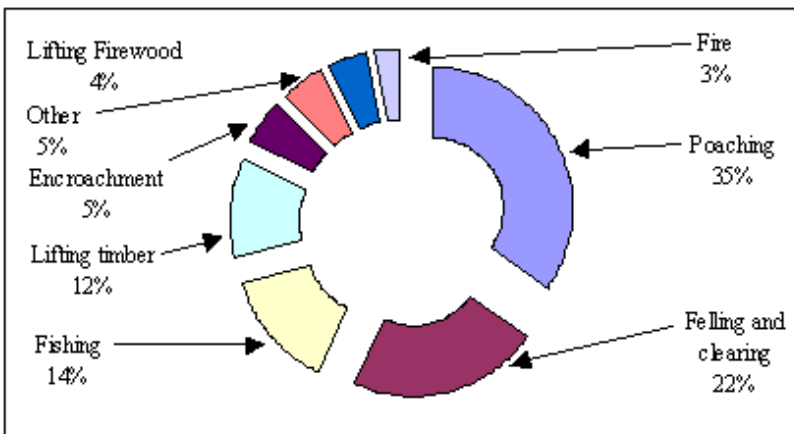


Figure 2a-12: Different illegal activities related to forest resources (FAO, 2010)

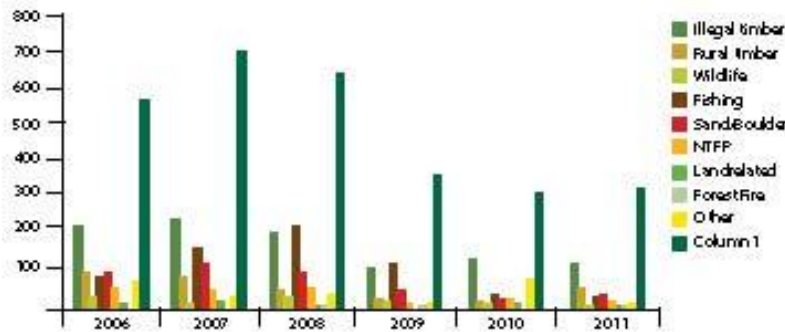


Figure 2a-13: Annual trend of illegal activities (DoFPS, 2011)

While illegal marketing of timber is mainly fuelled by the short supply of timber in the market, attributed to booming construction activities in the country, poaching of wildlife and NWFPs are often driven by other factors like high medicinal value of plant/wildlife parts, lucrative market for certain forest produces, HWC, ignorance and greed, etc. Further, the new farm roads constructed for market access to rural communities have also given easy access to encroachment and illegal collection and transportation of NWFPs, timber and firewood.

Monitoring and Evaluation (M&E) of plans and programmes including illegal activities is highlighted as one of the main issues in the National Forest Policy 2011 (Royal Government of Bhutan, 2010a). DoFPS will focus on strengthening the M&E mechanism through good governance during the 11th FYP.

Non-Wood Forest Products (NWFPs)

In Bhutan, NWFPs are collected by the communities for both domestic use as well as commercial trading. While NWFPs are important sources of livelihood for rural people, the practice has negative environmental impacts, such as biodiversity loss, soil degradation and unmanaged waste problem. A study on impacts of collection of Chinese Caterpillar (*Ophiocordyceps sinensis*) (Wangchuk et al., 2012b) indicates that more than 79% of NWFNP collectors interviewed used fuelwood (Rhododendron and Juniper) for heating and cooking purposes. Only 14% of the collectors used kerosene for cooking during the entire period of *Ophiocordyceps* collection. Similarly large amounts of fuelwood are used for distillation of lemongrass oil in eastern Bhutan (Prommegger et al., 2005). Garbage is a serious problem, with 96% of the collectors leaving garbage on camping and collection grounds. Destructive collection of NWFPs, such as wood cankers for the production of bowls, etc., collection of *Daphne* sp. bark to produce traditional paper, overharvesting of various NWFPs, such as Rhododendron and Juniper for incense production, etc. can lead to localized forest degradation.

Invasive species, pests and diseases, large, infrequent disturbances

Invasive species spread primarily along road sites and on disturbed sites. Certain species cause serious problems in replacing native vegetation, e.g. Christmas Bush (*Chromolaena odorata*), which replaces East Indian Lemon Grass (*Cymbopogon flexuosus*) after fires in eastern Bhutan.

Analysis of Past Efforts to Combat Deforestation and Forest Degradation

Protected Areas

The main strategy of the RGoB to avoid deforestation and forest degradation has been the establishment of an extensive system of Protected Areas (Figure 2a-10). About 14,167km² of forests lie within protected areas, corresponding to 43% of all forests in the country (van Noord, 2010). Additionally, 3307 km² serve as biological corridors linking the protected areas, thus effectively increasing the proportion of protected areas to 51.44% of the country's area (Ministry of Agriculture and Forests, 2011). Effective measures to avoid deforestation and forest degradation are therefore closely linked to the effectiveness of Protected Area management. Communities are considered partners in conservation and are important stakeholders in planning and management of PAs. Serious effort is invested into awareness creation on conservation issues among local communities and management plans are drawn up through a series of

consultative processes involving local communities residing within and adjacent to PAs. Conservation interventions negatively influencing the livelihoods of local communities are countered through a set of incentives and compensatory mechanisms. At the same time, local communities are partners in conservation against external pressures and threats. Village forest guards (resoops) are recruited on a need-base from among community members. Treatment of places of cultural and spiritual significance is reflected in the management of PAs. Presently applied incentive-based conservation efforts in core zones of protected areas are not sustainable in the long term and therefore more sustainable alternative conservation strategies have to be elaborated. They include viable ecotourism, reduction of crop damage by wild animals and their appropriate compensation.

Forests outside protected areas

For those forests outside protected areas, the approach mainly consists of developing and implementing regulations to prevent forest loss and degradation. This includes:

- RGoB decided to phase out Tseri cultivation in the early 1980s. In 1986, the National Assembly passed a resolution that Tseri land left fallow for 12 years or more would automatically revert to GRF. Subsequently, the National Assembly passed a resolution in 1993 banning Tseri cultivation and offering incentives to households formerly dependent on Tseri to adopt settled agriculture.
- The Department of Livestock (DoL), under the theme, “Livestock for Green Enterprise Development and Poverty Alleviation”, adopted 12 resolutions to be achieved within the 11th FYP. Among the activities identified in these resolutions was the promotion of stall feeding, both to mitigate human-wildlife conflicts and to reduce impacts on forests.
- CF Program is another strategy that has been adopted, mainly to prevent and reverse degradation of forests close to settlements. At the same time, management responsibilities and benefits resulting from these forest areas were entrusted to local communities.
- Delineation and regulation of FMUs. Forest areas outside protected areas are divided into (a) critical, fragile, and depleted forest areas for conservation and protection and (b) operable areas for production. FMUs are units within the operable areas, for which forest management plans are prepared and implemented over 10-year periods for the purpose of sustainable management of forests and production of forest products. Working Schemes are also managed based on management plans, but are smaller in size than FMUs. There are currently 17 FMUs and three Working Schemes operational in Bhutan, covering 5.4% of the area of the country (250,000 ha). Figure 2a-10 shows the location of FMUs in relation to the Protected Area system. Conversion of unmanaged forests into FMUs is frequently problematic due to lack of information on yield, problems with forest regeneration, unplanned harvesting operations not in line with operational plans, etc.

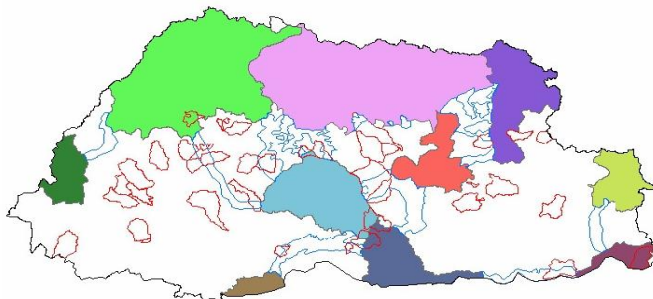


Figure 2a-14: FMUs, outlined in red, protected areas in various colors, and biological corridors outlined in blue (DoFPS, 2011).

Forest Governance in REDD+

It is widely acknowledged that REDD+ will be more sustainably implemented by putting in place effective, transparent, and accountable governance systems that enable positive results, impacts and outcomes. For Bhutan, the key governance issues related to REDD+ that will be reviewed during the readiness

phase include but are not limited to:

- Forest Land Tenure and Ownership: issues of customary rights, user access rights and land tenure in general; addressing the extent to which customary claims are recognized in law and the implications of REDD+ for local tenure arrangements;
- Role of local level institutions in dealing with effective forest governance;
- Participation of local stakeholders in the decision making process;
- Benefit sharing mechanisms that are equitable and transparent, and
- Effectiveness of institutional arrangements in biodiversity conservation and sustainable forest management e.g. FMUs and PAs.

Bhutan has a sound legal policy framework to implement measures for conserving and sustainably managing forests while addressing threats. However, there are still capacity gaps in ensuring full and effective implementation of these policies and acts of legislation. A forest governance assessment framework for REDD+ implementation has not yet been undertaken, but is proposed to be undertaken during Readiness phase using existing tools, such as UN REDD's Participatory Governance Assessment methodology. The objectives of the assessment will be to:

- Identify REDD+ governance challenges and risks
- Provide robust evidence base to recommend responses to overcome them
- Facilitate sustainability of long-term policy reform through ownership
- Provide a framework for a participatory processes at the country level for sharing information on how (governance) safeguards are promoted, addressed and respected

The governance assessment will include other sectors that directly or indirectly impact forests. It is important to analyze the policies and the state of governance in these sectors to realize the extent to which these sectors could adjust their policies and programs to reflect and integrate REDD+ activities and objectives for reducing forest emissions.

Description of activities to implement component 2a

Output 1: Assessment and analysis of drivers of deforestation and forest degradation carried out and updated

In-depth knowledge on underlying causes of deforestation and forest degradation as well as their manifestation and future trends is essential for the development of feasible strategies to combat these negative trends. Thorough evidence will be gathered to fill this knowledge gap through a series of studies by DoFPS in consultation with relevant agencies.

Activity 1.1: Assess and update existing drivers that lead to deforestation and degradation of forests

Under the activity, the following sub-activities will be carried out:

1. Assess drivers of degradation and deforestation
2. Conduct study on Tseri
3. Study climate change effects on fire hazard and behavior in affected forest types
4. Assess CF management in light of REDD+
5. Assess forest governance
6. Assess sustainability of FMU operations
7. Assess drivers in terms of their contribution to overall emissions
8. Analyze economics of strategy options
9. Develop livestock-based green enterprises

Expected outputs:

- Drivers of deforestation and forest degradation analyzed and updated for incorporation into the REDD+ Strategy
- Reports on studies on Tseri, CF management, forest governance, sustainability of FMU operations published and available for planning process
- Economic strategy options analyzed
- Livestock-based green enterprises developed for communities

**Standard 2a the R-PP text needs to meet for this component:
Assessment of Land Use, Land Use Change Drivers, Forest Law,
Policy and Governance:**

A completed assessment is presented that: identifies major land use trends; assesses direct and indirect deforestation and degradation drivers in the most relevant sectors in the context of REDD-plus; recognizes major land tenure and natural resource rights and relevant governance issues and shortcomings; documents past successes and failures in implementing policies or measures for addressing drivers of deforestation and forest degradation; identifies significant gaps, challenges, and opportunities to address REDD-plus; and sets the stage for development of a national REDD-plus strategy to directly address key land use change drivers.

Table 2a. Summary of assessment of Land Use, Land Use Change drivers, forest law, policy and governance activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Assess and update existing drivers that lead to deforestation and degradation of forests	Assess drivers and update the current drivers	45	45	45	0	135
	Assess CF management and update in accordance to REDD+ options	10	10	0	0	20
	Assessment of current forest governance and update	10	0	0	0	10
	Conduct a study on Tseri	10	0	0	0	10
	Assessment of FMU operations	10	10	0	0	20
	Update and prioritize drivers in terms of contribution to overall emission	0	10	0	0	10
	Economic analysis of strategy options	10	10	0	0	20
	Update Livestock for Green Enterprise Development and Poverty Alleviation	10	0	0	0	10
Total		105	85	45	0	235
Royal Government of Bhutan		15	10	0	0	25
FCPF		90	75	45	0	210

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Assess and update existing drivers that lead to deforestation and degradation of forests	Study climate change effects on fire hazard and behavior in affected forest ecosystems	20	10	10	0	40
Total		20	10	10	0	40

2b. REDD-plus Strategy Options

Introduction

This sub-component proposes a preliminary set of strategies to reduce deforestation and forest degradation and to enhance and conserve carbon stocks, thereby directly addressing the key drivers of deforestation and degradation identified in sub-component 2a. However, it is recognized that not all the answers are known with regards to the best strategy options for REDD+. Thus, during R-PP implementation a process of consultation will continue to identify the best options, using a process of refining and testing strategy options.

Proposed REDD+ strategy options

A number of potential strategy options were identified through analysis of existing policies, legal frameworks and plans, as well as stakeholder consultations. This process began with a national workshop on REDD+, held in June 2010. One of the conclusions of the workshop was that a study of the feasibility of REDD+ actions in Bhutan should be commissioned by WMD. The study was undertaken by SNV (van Noord, 2010). The results of the study were subsequently used as input to a follow-up national workshop on REDD+, held in April 2012. The proposed key strategy options and activities to address direct and indirect causes of deforestation and degradation and to promote conservation, sustainable management of forests, and enhancement of forest carbon stocks are provided in Table 2b-1. These strategy options are consistent with the country's 11th FYP, which lays out the strategy for managing natural resources and the environment to achieve sustainability.

Evaluation of Strategy Options

An estimate of the potential costs and benefits for the emerging REDD+ Strategy are extremely speculative at this stage as no details have yet been prepared for pilot sites, where interventions will be tested and potential reductions in carbon dioxide emissions assessed. The WMD-commissioned feasibility study undertaken by SNV applied a Cost-Benefit Analysis (CBA) to assess priority options. A full monetary CBA is not yet possible as the financial details of the funding mechanism are still unclear and evolving. The qualitative CBA was positive as the REDD+ would be a catalyst to build the knowledge base on the forest ecosystem, which is a necessity beyond the carbon market, and will serve many more objectives. The quantitative CBA was less clear, but if geared towards multiple benefits and linking the funds to the communities, tends to give a green light for REDD+, under the premise that piloting should prove the actual benefits (van Noord, 2010).

A comprehensive Cost-Benefit Analysis will be carried out during R-PP implementation. This CBA will entail assessment of benefits in terms of rural livelihoods, biodiversity conservation and other developmental aspects and will contain analyses in terms of opportunity, investment, transaction and abatement costs.

In terms of employment, an investment into sustainable forestry of 1 M USD in developing countries leads to the creation of 500 to 1000 permanent jobs and every job created in forestry can be expected to generate further 1.5-2.5 jobs in the general economy (Nair and Rutt, 2009). Once the total investment into REDD+ has been decided upon, the resulting number of permanent jobs created can be estimated using the above indicative multiplier.

The conclusions of SNV's study (van Noord, 2010) indicated that pilot activities, which should be supported during the readiness phase in order to identify optimal REDD+ intervention strategies include:

Community Forests

CFs are rapidly growing in number and are a good trial platform as they already offer an organized and established community with a certified CF management plan and committee. Community involvement is guaranteed and the CFs are known for being rather conservative in their stock extraction, leading to good increment rates and related carbon stock enhancement. CFs will be an easy pilot to ensure multiple benefits for local livelihoods, conservation and biodiversity. As CFs are mostly relatively small in area it would be an option to aggregate a number of CFs in a Dzongkhag to reach more households and at the same time build better economy of scales and learn from the set-up with Geogs and Dzongkhags involved in the institutional set-up.

Protected Areas

As more than half of the Bhutanese territory is under PA status, there is ample scope for trialing REDD+ in these areas. Community involvement is a crucial issue in PA management to guarantee that conservation objectives do not negatively impact local livelihoods. Participatory zoning and co-management structures will ensure that the interests of the local population are considered in PA management. Benefit sharing mechanisms developed in a participatory manner would ensure equitable distribution of REDD+ benefits.

Due to strict conservation policy, reverence for nature, disrupted predator-prey balance, etc., human wildlife conflict has been increasing in rural communities. Developmental activities and the resulting encroachment into forests have led to further increase in human-wildlife conflict. Human lives and property are lost every year to wild animals. Livestock depredation and crop damage are the two major problems caused by wild animals. About 1,770 livestock depredation cases have been recorded with DoFPS in the span of just 10 years (2002-2011), indicating the severity of human wildlife conflict in the country (DoFPS, 2011). Revenues generated from the REDD+ mechanism will be used for community support, improved Protected Area management and human wildlife conflict management.

Forest Management Units (FMUs) and Working Schemes (WSs)

FMUs are managed based on repeated ten-year management plans, while WSs are managed based on 2-3 year management plans to ensure sustainability. In practice, implementation is often not sustainable, as the AAC is regularly surpassed and the standing stock impoverished by uncontrolled rural timber extraction and grazing damage, resulting in limited regeneration and frequently leaving insufficient stock to continue sustainable extraction. There is thus good scope for improvement of forest management toward standards that were initially aimed at in the FMU plan, leading to SFM and stock enhancement. Improvement of the management of FMUs would also be instrumental in improving present problems of timber supply, even though in the shorter term this may mean stricter adherence to AACs and thereby reduced supply of timber and fire wood.

Landscape and Market Approaches

The Bhutanese landscape, with mountainous watersheds, offers a good opportunity to follow a landscape approach, making use of natural ecosystem boundaries. In such an approach certain landscape elements as forests with a distinct function and management, such as CFs, PAs or FMUs, are chosen as pilot areas, but seen as part of a larger system, as upslope and downslope relations and upstream and downstream interactions reflect the nested setting of these landscape elements. The benefits of a chosen forest system are thus not only limited to the global carbon sequestration effect and potential climate mitigation, but have leverage through multiple benefits for the broader landscape and the communities making use of the natural resources it contains. A landscape approach is ideal to reconcile various land-use objectives (forest, agriculture, livestock).

REDD+ Strategy Preparation Process

Studies

The development of analytical studies will provide a scientific foundation for the national REDD+ strategy. Studies will help to fill the knowledge gaps about land use, the forestry sector, and the drivers of deforestation and forest degradation. Research will collect relevant information to facilitate the identification of the magnitude of the potential impacts of REDD+ in the country.

Therefore, the following studies will be commissioned in the Readiness phase:

- Risk analysis: A risk analysis framework that summarizes major types of risks, and how significant they are for the major REDD+ strategy activities.
- Feasibility assessments (socio-economic, political and institutional): More detailed, regional feasibility studies that build on the national feasibility study undertaken by SNV (van Noord, 2010) will be undertaken.
- Economic valuation to assess the value of the forest and non-carbon benefits at the national level: this study will analyze values in terms of both direct and indirect values, including ecosystem services; and the contribution of forests to livelihoods.

These studies and particularly their results will be communicated to key stakeholders through a consultation process in the next stage of the REDD+ preparation process.

Consultation

A number of different consultation processes will be implemented to identify and develop REDD+ strategic options, and to allow broad stakeholder review of draft sections of the strategy as it is produced. It will also be reviewed by the TWG on Strategy Options (see Component 1a).

These consultations will include national and Dzongkhag multi-sectoral and multi-stakeholder consultations, including the participation of representatives from the private sector, non-governmental organizations, academia, government officials, and local communities.

Consultations are anticipated on core issues of the national REDD+ Strategy, including, but not limited to:

- Institutional arrangements to plan, implement and monitor REDD+ activities, e.g. government or other institutions authorized to participate in domestic and/or international transactions based on GHG emissions reductions following reductions in deforestation and/or forest degradation,
- Financing mechanisms for REDD+ activities and transactions,
- Benefit sharing arrangements, especially elements that will ensure fair and equitable, efficient, effective and transparent operation of the system; revenue allocation measures, payment structure and conflict resolution/grievance mechanisms,
- National registry for REDD+ activities and transactions,
- Capacity building needs for improving technical background knowledge and skills, e.g. financial management, accounting, facilitation, negotiation, moderation, planning, monitoring and evaluation skills, and
- Regulatory framework e.g. interpretation and use of existing legislation and development of specific acts of legislation to ensure clarity concerning REDD+ implementation.

Piloting REDD+ activities

Pilot sites will be identified in different agro-ecological zones of the country. Lessons learnt from these pilot activities will be used to provide feedback to the overall REDD+ process (see Component 1c).

REDD+ Strategy Options

Table 2b-1 shows strategy options and preliminary indications of priorities to address emissions from deforestation and forest degradation. Given the low historical and current deforestation rates in Bhutan, none of the strategy options to address deforestation are considered as priority options. Instead, strategies to reduce emissions from forest degradation are prioritized.

Table 2b-2 shows strategy options and preliminary indications of priority options to promote conservation, sustainable management of forests, and enhancement of forest carbon stocks. The priority options relate to conservation and sustainable management of forests.

Table 2b-1: Strategy options REDD+ (part 1)

Eligible REDD+ activity	Direct Causes	Strategy Options	Activities	Priority
Deforestation	Hydro-power	Ensure policy coordination to minimize negative environmental impacts, including GHG emissions and compensation for forest cover	Regular inter-ministry communication & coordination Incorporation of hydropower plans into National Circumstances Institutionalize the use of 1% royalty from hydropower generation for sustainable management of forests/watersheds	High
	Infrastructure development	As above	Enforcement of environmental standards and carry out monitoring of developmental activities (road construction, mining, etc.)	Medium
Degradation	Forest fire ¹	Increased awareness; and improved capacity to manage fire risk and prevention	Study changes in fire ecology with climate change in affected forest types Develop fire hazard assessment tools Awareness raising campaigns for general public Strengthen fire detection capability Strengthen existing fire control procedures Develop incentives for forest fire protection Pilot prescribed burning as a land management tool	High
	Livestock grazing	Intensification of livestock rearing practices	Awareness raising campaign for farmers Provision of incentives to promote stall feeding Enforcement of regulations Introduction of improved breeds Pasture development	Medium
	Timber harvesting	Improved enforcement of regulations; sustainable management of FMUs/WSs	Review of existing regulations, and modification if indicated Strengthen low-impact logging practices Sustainable management of forests in areas outside FMUs/WSs Streamline allotment of rural timber with FMU harvesting Strengthen monitoring & enforcement capacity Increase timber recovery	High
	Fuelwood harvesting	Increased regulation over fuelwood collection; promote high density fuel wood lots in populated communities	Review existing processes and rules governing fuelwood, and modify if indicated Strengthen monitoring & enforcement capacity Increase efficiency of biomass for energy through improved stoves, charcoal production, briquetting, etc. Promote establishment of energy plantations Increase access to wood waste for energy	Medium
	Illegal logging	Increased capacities for enforcement and prosecution; promote CFs	Capacity building for field forestry officers Capacity building for law enforcement officers Capacity building for the judiciary Promotion of public knowledge and awareness	Medium

Table 2b-2: Strategy options for REDD+ (part 2a)

Eligible REDD+ activity	Direct Causes	Strategy Options	Activities	Priority
Conservation	Weak local community support (Tshering, 2003)	Strengthen community engagement and support	Implementation of community-based conservation programs Establish or strengthen co-management structures Design and implement benefit sharing mechanisms Raise awareness Promote community-based eco-tourism	High
	Human-wildlife conflict	Implement field activities according to the National HWC Strategy	Study the causes of HWC Mapping of HWC hotspots for targeted action Develop appropriate wildlife control measures Promote community-based eco-tourism Protect agricultural fields using electric fencing, etc.	High
	Inadequate law enforcement	Strengthen law enforcement	Build capacity for field forestry officers, law enforcement officers & judiciary (incl. laws, regulations & guidelines related to international conventions: CITES, etc.) Promote public knowledge and awareness Enhance mobility and communication of forestry officials Improve coordination between forest and other agencies Improve trans-boundary coordination	Medium
	Inappropriate or inadequate zoning	Review and adjust zoning	Review current zoning arrangements Undertake participatory re-zoning where required Raise awareness	Medium
	Lack of reliable data on important species	Update knowledge base on endangered species	Carry out research on priority species (tiger, takin, golden langur, snow leopard, gaur, water buffalo, spotted deer, blue sheep, black-necked crane, rufous-necked hornbill, etc.)	Medium
	Staffing shortages	Increase staffing levels	Promote natural resource management/forestry among students Recruit additional staff Improve staff incentive system Strengthen engagement with local stakeholders Strengthen Resoop system	Medium
Sustainable management of forests	Conflicting interests between/with communities	Improve consultation/coordination	Improve consultation processes with communities at various levels	High
	Regeneration failure (Dhital, 2009)	Research on regeneration	Undertake additional research Ensure dissemination and application of improved techniques Build capacity to apply improved techniques	High
	Non-compliance with timber harvesting regulations	Strengthened enforcement	Capacity building for field forestry officers Promotion of public knowledge and awareness	Medium
	High timber wastage during conversion process	Improvement of wood technology	Introduce improved technologies and train operators	Medium
	Weak capacities for management of community forests (Tshering, 2006)	Capacity development for CFMGs	Review shortcomings in CF management Identify capacity building needs for CFMGs	Medium

Table 2b-2: Strategy options for REDD+ (part 2b)

Eligible REDD+ activity	Direct Causes	Strategy Options	Activities	Priority
Enhancement of forest carbon stocks	Inadequate budget particularly for after care (maintenance)	Allocation of sufficient fund	Propose fund with clear justification	Medium
	Biotic interference including grazing pressure	Avoid grazing in forest areas under regeneration / plantations	Consult communities on grazing management Adequate protection till planted saplings are well established Focus plantations in larger areas & recruit plantation guards/caretakers till plantations are established	Medium
	Low survival rate on bare areas ; afforestation and reforestation with stakeholder support	Research on suitable species and plantation techniques	Identify suitable species based on site requirements Training of forest staff & selected community members on plantation techniques Participatory planning & implementation (site & species selection, establishment, management, etc.)	Medium
Biomass based energy	Heavy reliance on grid-based energy and inefficient use of firewood	Explore community-based energy supply from biomass	Establish biomass plantations Explore small-scale electricity generation for isolated communities	Medium

Description of activities to implement component 2b

Output 1: National REDD+ Strategy finalized following thorough consultation process

The National REDD+ Strategy will be required to guide the country in preparing for REDD+ and in implementing REDD+ activities. The National REDD+ TWG on Strategy will guide the drafting of the Strategy (see Component 1a). The key responsibility of the TWG is to develop the national REDD+ Strategy to ensure productive and equitable REDD+ undertakings. While developing the Strategy, the processes outlined above (studies as well as consultations) will be adopted to ensure the participation and inputs from all the stakeholders.

Activity 1.1: Development of National REDD+ Strategy

The development of the REDD+ Strategy requires carrying out studies as well as analyzing the possible implications of REDD+ and proposing possible solutions. It will also require piloting some of the REDD+ activities to learn more.

Under this activity, the following sub-activities will be implemented:

1. Analyze risks associated with major types of REDD+ Strategy activities
2. Assess feasibility (socioeconomic, political and institutional) relevant to REDD+
3. Conduct Cost-Benefit Analysis of REDD+ activities
4. Study financing mechanisms for REDD+ activities and transactions
5. Identify pilot project areas (see Component 1c for budget)
6. Pilot benefit sharing arrangements in CF
7. Carry out economic valuation to assess non-carbon benefits of the forests and their contribution to community livelihoods
8. Develop good governance in implementing REDD+ activities (this sub-activity will be initiated upon identification of strategy options and pilot sites, hence it will start only in 2016; for governance in relation to REDD+ refer to Component 2a)
9. Conduct REDD+ strategy TWG meetings to discuss strategy options (see Component 1a-table 1a)

Expected outputs:

- National REDD+ Strategy developed incorporating reports from studies on risks associated with REDD+, feasibility assessments, financing mechanisms for REDD+ activities and transactions and good governance system for implementing REDD+ activities
- Non-carbon benefits of forest quantified along with their contribution to rural livelihoods

Activity 1.2 Review and revise existing mechanisms/programs to benefit readiness activities

During implementation of Readiness activities, situational analysis will be undertaken to understand the existing situation and also for proposing proper strategies for reducing the impacts on local communities and stakeholders and at the same time reducing impacts on natural resources.

Under this activity the following sub-activities will be implemented:

1. Review existing research on alternative livelihoods
2. Study domestic demand and trade of logs/timber
3. Analyze capacity building needs for improving technical background knowledge and skills, e.g. financial management, accounting, facilitation, negotiation, moderation, planning, M&E skills, and
4. Develop processes of EIAs and SIAs for biomass disposal
5. Pilot participatory boundary demarcation for REDD+ pilots
6. Improve forest fire management mechanism

Expected outputs:

- Report published on livelihood alternatives and on domestic demand and trade of logs/timber for implementing REDD+ activities
- Capacity building needs analyzed
- Pilot sites boundary demarcated using participatory approach
- Improved forest fire management practices in place

Standard 2b the R-PP text needs to meet for this component: REDD-plus strategy Options

The R-PP should include: an alignment of the proposed REDD-plus strategy with the identified drivers of deforestation and forest degradation, and with existing national and sectoral strategies, and a summary of the emerging REDD-plus strategy to the extent known presently, and/or of proposed analytic work (and, optionally, ToR) for assessment of the various REDD-plus strategy options. This summary should state: how the country proposes to address deforestation and degradation drivers in the design of its REDD-plus strategy; a plan of how to estimate cost and benefits of the emerging REDD-plus strategy, including benefits in terms of rural livelihoods, biodiversity conservation and other developmental aspects; socioeconomic, political and institutional feasibility of the emerging REDD-plus strategy; consideration of environmental and social issues and risks; major potential synergies or inconsistencies of country sector strategies in the forest, agriculture, transport, or other sectors with the envisioned REDD-plus strategy; and a plan of how to assess the risk of domestic leakage of greenhouse benefits. The assessments included in the R-PP eventually should result in an elaboration of a fuller, more complete and adequately vetted REDD-plus strategy over time.

Box 2b-1: The Cancun COP Decision 1/CP.16, Considerations to developing and implementing National Action Plans

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 forests;*
- (e) Enhancement of forest carbon stocks;*

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

Table 2b. Summary of REDD-plus strategy activities and budget (or Results Framework)

Output (major activity)	Organizations involved	Activities or Sub-activities	Budget allocation in thousand (estimated cost in thousands)				
			2014-15	2015-16	2016-17	2017-18	Total
Outcome 1: National REDD+ Strategy							
Output 1.1		1.1.1 Development of Strategy	0	20	0	0	20
	DoFPS	SA 1. Risk analysis: A risk analysis framework that summarizes major types of risks, and how significant they are for the major REDD+ strategy activities.	0	10	0	0	10
	DoFPS	SA 2. Feasibility assessments (socioeconomic, political and institutional)	20	0	0	0	20
	DoFPS	SA 3. Financing mechanisms for REDD+ activities and transactions.	0	20	0	0	20
	DoFPS	SA 4. Identification of Pilot project area	10	0	0	0	10
	DoFPS	SA 5. Benefit sharing arrangements piloting in community forest	0	0	10	20	30
	DoFPS	SA 6. Economic valuation to assess the value of the forest at the national level (PhD)	45	45	45	0	135
	DoFPS	SA 7. Good governance in REDD+ activities	0	0	10	0	10
	CoRBB	SA 1. Review existing research on alternative livelihoods	5	0	10	0	15
	DoFPS	SA 2. Study on domestic demand and trade of logs/timber	5	0	0	0	5
	DoFPS	SA 3. Analyze capacity building needs for improving technical background knowledge and skills e.g. financial management, accounting, facilitation, negotiation, moderation, planning, monitoring and evaluation skills	5	0	0	0	5
	DoFPS	SA 4. Processes EIAs and SIAs and biomass disposal regulations	5	0	0	0	5
	DoFPS	SA 5. Pilot participatory boundary demarcation	0	10	0	0	10
Total			95	105	75	20	295
Royal Government of Bhutan			10	10	15	5	40
FCPF			85	95	60	15	255

Other donors							
Output (major activity)	Organizations involved	Activities or Sub-activities	Budget allocation in thousand (estimated cost in thousands)				
			2014-15	2015-16	2016-17	2017-18	Total
Outcome 1: National REDD+ Strategy							
637	DoFPS	Improve forest fire management mechanism	15	15	15	0	45
Total			15	15	15	0	45

2c. REDD-plus Implementation Framework

Introduction

The REDD+ implementation framework provides comprehensive guidance for the design and implementation of the appropriate institutional, financial, legal and governance arrangements to effectively and efficiently implement REDD+ in Bhutan in accordance with international guidance. Its principles include the basic requisites of REDD+ to ensure credibility and transparent, efficient and effective decision-making, implementation and monitoring of REDD+ activities. It should set out the appropriate institutional, financial, regulatory and technical capacities to enable Bhutan to operationalize and implement its provisional REDD+ Strategy options in order to minimize the conversion of forest land into other uses, thus reducing emissions, and equally to introduce actions that will enhance conservation, sustainable management and carbon stock enhancement. In addition, it needs to ensure that REDD+ implementation delivers real (measurable, reportable and verifiable) reductions of emissions from deforestation and forest degradation, in accordance with international guidance (relevant UNFCCC decisions and IPCC guidance and guidelines) and adheres to national development priorities.

Implementation of REDD+ is a multi-sector and multi-stakeholder endeavor and comprises actions at the national and sub-national levels. In Bhutan, three main instruments will be used for REDD+ implementation: institutions, fiscal measures and regulatory framework. In addition, information management will be undertaken to form the basis of the implementation framework. Each of these instruments will be designed to ensure effective implementation. Monitoring and reporting on the implementation framework will be carried out as outlined in Component 6.

Specifically, key issues unique to REDD+ implementation that must be resolved during the readiness phase are: institutional arrangements, financial management, benefit-sharing system, establishment and operation of carbon registry and information and knowledge management. Stakeholder participation and consultation, including capacity building, are the primary means through which to make well-informed decisions. Stakeholder consultations will be undertaken on the following REDD+ issues to prepare for implementation:

1. Institutional arrangements to plan, implement and monitor REDD+ activities e.g. government or other institutions authorized to participate in domestic and/or international transactions based on GHG emissions reductions following the implementation of REDD+ activities;
2. Capacity building to improve the knowledge and skills of relevant stakeholders on issues relating to REDD+ implementation e.g. financial management, accounting, facilitation, negotiation, moderation, planning, monitoring and evaluation skills;
3. Financing mechanisms for REDD+ activities and transactions e.g. anticipated co-financing which could potentially include potential donor or partner agencies, type of support, and amount of contribution for the R-PP implementation;
4. Benefit sharing arrangements, e.g. how international REDD+ finance will be shared domestically with diverse stakeholders; benefit sharing schemes based on fair and equitable, efficient, effective and transparent principles; revenue allocation mechanisms; payment structure and conflict resolution mechanisms;
5. Registry of REDD+ activities e.g. development of country-specific criteria for REDD+ project proposals, appropriate protocol standards, establishment of a national registry of projects;
6. Regulatory framework, e.g. interpretation and use of existing legislation and development of specific legislation to ensure clarity concerning REDD+ implementation.

Importantly, modalities of institutions leading and coordinating activities across sectors and stakeholder groups and benefit sharing are key challenges for the success of REDD+ implementation in Bhutan. The requirement of consensus-based decisions during Readiness preparation phase will be the key to

ensure effectiveness, efficiency transparency. Like many other countries in the region, building technical understanding among stakeholders on key issues unique to REDD+ implementation will be necessary before initiating activities on the ground.

Regulatory Framework

REDD+ Readiness requires a regulatory framework that ensures consistency with key principles, i.e. transparency, efficiency and effectiveness, to implement REDD+ strategy options. Generally, regulations relevant to implementation of REDD+ strategic options for tackling the drivers for deforestation and forest degradation in Bhutan are now in place through existing forest laws and policies under which the relevant agencies are currently employed. In addition, legal support to ensure that the rights of local people to utilize and manage forest resources is also recognized through several laws, including (see Component 2a):

- The Land Act (2007), which provides for tenure rights over agricultural land and for lease right to tsamdo and sokshing
- The Forest and Nature Conservation Act (Royal Government of Bhutan, 1995), which recognizes CFs and establishes procedures for their creation and management. The Act also establishes the right of local stakeholders to procure a firewood permit (free of charge). The Private Forest Rules and CF Rules were developed under the Act in order to encourage local people to grow firewood and construction timber for their own use and as a source of cash income.

However, there are new issues that may require special provisions for the regulation of REDD+, which will need to be developed, consulted upon and issued by RGoB during Readiness phase. Carbon ownership will be regulated during Readiness phase and will likely be linked to the ownership rights over trees and timber. Accordingly, ownership will lie with RGoB in GRF, with local communities in CFs and with private individuals in private forests/private land. A carbon registry will be set up, once a formal decision on carbon ownership has been taken by RGoB.

In Bhutan, DoFPS has the ultimate responsibility for GRFs. The DoFPS is responsible for forest conservation, ensuring that 60% forest cover enshrined in the Constitution is maintained, and for empowerment of rural communities through stewardship and management of local forest resources for income generation and livelihood enhancement. There are six functional divisions within DoFPS (<http://dofps.gov.bt/>):

- Forest Protection and Enforcement Division, responsible for forest protection, sustainable management & utilization of land & forest resources,
- Forest Resources Management Division, responsible for identifying potential FMUs, carrying out forest resource inventories, technical backstopping of FMU plan implementation, preparation of maps and providing quality data related to GIS,
- Social Forestry and Extension Division, responsible for backstopping the Dzongkhag forestry sectors in effective and efficient implementation of decentralized forestry activities and enhancing participatory sustainable forest management,
- Wildlife Conservation Division, responsible for planning and implementing conservation programs
- Watershed Management Division, responsible for implementing watershed management programs, functioning as the sector's focal point for environment, climate change, PES, rangeland and wetlands, and therefore responsible for REDD+,
- Nature Recreation and Ecotourism Division, responsible for all nature recreational and eco-tourism activities both within and outside the protected areas, and for environmental education and awareness to encourage and increase the public support towards conservation,
- RNR-RDC Yusipang responsible for planning and coordinating applied forestry research (<http://www.rdcyusipang.gov.bt/>), and
- UWICE responsible for capacity building of forestry personnel and basic academic research on natural resources management (<http://www.uwice.gov.bt/>).

In addition, the following agencies of MoAF have mandates that are relevant to REDD+:

Council for Renewable Natural Resources Research of Bhutan (CoRRB) is the apex body responsible for research policy, coordination and monitoring of research done by various agencies under MoAF (http://www.moaf.gov.bt/moaf/?page_id=117).

The RNR Information and Communication Services (ICS) supports extension and farmer training by producing information materials and publishes the RNR Newsletter, designs and develops communication materials, and coordinates with external media for press releases on RNR activities (http://www.moaf.gov.bt/moaf/?page_id=127);

The Policy and Planning Division is responsible for providing policy and planning services and for monitoring and evaluation of the various programs and projects. It is responsible to liaise with donor agencies for mobilizing funds and with the other ministries in the government for clearing programs and projects (http://www.moaf.gov.bt/moaf/?page_id=136).

Rural Development Training Center (RDTC) Zhemgang provides training to farmers on improved farming practices and natural resource management (See http://www.moaf.gov.bt/moaf/?page_id=133).

Since REDD+ payments will be performance based, regulation(s) for REDD+ will need to safeguard against the risk of some activities being implemented that will not be able to achieve the expected levels of emission reductions and expected benefits. Such failures could lead to conflicts between stakeholders involved. Thus benefit sharing should also include the sharing of risks and liabilities. To mitigate this risk, a regulatory framework to govern REDD+ transactions and an institutional regime will be formulated and widely consulted upon. This will provide clarity related to key REDD+ issues including clear REDD+ related terminologies in Dzongkha, clear delegation of responsibility for approving all REDD+ activities, the principles for a benefit sharing system and a financial management and distribution mechanism.

In addition, national guidelines will be formulated and widely consulted upon on the process for developing and implementing REDD+ activities, including which organizations, groups and individuals are eligible to implement REDD+ activities and methodologies that should be followed to do so (these guidelines will be at the core of Bhutan's national REDD+ strategy).

Approval of the institutional arrangements outlined in Component 1a as well as of roles and responsibilities among government agencies and other involved stakeholders are also necessary for REDD+ Readiness and implementation. This will help to ensure transparency and accountability among involved stakeholders. The formulation and implementation of a REDD+ regulatory framework will require a comprehensive legal analysis of existing legislature to ensure overlap and/or conflicts between new and existing laws are avoided to ensure efficiency of REDD+ implementation. It will also require a phased approach to ensure sufficient time is dedicated to broad multi-stakeholder consultations.

Institutional Arrangements

As indicated in the institutional arrangements (see Component 1a), involvement of existing institutions and the establishment of new institutions at national level to implement the R-PP will be undertaken in a step-wise manner subject to national circumstances to fulfill key functions for REDD+ Readiness and implementation. During REDD+ Readiness, the following key steps will be undertaken:

- Establish three TWGs, dealing with Forest Monitoring, Safeguards, Benefit Distribution and Stakeholder Engagement, and Policies and Measures for REDD+ (see Component 1a),
- Develop a national REDD+ strategy to guide REDD+ implementation (see Component 2a),
- Establish a REDD+ Office to serve as the national implementing government agency; and to fulfill the function of a REDD+ Information Center to provide transparent and accurate data and information on REDD+ implementation and to work with the Multi-Sectoral Technical Committee for

- Climate Change (see Component 1a), and
- Appoint Regional Offices to serve as hubs for Dzongkhag level REDD+ implementation (see Component 1a).

Financial Arrangements

The international rules for the financing of REDD+ activities are yet to be agreed by UNFCCC COP, though it was acknowledged, through Decision 2/CP.17 (paragraph 65), that “results-based finance [for REDD+ actions] provided to developing country Parties that is new, additional and predictable may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources”. Nevertheless, prior to the full operationalization of REDD+ under UNFCCC as part of a post-2020 global climate change agreement, international financial contributions (e.g., FCPF or UN-REDD Programme) and bilateral initiatives will be the primary funding source for Bhutan’s REDD+ Readiness phase.

Bhutan’s REDD+ implementation framework in Readiness phase will establish appropriate financial arrangements that will deal with multiple funding sources and ensure that funds are appropriated to intended beneficiaries. The financial arrangements will be designed to address the disbursement of REDD+ benefits to sub-national levels, with particular attention paid to accessibility by local forest-dependent communities and other disadvantaged groups.

Bhutan has a long-standing and very successful trust fund, the Bhutan Trust Fund for Environmental Conservation (BT FEC; <http://www.bhutantrustfund.bt/>). The BT FEC was the world’s first environmental trust fund, established in 1992. An endowment of US\$20 million was set up as an innovative mechanism to finance conservation programs over the long term in Bhutan. Today, it is an effective conservation grant-making organization autonomous of the government. The Royal Charter of 1996 and a high-level Management Board govern the trust fund. While originally established as a biodiversity conservation fund, the mandate of BT FEC has expanded to include economic development issues that have direct impacts on natural environment, such as solid waste management, climate change adaptation strategies, and awareness and education.

One option for management of REDD+ finance would therefore be to establish a REDD+ sub-fund under BT FEC. Alternatively, a new REDD+ fund could be established. These and other options will be examined during R-PP implementation.

To ensure credibility, transparency, accountability, inclusiveness and efficiency, the REDD+ finance management arrangements will be determined in detail at an early stage during Readiness phase through the TWG on Safeguards, Benefit Distribution and Stakeholder Engagement, in consultation with DoFPS, the Ministry of Finance and other relevant stakeholders. Further analytical and design work, as well as stakeholder consultations, is required to reach well-informed decision and financial management structure.

Benefit Sharing Arrangements

Positive incentives from international REDD+ funding sources will have to be shared among eligible stakeholders, using a fair and equitable, efficient, effective and transparent benefit sharing system. The benefit sharing system is likely to be complex because of the number of stakeholders involved and the high costs of achieving emission reductions at current carbon value. PES as a multi-level, international and national scheme could be beneficial to REDD+ payments and benefit sharing.

Bhutan has some experience with benefit sharing under PES schemes. A PES Feasibility Study was undertaken by FAO in 2009 (WMD/FAO, 2009). The study identified certain positive conditions for implementation of PES in Bhutan. For example, there is political will and enabling laws and policies which include specific references to PES as a mechanism for benefit-sharing and more decentralized

investment in NRM. Examples of such enabling laws and policies are the Water Act of Bhutan (2011), which specifically identifies the establishment of PES as one of the main sources of revenue for watershed management; the National Forest Policy (Royal Government of Bhutan, 2010a), which mentions PES as a means to cover the costs of maintaining and improving watershed services.

The Feasibility Study recommended piloting PES for three different ecosystem services in three locations in the country (Neves and Vallee, 2009). The Wang Watershed was proposed as a pilot of payment for hydropower services; the headwaters of the water system of Mongar were proposed as a pilot of payment for drinking water services, and the Phobjikha valley was proposed as a pilot for ecotourism services. The drinking water pilot scheme at Mongar began implementation at the beginning of 2011, while arrangements for the ecotourism pilot scheme in the Phobjikha Valley are well advanced.

An analysis of PES practice, community-based forest management and other incentive-based conservation programs in Bhutan will be carried out as part of Readiness activities and lessons learned from these existing practices will subsequently be incorporated in Bhutan's National REDD+ Strategy and financial arrangements for REDD+, including benefit distribution. Pilot activities are recommended during Readiness phase to focus on land management practices that affect ecosystem services, in light of unclear rights to ecosystem services and levels of payments for them. Diverse benefit sharing arrangements will be tested during Readiness phase through pilot/demonstration activities.

Eventually a more complex system will be designed and legalized, based on the experience gained. This will allow for up-scaling REDD+ efforts during Readiness phase and ultimately accommodate a national approach. More importantly, it will ensure that households and communities adopting new practices to implement REDD+ will be able to benefit from technical support and financing to establish the necessary improvements in practices. At the community level, mechanisms to subsidize the development and formalization of associations will be discussed during Readiness phase. Furthermore, other considerations need to be taken into account: appropriate forms of benefits such as direct payments and in-kind contributions; risk minimization and conflict management; and opportunity costs of other land uses as well as assessment of cost effectiveness of different benefit distribution options.

The existing relevant legal framework will be assessed for potential opportunities and bottlenecks, while an enabling legal framework and/or new legal instruments will be drafted during Readiness phase, as an essential prerequisite for successful REDD+. These processes will be further refined and discussed through extensive stakeholder consultations during Readiness phase by the TWG on Safeguards, Benefit Distribution and Stakeholder Engagement.

Land tenure and rights to resources related to REDD+

The Forest Act 1969 (Royal Government of Bhutan, 1969) had a significant impact on natural resource property rights and provided substantial power to forest officials to protect, manage and control access to the forests. It defined "forest" as "any land under forests in which no person has acquired a permanent, hereditary and transferable right of use and occupancy" and gave the status of reserved forest to all forest land. At the same time it appropriated many areas used as village and community forests as government property.

In 1995, the National Assembly repealed the Forest Act, 1969 replaced it with the "Forest and Nature Conservation Act (FNCA), 1995" (Royal Government of Bhutan, 1995)". The revised definition of 'forest' under the new act is: "Forest means any land and water body, whether or not under vegetative cover, in which no person has acquired a permanent and transferable right of use and occupancy, whether such land is located inside or outside the forest boundary pillars, and includes land registered in a person's name as Tsamdo (grazing land) or Sokshing (woodlot for collection of leaf litter)".

The new Act recognizes CFs and deals in detail with their creation and management. Under the community forest rules a group of at least ten households willing to establish, control and manage a forest area as CF in accordance with these rules can form a CFMG. The CFMG is authorized under the

rules to control the management of the CF in accordance with the management plan prepared by the CFMG and approved by the Dzongkhag administration on the recommendation of the CFO. The management plans need to contain maps of the boundary and various compartments, management objectives, descriptions of forest types and species, an assessment of the forest condition and an inventory of the forest areas. It is often difficult for local people to provide the information required for a management plan and therefore communities receive strong support by Dzongkhag forestry sectors in drafting CF management plans. Rules foresee no royalty payment for the bonafide use of forest products from CFs by CFMG members. However, if forest products are sold for commercial purpose, they are subject to taxation.

The FNCA 1995 clearly lays down regulations for the extraction of firewood. An individual has to procure a firewood permit (free of charge) on the basis of the recommendation of the Gup and Dzongda for procuring firewood from GRF. The policy of RGoB is to encourage local people to use trees of inferior quality, or ones that are dead or dying as firewood and this instruction is noted on the permit. A forest official must mark these trees before they can be cut as firewood. The use of unmarked wood/timber is considered an offence and carries penalties. However, with limited staff it is difficult for the Territorial Divisions to detect illegal harvesting of firewood.

Currently, the FNCA is being revised and will have new provisions on PES, the management of critical watersheds and wetlands.

The Land Act (1979) dealt with tenure rights over agricultural land. It provided for legitimacy for the inheritance of land and protected the tenure rights to property. Registration or recording of land with RGoB by an individual gives credibility to property rights and acknowledges the rights of the individual farmer over land that he had traditionally cultivated. The same law also changed in-kind tax payments to cash. The Land Act (2007) was revised and the main provisions of this revision foresaw the abolition of Sokshing and Tsamdo as registered user rights to government land. The revision foresaw and the conversion of these user rights into long-term lease.

REDD+ information system and activity registry

A key principle of Bhutan's framework for REDD+ implementation will be transparency. To facilitate adherence to this principle, DoFPS will establish a REDD+ Information System and Activity Registry. This system will act as the national hub for REDD+ knowledge management and (domestic and international) information sharing. A variety of media will be used to share this information:

- A website that will contain all relevant documentation and latest news on progress with the implementation of REDD+ readiness in Bhutan;
- A web-GIS portal (online mapping tool) that will provide information on the implementation of REDD+ activities in the country, as well as transparently share data on annual deforestation statistics (this will be developed as part of Component 4a);
- A REDD+ Activity Registry will provide information on the location, scope, methods, stakeholders, etc. of all REDD+ activities being implemented in the country.

During Readiness phase, information and knowledge management will ensure accessibility to REDD+ related information to all relevant stakeholders as well as the general public. The Information System and Registry will address critical knowledge gaps through knowledge capitalization and the synthesis of information, as well as facilitate transparency of decision-making and monitoring. The REDD+ Information System will also refine, harmonize and strengthen existing information management related to REDD+ implementation arrangements and efforts in Bhutan as well as the latest information and guidance from the international level (in particular from UNFCCC and IPCC).

Demonstration Activities

Bhutan's REDD+ Readiness phase will be based on a learning-by-doing approach that will involve the piloting of different methods and approaches and gathering feedback from stakeholders, implementation partners and other relevant organizations and stakeholders. As Bhutan progresses through Readiness phase, it will develop systems to manage the implementation and monitoring of REDD+ demonstration activities, including at the sub-national level (though it has not yet been determined at which scale demonstration activities will be implemented in Bhutan). A key preparatory activity will be the definition of parameters to select sites for activity piloting and multi-stakeholder consultations to select potential pilot sites; as well as ensuring full awareness and the (voluntary) participation of relevant stakeholders at the local level. Towards the end of the implementation of this R-PP, Bhutan will have identified its demonstration sites and initiated local stakeholder engagement activities, and developed preliminary sub-national or national (as necessary) forest RELs/RLs for the activities to be implemented (see Components 1c and 3). Pilot activities will be distributed across different agro-ecological zones (see Component 2b) and the RLs for these pilots shall be sub-national, providing the basis for the development of national RL subsequently.

Capacity Building

Human resource capacity building and institutional strengthening of relevant government agencies at different levels and of other involved stakeholders, including communities, will be a major focus of the implementation of the R-PP. A variety of training and capacity building measures to access to data/information, technology transfer, and shared learning will be necessary to meet the needs of all agencies and individuals required to create a comprehensive REDD+ implementation framework. Technical assistance and capacity building proposed at the national and sub-national levels includes:

National Level

- A series of awareness raising activities to establish a basic understanding of REDD+ as the foundation for specific training activities for government and other institutions,
- The provision of technical information on key REDD+ issues to policy makers as a basis for well-informed decision making (financial and benefit sharing mechanism, RELs/RLs and national forest monitoring system development),
- A series of training events with multi-sectoral stakeholders to create a basic understanding of REDD+ to facilitate 1) cross-sectoral collaboration and 2) the coordination of inputs of different donor initiatives,
- Incorporation of REDD+ and related issues into the tertiary level education curriculum and
- Development of standardized awareness raising materials at different levels.

Sub-national and Local Level

- A series of sequential awareness raising activities to create basic understanding of REDD+ as a foundation for further specific training measure for local communities and
- A series of technical assistance and capacity building activities on key REDD+ issues to local communities to facilitate REDD+ implementation at local level (e.g. CF monitoring)

It will also be necessary to assess capacities related to REDD+, which will allow a more accurate design of the program for the creation and strengthening of these capacities. Proposed measures and activities related to the different components will be implemented during Readiness phase to establish the outlined REDD+ framework. This will be carried out simultaneously with other actions that also need to be conducted during Readiness phase. The budget summary for the main activities is provided in Table 2c.

Implementation criteria to be checked on an ongoing basis for adjustment, as appropriate, include:

1. Adoption of legislation and regulations
 - Assess the extent to which legislation and/or regulations related to REDD+ programs and projects have been adopted.
2. Transparent and equitable REDD+ implementation framework
 - Assess whether the implementation framework is operating in a transparent and equitable manner, and whether it defines aspects, such as the process for participation in programs, benefit distribution, REDD+ financing mechanism/financial architecture and financing modalities, procedures for official approvals, monitoring systems and grievance mechanism.
3. National REDD+ Information System and Activity Registry
 - Assess whether a national geo-referenced REDD+ information system and REDD+ activity registry is operational, comprehensive, transparent and accurate (for budget implications see Component 1a).

Description of activities to implement component 2c

Output 1: National and sub-national government agencies, private sector, NGOs and communities have capacities required to implement REDD+

Capacity building of officials and stakeholders at national as well as local level is essential to enhance their knowledge and skills in carbon management, GHG database management, national forest monitoring system, etc.

Activity 1.1: Training of stakeholders on the REDD+ activities

Under this activity, the following sub-activities will be implemented:

1. Train stakeholders on carbon benefits/management
2. Train stakeholders on GHG database development
3. Train stakeholders on RELs/RLs and national forest monitoring system methodology
4. Train stakeholders on forest management
5. Train stakeholders on information system
6. Train stakeholders on Social and Environmental Assessment

Expected output

- Capacity of relevant stakeholders built on methodology of carbon management , GHG database development, RELs/RL and national forest monitoring, forest management, information system management and social and environmental assessment

Output 2: Institutional reform

The current institutional arrangements may not adequately suit the needs of REDD+ and need to be reviewed and adjusted accordingly.

Activity 2.1: Study gaps in institutional arrangement

Expected output:

- Suitability of institutional arrangements for REDD+ reviewed and gaps highlighted.

Output 3: Regulatory framework developed

The current regulatory framework will be assessed for coherence pertaining to the implementation of REDD+. Gaps and inconsistencies will be identified and addressed and will represent a framework for REDD+ activities. Benefit sharing mechanism is also an important component in implementing REDD+.

Activity 3.1: Development of regulatory framework for implementing REDD+

Under this activity, the following sub-activities will be implemented:

1. Assess existing regulation
2. Develop framework for REDD+ activities
3. Develop benefit sharing modality

Expected outputs:

- Regulatory framework developed on REDD+ activities
- Benefit sharing modality developed

Table 2c. Summary of REDD-plus implementation framework activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Capacity building	Review of capacity building needs	5	0	0	0	5
	Training of 5 Trainers	25	10	0	0	35
	Training on carbon benefits/ management	0	10	10	0	20
	Training on GHG database development	0	10	10	10	30
	RELS/RLs and NFMS	0	10	10	10	30
	Training on forest management	0	10	10	10	30
	Training on Information system	0	5	5	0	10
Institutional reform	Study gaps in institutional arrangement	5	5	0	0	10
Development of regulatory framework	Assessment of existing regulation	0	10	0	0	10
	Developing framework for REDD+ activities & registry	20	0	0	0	20
	Develop Benefit sharing modality	15	0	0	0	15
Total		70	70	45	30	215
Royal Government of Bhutan		5	5	5	5	20
FCPF		65	65	40	25	195

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Capacity building	Training on forest management	0	5	5	5	15
Development of regulatory framework	Assessment of existing regulation	0	5	0	0	5
	Develop Benefit sharing modality	10	10	5	5	30
Total		10	20	10	10	50

2d. Social and Environmental Impacts during Readiness Preparation and REDD-plus Implementation

Introduction

REDD+ activities have the potential to deliver significant social and environmental co-benefits. Strategic environmental and social issues must be considered at the REDD+ Readiness stage. Strategic Environmental and Social Assessment (SESA) is a range of analytical and participatory approaches that aims to integrate environmental and social considerations into Policies, Plans and Programs (PPPs) and evaluate the inter-linkages with economic and institutional considerations. The purpose of this component therefore, is to utilize the SESA process to assess the likely impacts of the REDD+ strategy options and implementation framework identified in Components 2b and 2c or that will be identified in the course of the preparatory work. The objective is that REDD+, starting with the preparation for REDD+ Readiness to implementation, should “do no harm” and, instead, should “do good”.

Social and environmental consideration in Bhutan

Bhutan has an environmental protection act, as well as rules, regulations and guidelines for conducting detailed EIAs and Initial Environmental Examination (IEE). Bhutan is considering the social and environmental impacts of forest development activities, as specified in the National Environmental Protection Act (1996) and Environmental Protection Regulation 1999. As per the National Environmental Protection Act, clear felling of forest area, change in species composition, use of forest land in other land use systems, introduction of exotic species and implementation of management plan require IEE or EIA.

Social and Environmental Impacts of REDD+

The REDD+ strategic options proposed (see Component 2b) aim to contribute to reducing GHGs emissions and poverty reduction, and to enhance economic growth through the sustainable and equitable management of forests while increasing forest carbon stocks. Implementation of these options will involve local forest-dependent communities, ethnic groups, women and youth. Nevertheless, in spite of the positive results expected with regard to efforts against climate change, the launch of REDD+ could have negative impacts on the environment and on local forest-dependent communities. Some examples of possible negative impacts are:

- REDD+ interventions may lead to changes in traditional livelihoods and, in a worst-case scenario, make them unviable,
- Many communities located in and around forests depend on forest resources for their economic and social livelihoods without any formal title, leaving open the possibility of abuse of their rights,
- Risks that forest biodiversity may lead to increase in certain wildlife populations and result in damage to agricultural farms,
- Potential conflicts between government agencies and local communities, particularly in resource utilization and land management PAs, FMUs and other forest land,
- Centralized REDD+ administration and management may neglect stakeholder participation or imbalance proportion of stakeholders in REDD+ activities,
- Risks of not using local traditional knowledge of communities in the REDD+ decision-making process. The need to make sure that REDD+ implementation should not create conflicts with traditional lifestyles and cultural practices,
- Unfair access to financial resources, as some groups may have privileged access to funds, loans and resources for development while others are neglected,

- Inefficient institutional arrangements and policies that may negatively impact on the welfare of the poor to benefit from REDD+,
- Lack of good governance in forest management in the light of corruption and inadequate forest enforcement,
- Reduced emphasis on the importance of biodiversity conservation, as the basis of food security and medicine for local communities, through forest landscape rehabilitation because of over-emphasis on carbon sequestration, and
- Reduced emphasis on other ecosystem services in terms of watershed protection, and alleviation of natural disasters.

SESA will be conducted to assess the positive and negative impacts that could be generated in the implementation of REDD+ strategic options. SESA will be undertaken through a participatory process involving local forest-dependent communities, marginalized groups, women, and other forest users. Prior to the consultation process, proper training will be imparted to the community stakeholders, ensuring that they have a sound understanding of the SESA and EIA tools.

Institutions that can play a role in SESA and ESMF

Given the multi-sectoral nature of the REDD+ mechanism and the varied nature of the causes of deforestation and forest degradation in Bhutan (see Component 2a), the SESA process would seek to bring the various perspectives of the ministries and land resource users on potential negative and positive impacts of REDD+. Being a core activity of the REDD+ process, SESA will be carried out by the REDD+ Secretariat with active and mandatory participation of NGOs and local communities, the capacities of whom will be built up in the beginning of the process. In case required, local consultants will be hired to support the work under close supervision of the REDD+ Secretariat. Involvement of NGOs and local communities in the SESA process will ensure the prevention of bias. The consultation process during SESA and development of ESMF would involve the following stakeholders at the national and sub-national levels:

- National government agencies such as MoAF, GNHC Secretariat, Ministries of Economic Affairs, Finance, Home and Cultural Affairs, and Works and Human Settlement,
- Local government bodies,
- Local forest-dependent communities and networks,
- Private sector such as mining, wood processing, agro-business, etc.,
- NGOs,
- BTFEC, and
- Research and academia.

Consultations for SESA

A detailed plan of consultation during the SESA will be developed by the entity that will carry out the study using the FCPF framework but also exploring, for example, UN-REDD and CCBA social and environmental standards, UN REDD FPIC guidelines (UN-REDD Programme Secretariat, 2013), principles, criteria and tools for REDD+ where relevant to enhance the process. The main output of the SESA process is the development of a strategic Environmental and Social Management Framework (ESMF).

SESA will be carried out during the R-PP implementation, which will include stakeholder analysis, description of the initial social and environmental situation of the forest sector and related sectors in Bhutan.

Social and Environmental Considerations

The FCPF will be one of the major funding sources for the implementation of R-PP and consideration will be made for fulfilling the World Bank safeguard policies², especially: (i) OP 4.01 on Environmental Evaluation; (ii) OP 4.04 on the Natural Habitats; (iii) OP 4.10 on Indigenous Populations (local forest-dependent communities in case of Bhutan); (iv) OP 4.11 relating to Physical Cultural Resources; (v) OP 4.12 on Involuntary Resettlement; and (vi) OP 4.36 on Forests

Foreseeable tasks to be conducted during Readiness phase

Tasks to be conducted during Readiness phase would include scope of assessments and baseline analysis under SESA, which will identify the key drivers influencing social and environmental problems. The analysis will take into account past development and the current situation, and the results will explain the future trend of key social and environmental problems if REDD+ is not implemented. SESA will identify existing regulations, gaps of institutional responsibilities and competency of personnel in order to avoid undesirable impacts from REDD+ Readiness implementation. Other issues are: (i) potential of institutions to facilitate the relationship between REDD+ and social and environmental issues, and (ii) efficiency of mechanisms for integration of social and environmental factors in the forestry sector. This ongoing assessment will be combined with stakeholder consultations.

The initial aim of SESA is to identify important social and environmental issues and linkages between the REDD+ strategic plan and policies. Preliminary studies combined with SESA consultations will identify key social and environmental issues relating to REDD+ strategy options and will analyze the policy and strategy framework related to REDD+. The review of key social and environmental problems will be linked to prioritization of problems and activities suggested by the REDD+ strategic plan. There will be additional analysis for each identified negative and positive social and environmental impact. REDD+ strategies and activities will be prioritized in terms of impacts on affected areas by Dzongkhag or Geog. The results and conclusions will be reviewed and followed by stakeholder consultations.

Measures for impact mitigation and efficiency improvement

The results from SESA analysis will be used to suggest measures for mitigation of negative impacts and efficiency improvement for positive impacts in REDD+ strategy options. The suggestions may include (i) revision of REDD+ strategic options; (ii) revision of rules and regulations together with institutional management as appropriate, such as revision of policy and strategic plans to ensure the efficiency of REDD+ project implementation; (iii) terms and conditions of REDD+ project implementation; and (iv) Stakeholders' participation.

Monitoring framework

SESA will suggest the monitoring system, reporting pattern and indicators for monitoring of social and environmental impacts from REDD+ strategy implementation.

Reporting

The results and conclusions from SESA will be summarized in the draft report, which will be disseminated to relevant stakeholders.

² Or the equivalent safeguard policies of the Delivery Partner

Development of ESMF

The ESMF is an output of the SESA process. It aims to ensure that REDD+ policy and REDD+ activities “do no harm” and, instead, should “do good” in terms of all environmental and social aspects. The integration of social and environmental considerations will be handled using the ESMF tool. This tool will be used to guide the process of incorporating the safeguards for identified negative impacts. The tool provides guidance to identify salient environmental and social issues early on, prepare, as needed, remedies and plans to address these issues, and monitor implementation.

Expertise to be involved

This assignment requires a multidisciplinary team, consisting of experts from various fields of specialization. The proposed expertise may include but is not limited to:

- Land use expert,
- Lawyer in human rights,
- SEI experts,
- Policy analyst and
- Public participation expert with long-term experience in organizing public participation and consultation processes related to local forest-dependent communities.

Description of activities to implement component 2d

Output 1: SESA conducted

The implementation of REDD+ has to ensure that social and environmental conditions are ameliorated through the process, which will be addressed through the SESA process.

Activity 1.1: Conduct SESA

In order to thoroughly understand the impacts of REDD+ implementation on society and the environment, a series of assessments under this outputs involving experts from various backgrounds will be conducted.

Under this output following activities will be implemented:

1. Identify and analyze key drivers influencing society and environment
2. Analyze policy and strategy framework related to REDD+
3. Assess SEI of REDD+ activities

Output 2: ESMF in place

The elaboration of the ESMF will ensure that negative environmental and social impacts are addressed and managed appropriately.

Activity 2.1: Develop ESMF as a follow-up of the SESA process for strategy options identified in Component 2b

Expected outputs for Activites 1.1 and 2.1:

- Key drivers influencing society and environment identified
- Social and environmental impacts assessed
- Monitoring system established
- ESMF developed

Box 2d-1: The Cancun COP Decision 1/CP.16, Safeguards (selected text)

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

Appendix I: Guidance and safeguards

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

- (a) That 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 the actions referred to in paragraphs 70 and 72 of this decision;
- (e) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the 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;
- (f) Actions to address the risks of reversals;
- (g) Actions to reduce displacement of emissions.

Source: <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

**Standard 2d the R-PP text needs to meet for this component:
Social and environmental impacts during readiness preparation and REDD-plus
implementation:**

The proposal includes a program of work for due diligence in the form of an assessment of environmental and social risks and impacts as part of the SESA process. It also provides a description of safeguard issues that are relevant to the country's readiness preparation efforts. For FCPF countries, a simple work plan is presented for conducting the SESA process, cross referencing other components of the R-PP as appropriate, and for preparing the ESMF.

Table 2d. Summary of social and environmental impacts during Readiness preparation and REDD-plus implementation activities and budget

Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Development of ESMF	Identify and analyze key drivers influencing society and environment	10	10	0	0	20
	Analyze policy and strategy framework related to REDD+	5	0	0	0	5
	Assess Social and Environmental Impact of REDD+ activities	5	15	15	15	50
	Establish monitoring system	10	0	0	0	10
	Develop ESMF	0	10	10	0	20
Total		30	35	25	15	105
Royal Government of Bhutan		5	5	5	5	20
FCPF		25	30	20	10	85

Component 3: Develop a national forest Reference Emission Level and/or a forest Reference Level

Rationale: REDD+ is based on a continuous assessment of forest-based greenhouse gas (GHG) emissions. This assessment must be compared against a pre-established benchmark in order to be meaningful. A participating country must determine its Forest Reference Emission Level and/or Forest Reference Level to be eligible to implement REDD+ activities.

Standard 3 the R-PP text needs to meet for this component: Develop a National Forest Reference Emission Level and/or a Forest Reference Level

Present work plan for how the reference level for deforestation, forest degradation (if desired), conservation, sustainable management of forest, and enhancement of carbon stocks will be developed. Include early ideas on a process for determining which approach and methods to use (e.g. forest cover change and GHG emissions based on historical trends, and/or projections into the future of historical trend data; combination of inventory and/or remote sensing, and/or GIS or modelling), major data requirements and current capacity and capacity requirements. Assess linkages to components 2a (assessment of deforestation drivers), 2b (REDD-plus strategy activities), and 4 (national forest monitoring system design).

Background and Objectives

To date the COP of the UNFCCC has published three decisions that provide guidance on forest RELs and forest RLs for REDD+ activities. The first piece of guidance was published in Decision 4/CP.15, paragraph 7, which states that RELs/RLs should be developed transparently, taking into account historic data, and adjust for national circumstances. Decision 1/CP.16 then sets out a “national forest reference emission level and/or forest reference level or, if appropriate, as an interim measure, sub-national forest reference emission levels and/or forest reference levels” as one of the four elements that developing countries aiming to undertake REDD+ activities are requested to develop; in accordance with national circumstances and the provisions set out in Decision 4/CP.15. The most substantive guidance on the modalities for RELs/RLs is set out in Decision 12/CP.17 (totaling nine paragraphs and supported by an Annex on “Guidelines for submissions of information on forest reference levels”), with some of the key points as follows:

- RELs/RLs should be expressed in tons of carbon dioxide equivalent per year and are benchmarks for assessing a country’s performance in implementing REDD+ activities,
- RELs/RLs must be established maintaining consistency with anthropogenic forest-related GHG emissions and removals by sinks, as derived from a country’s national forest monitoring system,
- A step-wise approach to RELs/RLs development may be useful to allow countries to improve them by incorporating better data, improved methodologies and, where appropriate, additional forest carbon pools (this modality reflects the phased approach to the implementation of REDD+ activities to allow a learning-by-doing process),
- Sub-national RELs/RLs that may cover less than the entire territory of a country may be elaborated as an interim measure while a country transitions to a national REL/RL,
- RELs/RLs should be periodically updated (i.e. revised) to take account of new knowledge, new trends and any modification of scope and methodologies and
- Countries are invited to submit proposed RELs/RLs on a voluntary basis and to make them available on the UNFCCC REDD web platform.

Importantly, Decision 12/CP.17 allows countries the flexibility to exclude non-significant forest carbon pools when developing RELs/RLs and adopt a conservative approach to estimating forest carbon stock changes. The step-wise approach also allows them to develop preliminary RELs/RLs while they continue to collect data and further refine their methodologies.

The objective of this section is to set out how Bhutan will follow UNFCCC guidance and modalities to develop its forest RELs/RLs for REDD+ activities. In doing so, this section will also set out early

methodological ideas for RELs/RLs development in Bhutan, identify capacity gaps and requirements and assess linkages to other components of this R-PP. This section will have strong links to Component 2 (covering the assessment of drivers of deforestation and forest degradation and the identification and assessment of REDD+ Strategies) and Component 4 (on the design of a National Forest Monitoring System).

Approach to REL/RL development in Bhutan

RELs/RLs will be developed in a way that ensures GHG emissions and removals are directly comparable to the emissions and removals in the National Forest Monitoring System component, using the same metrics to ensure consistency between RELs/RLs and the National Forest Monitoring System (see Component 4). Experiences of developing sub-national RELs/RLs in pilots in different agro-ecological zones will be used to develop national REL/RL. Key features of the development of Bhutan's RELs/RLs will be:

- Methodological consistency: to ensure comparability of all future RELs/RLs considering both drivers of deforestation and degradation, and
- Transparency: to ensure that all relevant stakeholders, including those in the international community, have full access to the process and information used in the development of RELs/RLs.

Implementation arrangements

Step 1

Step 1 determines institutional arrangements for data generation, analysis and sharing. Formal institutional arrangements will ensure transparency and accountability. This is another element of the RELs/RLs component of the R-PP that will be intricately linked with the national forest monitoring system component. Only once institutional arrangements have been discussed, consulted upon and agreed by all relevant stakeholders will RGoB be in a position to proceed with the methodological development of its RELs/RLs.

Step 2

Step 2 selects REDD+ activities (of the five defined under the Cancun Agreements) that the country decides to implement. Each activity may require a distinct national and/or sub-national RELs/RLs; the development of which should be consistent with the national forest monitoring system developed through Component 4 – i.e. using the same metrics and ensuring methodological consistency. Nevertheless, because Bhutan will likely need to report on GHG emissions from deforestation regardless of the formal selection of activities (following reporting standards on forest management under the UNFCCC to date), the work on this particular activity's REL can be initiated immediately.

Assessment of historical trends

Bhutan will assess and utilize the existing datasets to study the historical trend in land-use change pattern. If the available data is insufficient for analysis, Bhutan will undertake a national assessment of historical trends in land use change using remote sensing data and GIS analysis following UNFCCC guidance over a historical period of 20 years, taking four time slices (1990, 2000, 2005, 2010). National land use will be stratified using the land use categories set out by the IPCC (forest land, cropland, grassland, wetlands, settlement and other land), and further stratified according to sub-categories (e.g. for forest land: mixed conifer, broadleaf, plantation, etc.). These land use categories and sub-categories will be determined by the NFMS TWG convened under Component 4 of the R-PP. The most recent remote sensing data will be used to compile a national forest base map for a set year (e.g. 2013, but to be determined), against which all future land use changes will be measured. This forest base map will be the same one used to monitor REDD+ activities and assess activity data under the National Forest

Monitoring System component of the R-PP (see Component 4). Emission factors (forest carbon stock change figures), derived from the National Forest Inventory (NFI), will then be applied to historical land use changes to estimate historical GHG emissions from the Land Use, Land Use Change and Forestry (LULUCF) sector.

Assessment of National Circumstances

In addition to data on historical forest area change and associated emissions, the development of forest RELs/RLs requires information on drivers and activities at work and their specific potential contribution(s) to future national emissions. The assessment and reporting of national circumstances is a pre-existing requirement for all UNFCCC parties as part of their National Communication, though there are currently no clear guidelines for their assessment in the context of forestry and REDD+. Another major area of work under this component will therefore be the assessment of national circumstances and a determination of what they mean in the context of adjusting national and/or sub-national RELs/RLs (and subject to further guidance from the COP). A first step in this work area will be a detailed analysis of the specific drivers of deforestation and forest degradation, which will be carried out under Component 2.

The assessment of expected future developments and changes, in particular those related to forestry, is directly related to specific activities and their underlying causes; assessments should therefore be made separately for each driver of forest carbon stock changes within a country (Herold et al., 2012). In cases where assumptions about expected future developments differ from the observed historical trends in forest changes and emissions, these will be fully justified and supported by an explanation of activities and drivers at the national level. Examples of underlying causes of forest cover and quality change include international markets and commodity prices, national population and GDP growth and policies, and local land use trends. Based on existing guidance and pending further guidance from the COP, the assessment of national circumstances could consider the following information (UNFCCC, 2003), *inter alia*:

- Geographical characteristics (climate, forest area and types, land use, other environmental characteristics),
- Population (growth rates, distribution, density, etc.), and
- Economy (GDP per capita income, etc).

Assessment of current data availability and capacities

As part of the preparation of this R-PP, an NFMS and RELs/RLs TWG will be formed and convened once a month. The NFMS/RELs Working Group will be assigned with identifying and documenting existing data and technical systems; and capacity building gaps and needs. Below are the findings of the assessment of existing data and technical systems.

A) Remote Sensing and GIS in relation to forestry

Satellite Land Monitoring System

No single government agency in Bhutan has sole responsibility for land monitoring. The following institutions, agencies and organizations have a mandate for producing and managing national RS/GIS data:

- NLC Secretariat,
- DoFPS, MoAF, and
- Department of Agriculture (DoA), MoAF.

Remote Sensing and GIS Data

The following datasets are currently available:

- Boundaries (.shp and .img formats),
- Administrative,

- National Parks, Wildlife Sanctuaries and Biological Corridors.
- FMUs,
- WSSs,
- CFs,
- Private forests,
- Road network and other infrastructure,
- Digital elevation model (DEM): ASTER DEM (30m resolution),
- LUPP 1995,
- LCMP 2010,
- TCC layers – preliminary,
- Fire data (based on MODIS (250m resolution) and Landsat (30m resolution) data),
- Digital contours (40m resolution),
- Bhutan’s standard coordinate system (DRUKREF-03),
- Cadastral data: ongoing (NLCS) and
- All NFI plot sites.

Datasets	Type and Scale	Origin
Administrative Boundaries	Shape files	NLCS
Protected Area Network	Shape files	DoFPS
FMUs, Working Schemes, Community Forests, Private Forests	Shape files	DoFPS
Road network and other infrastructures	Shape files	NLCS
Digital contours	Shape files , 40 M	NLCS
Digital Topographical maps	Raster, 1:50,000	NLCS
LUPP, 1995	Shape files	MoAF
LCMP, 2010	Shape files	MoAF
DEM	Raster, 30 M and 90 M	NASA Website
NFI Plots	Shape files,	DoFPS
TCC layers - ongoing	Shape files (from Landsat)	DoFPS
Fire Data - ongoing	From MODIS and Landsat	DoFPS
Cadastral data - ongoing	Shape files	NLCS

RS/GIS human capacities, software and needs

The GIS Section housed in the FRMD currently has two full-time GIS technicians (headed by a Senior Forestry Officer with an M.Sc. in RS/GIS). The technicians use both licensed (ArcGIS version 9.3) and open-source (Quantum-GIS) software.

Five key areas have been identified as urgent RS/GIS needs by MoAF:

- Establishment of a comprehensive national GIS infrastructure,
- Land cover mapping at regular intervals to monitor changes,
- Web-based GIS data sharing,
- Technical capacity building of staff and
- Increase of RS/GIS staffing levels.

Current activities

Land Use Planning Project 1995 (LUPP, 1995)

In 1995, MoAF undertook a national assessment of land cover based on SPOT images from the years 1989 and 1990, with all images being classified manually. The output map is shown in Figure 3-1.

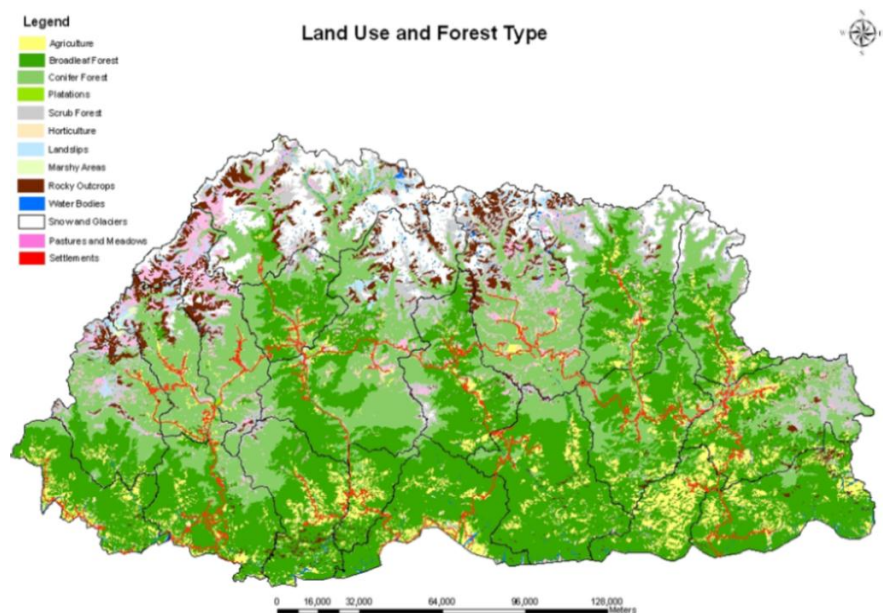


Figure 3-1. Land cover map produced through the LUPP 1995 (LUPP, 1995).

Bhutan Land Cover Assessment 2010 (Ministry of Agriculture and Forests, 2011)
 The LCMP 2010 was carried out to update the national land cover map and figures produced by the 1995 LUPP, using ALOS images (AVNIR-2) with 10m resolution which were subsequently ground-truthed for accuracy. The assessment divides forest land into two sub-classes, conifer and broadleaf, which are further classified into six categories, as per Table 3-1.

Table 3-1. Forest cover figures based on the LCMP 2010.

Land cover class	Sub-class	Total area (ha)	Proportion of total land area (%)
Forest	Fir forest	183,208	4.7
	Mixed conifer forest	613,964	16.0
	Blue pine forest	80,024	2.1
	Chir pine forest	107,667	2.8
	Broadleaf forest	1,668,956	44.0
	Broadleaf and conifer forest	31,472	0.8
Shrubs	Shrubs	4,005	10.4

The product of this assessment (Figure 3-2) has produced a sound and accurate land cover baseline to inform future land cover change analyses. Current official land cover figures are based on this assessment.

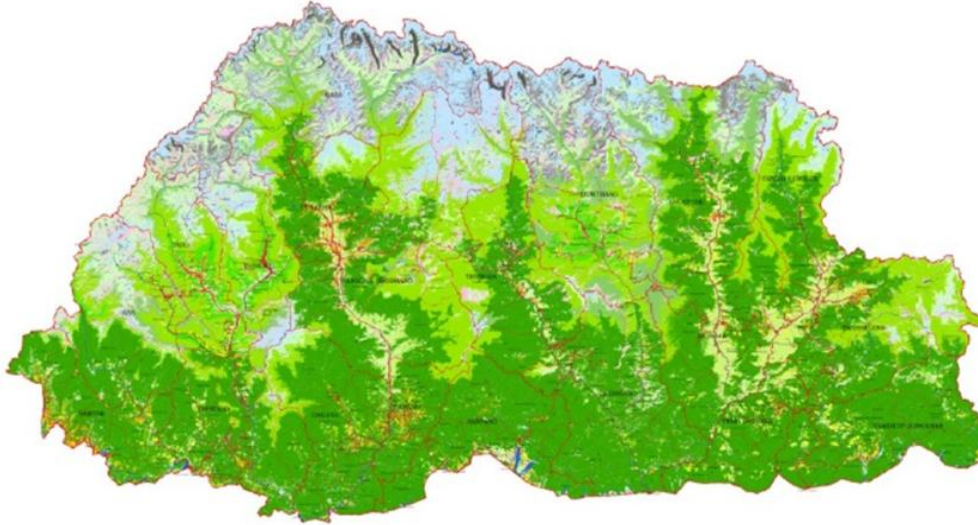


Figure 3-2. Land cover map produced through the LCMP 2010 (Ministry of Agriculture and Forests, 2011).

Tree Canopy Cover (TCC) 2012 on-going

TCC is an ongoing initiative to map forest cover in Bhutan, which is being carried out in partnership with the US Forest Service and NASA. Under this program, extensive training will be delivered on integrating forest mapping and monitoring into the NFI; and assistance will also be delivered to neighboring countries. The specific objectives of this mapping effort include:

- Adaptation of US Forest Service tree canopy cover mapping model for use in Bhutan,
- Development of tree canopy cover map products,
- Validation of tree canopy cover results and
- Transfer of technical expertise to Bhutanese specialists for Eastern Himalayan regional application.

The maps generated by the TCC project can be used as a baseline forest map for REDD+ purposes with appropriate changes, if possible.

Figure 3-3 shows an initial output from the ongoing TCC initiative.

TCC Map, 2013

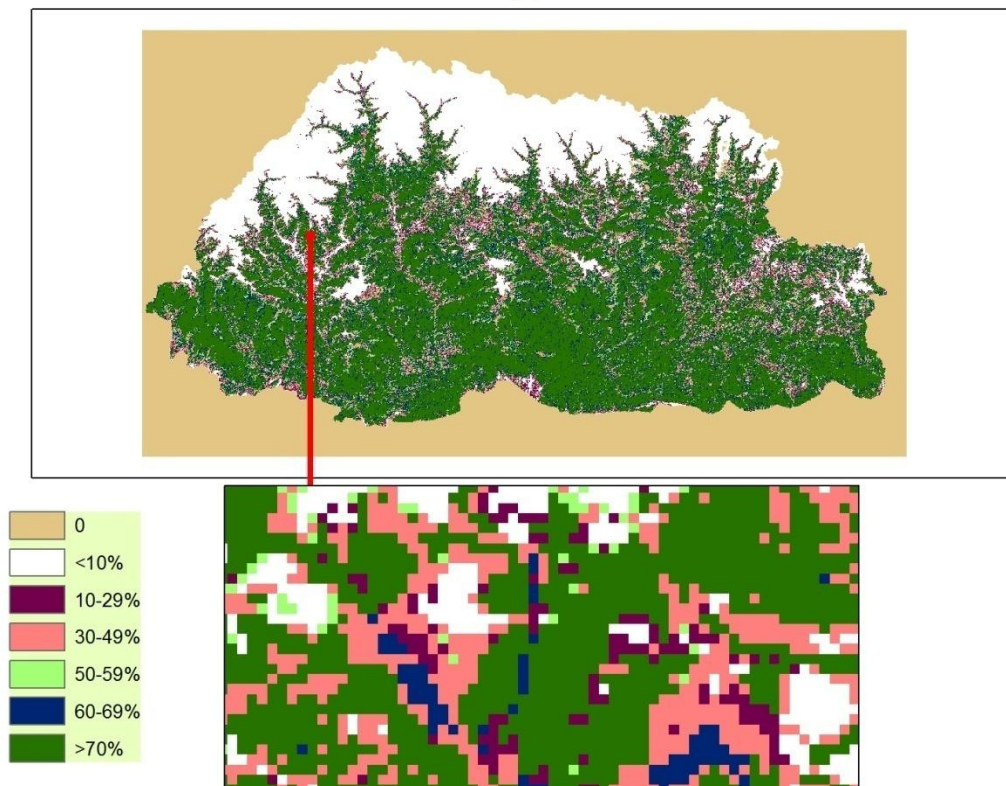


Figure 3-3. Tree canopy cover map of Bhutan, 2012.

Monitoring Trends in Burn Severity (MTBS)

To better understand the incidence and impacts of fire, and to improve fire planning and management efforts, a fire occurrence map and individual burned area analyses are being developed for Bhutan. Historical fire occurrence maps are being produced using MODIS and Landsat data; and fires affecting areas greater than 200ha are being mapped individually, using a method adapted from the US Forest Service. The method is adaptable to diverse biophysical settings and characterizes fire effects due to detectable changes in living and non-living biomass, including ash and soil exposure.

B) Carbon Stock Data

Forest carbon stock data is currently being collected through the NFI. RNR-RDCs will provide methodological support to the NFI by developing allometric biomass functions for major tree species in the country. For background on NFI in Bhutan, see Component 4a. For the development of preliminary RELs for activities to reduce emissions from deforestation and/or forest degradation at the sub-national or national level, as appropriate to demonstration activities, conservative default emission factors will be applied. These will be discussed and set by the NFMS/RELs TWG.

Approaches to improve the REL/RL assessment methodology

- Train staff on processing remotely sensed data for change detection
- Improve the accuracy of forest cover estimates by using latest high-resolution satellite images, supported by a systematic ground truthing network
- Integrate GIS, NFI and modeling methods to improve REL/RL estimates
- Establish database combining REL/RL relevant data from different sources

Description of activities to implement component 3

Output 1: REL/RLs established

Following accepted international guidelines REL/RLs will be established under this output.

Activity 1.1: Capacity building and review of methodologies for establishing RELs/RLs

Current knowledge of RELs/RLs is limited in Bhutan. In addition, little guidance currently exists on methodologies to establish national and/or sub-national RELs/RLs. Existing guidelines and methodologies, as well as lessons learned from other countries, will be collated and reviewed to determine the best practice approaches Bhutan will take when developing its own RELs/RLs. This will involve capacity building and awareness raising events, consultations with national and international organizations and research institutes such as RNR-RDCs, UWICE and institutes under RUB that are working on diverse approaches to REL/RL development. Involving research institutes under RUB and RNR-RDCs will ensure continuity of REL/ RL development in future.

Under this activity, the following sub-activities will be implemented:

1. Conduct RELs/RLs capacity building workshop involving stakeholders,
2. Study REL/RL implementation in Bhutan and methodological options available,
3. Organize stakeholder consultation workshop to present findings of the REL/RL methodological study, and
4. Conduct consultations to determine which methodologies to pilot at demonstration sites.

Expected outputs:

- Raised capacities of stakeholders on RELs/RLs,
- Report on RELs/RLs methodologies being used in other countries, including assessment of feasibility of application of these methodologies in Bhutan, and
- Methodologies to be developed and tested at demonstration sites.

Activity 1.2: Analyze historical land use change trends at the national scale

This activity will be directly linked to the assessment of activity data as part of the development of the NFMS (see Component 4a), using remote sensing data and GIS analysis to calculate spatially explicit historical land use changes. The remote sensing analysis will also be used to stratify land uses and forest types by eco-region, which will feed into the development of RELs/RLs for different forest types and/or for different REDD+ activities. This activity will involve training as set out in Component 4.

1. See activities under Component 4a Output 2 and
2. Calculate historical annual emissions using emission factors from NFMS (see Component 4a).

Expected outputs:

- Historical land use (change) analysis for Bhutan completed and
- Emissions factors applied to historical changes to generate assessment of historical emissions from LULUCF.

Activity 1.3: Review relevant national circumstances and collect data

Evaluating Bhutan's national circumstances will be based on variables including: (i) analysis of existing and historical social, political and economic data and trends; (ii) existing conservation laws and policies; (iii) analysis of projected future development in Bhutan (iv) vulnerability to climate change and adaptive capacity; and (v) potential forest cover and carbon stock changes through a consultative process. This will also involve: (a) a further assessment of land-use policy, forest policy and governance conducted

through the R-PP process with appropriate institutional structures and arrangements (under Components 1a, 2a and 2c), and (b) new assessments undertaken as part of the REDD+ strategy analysis to be conducted during R-PP implementation under Component 2b. A key work area will be an in-depth study of the drivers of deforestation and forest degradation (Component 2a), which will not only inform the development of appropriate policies and measures to implement REDD+ activities, but also shed light on specific national circumstances surrounding forestry and the implementation of REDD+ activities in Bhutan.

In combination with historical data, the above aspects will constitute the tool on which to base national decisions for the establishment of RELs/RLs. Collating information on these aspects will provide the opportunity to harmonize REDD+ with Bhutan's conservation goals, sustainable development priorities, objectives and projects, and circumstances that will have a significant impact on the successful implementation of REDD+ activities within the broader context of national development. It will also create a platform to promote a better understanding of the country's vulnerability and adaptive capacity to deal with adverse effects of climate change.

Under this activity, the following sub-activities will be implemented:

1. Assess drivers of deforestation (see Component 2), including policy & land use governance,
2. Conduct stakeholder consultation workshops and seminars to present findings of the study on national circumstances, and
3. Develop potential RELs/RLs adjustment factors.

Expected outputs:

- Detailed assessment of the national circumstances of Bhutan in the context of forestry and REDD+, including the drivers of deforestation and forest degradation in Bhutan and
- Potential/pilot RELs/RLs adjustment factors.

Activity 1.4: Pilot and test national and/or sub-national RELs/RLs at demonstration sites

In years 3 and 4 of the REDD+ R-PP implementation process, wide stakeholder consultations will be held to determine concrete proposals for REL/RL formulation, including the REDD+ activities to be piloted and therefore for which RELs/RLs will be formulated, the locations for implementation and different methodologies to be used/tested. This will involve extensive consultations with technical experts (government and non-government) as well as stakeholders at proposed sites of demonstration activities, and will therefore be closely linked to Component 2b. This activity will lead to the identification of sites for piloting RELs/RLs development at the sub-national level and subsequent development and testing of preliminary RELs/RLs to accompany activity piloting.

Under this activity, the following sub-activities will be implemented:

1. Conduct consultations with stakeholders and technical experts to collate proposals for, and select pilot sites,
2. Develop national and/or sub-national RELs/RLs for demonstration activities and submit to the UNFCCC Secretariat for review,
3. Pilot selected RELs/RLs methodologies at demonstration sites, and
4. Gather feedback and lessons learned, and refine methodologies as appropriate.

Expected outputs:

- Proposals for locations of pilot sites where RELs/RLs methodologies will be tested,
- Preliminary national and/or sub-national RELs/RLs and feedback on the methodology used from UNFCCC,
- Lessons learned and feedback from implementation and
- Refined RELs/RLs methodology/ies.

Box 3-1: The Cancun COP Decision 1/CP.16, National Forest Reference Emission Level and/or Forest Reference Level

"71. (b) A national forest reference emission level and/or forest reference level⁶ 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;

⁶In 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."

Source: <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

Standard 3 the R-PP text needs to meet for this component: Develop a National Forest Reference Emission Level and/or a Forest Reference Level:

Present work plan for how the reference level for deforestation, forest degradation (if desired), conservation, sustainable management of forest, and enhancement of carbon stocks will be developed. Include early ideas on a process for determining which approach and methods to use (e.g., forest cover change and GHG emissions based on historical trends, and/or projections into the future of historical trend data; combination of inventory and/or remote sensing, and/or GIS or modeling), major data requirements, and current capacity and capacity requirements. Assess linkages to components 2a (assessment of deforestation drivers), 2b (REDD-plus strategy activities), and 4 (monitoring system design).

(FCPF and UN-REDD recognize that key international policy decisions may affect this component, so a stepwise approach may be useful. This component states what early activities are proposed.)

Table 3. Summary of reference level activities and budget

Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Capacity building and review of methodologies for establishing REL/RLs	REL/RL capacity building workshop held with stakeholders	0	10	0	0	10
	Study carried out into the context of REL/RL implementation in Bhutan and methodological options available	0	30	30	20	80
	Stakeholder consultation workshop to present findings of the REL/RL methodological study	0	0	10	0	10
	Consultations to determine which methodologies to pilot at demonstration sites	0	0	30	0	30
Analyze historical land use change trends at the national scale	See activities under Component 4a land use change analysis activities	0	0	0	0	0
	Historical annual emissions calculated using emission factors from national forest monitoring system (Component 4a)	0	20	0	0	20
Review relevant national circumstances and collect data	Assessment of the drivers of deforestation (see Component 2), including policy and land use governance context	0	0	0	0	0
	Stakeholder consultation workshop to present findings of the study on national circumstances	0	20	20	0	40
	Development of potential REL/RL adjustment factors	40	40	40	0	120
Selection of demonstrations sites for piloting and testing of national and/or sub-national RELs/RLs	Proposals for locations of pilot sites where RELs/RLs methodologies will be tested	20	0	0	0	20
	Preliminary national and/or sub-national RELs/RLs and feedback on the methodology used from the UNFCCC	10	10	20	0	40
	Lessons learned and feedback from implementation	0	30	0	0	30
	Refined RELs/RLs methodology/ies	0	30	20	20	70
Total		70	190	170	40	470
Royal Government of Bhutan		25	5	5	0	35
FCPF		45	185	165	40	435

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				Total
		2014-15	2015-16	2016-17	2017-18	
Review relevant national circumstances and collect data	Development of potential REL/RL adjustment factors	5	5	5	0	15
Total		5	5	5	0	15

Component 4: Design Systems for National Forest Monitoring and Information on Safeguards

4a. National Forest Monitoring System

Background and Objectives

UNFCCC COP Decision 4/CP.15 establishes the REDD+ MRV requirement by requesting Parties (paragraph 1(d)) to:

“...establish, according to national circumstances and capabilities, robust and transparent national forest 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 ... 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”.

Decision 4/CP.15 also specifies that countries must follow the most recent methodological recommendations issued by the IPCC, serving as a basis for estimating the sources of anthropogenic GHG emissions, and their removal by sinks, and for measuring carbon stocks and changes in forest area. In this way, emission estimates will be based on common (IPCC) methodological approaches. This methodological guidance indicates that NFMS should be used to: 1) estimate emissions and removals from the forest sector (Measurement); 2) report this mitigation performance of REDD+ activities to the UNFCCC (Reporting); and 3) allow verification of the results by the UNFCCC Secretariat (Verification) (subject to further guidance from the COP) – i.e. to fulfil the MRV function for REDD+ activities.

UNFCCC guidance on this technical element for REDD+ is built upon in Decision 1/CP.16, where developing countries aiming to participate in REDD+ are requested to develop (paragraph 71(c)):

- “A robust and transparent national forest monitoring system for the monitoring and reporting of the [REDD+] activities ..., with, if appropriate, sub-national monitoring and reporting as an interim measure, in accordance with national circumstances, and with the provisions contained in decision 4/CP.15”.

Decisions 4/CP.15 and 1/CP.16 together establish that countries should develop a National Forest Monitoring System (NFMS) to serve the dual functions of monitoring and MRV, as shown in Figure 4a-1. As the figure indicates, the monitoring function of the NFMS may include wider elements, such as community monitoring and traditional forestry monitoring systems. Community monitoring will form an integral part of the monitoring system, as communities will provide ground-level information (e.g. tree counts and locations, delimitation of CF areas), which will feed into the web-GIS interface. Traditional forest monitoring systems are a critical consideration as the NFMS aims to build on existing systems and be based on national circumstances; these will therefore also be incorporated into the monitoring function for REDD+.

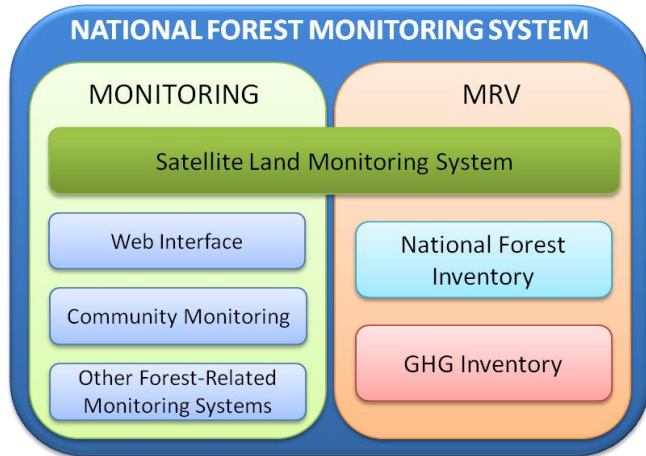


Figure 4a-1. The dual functions of the NFMS for REDD+.

The monitoring function will allow a country to assess whether REDD+ activities are resulting in positive outcomes, according to proxy indicators, such as forest cover change; while the MRV function will assess the mitigation performance of REDD+ activities (Figure 4a-2), i.e. by allowing the assessment (following international standards) of whether REDD+ activities are contributing to measurable carbon mitigation.

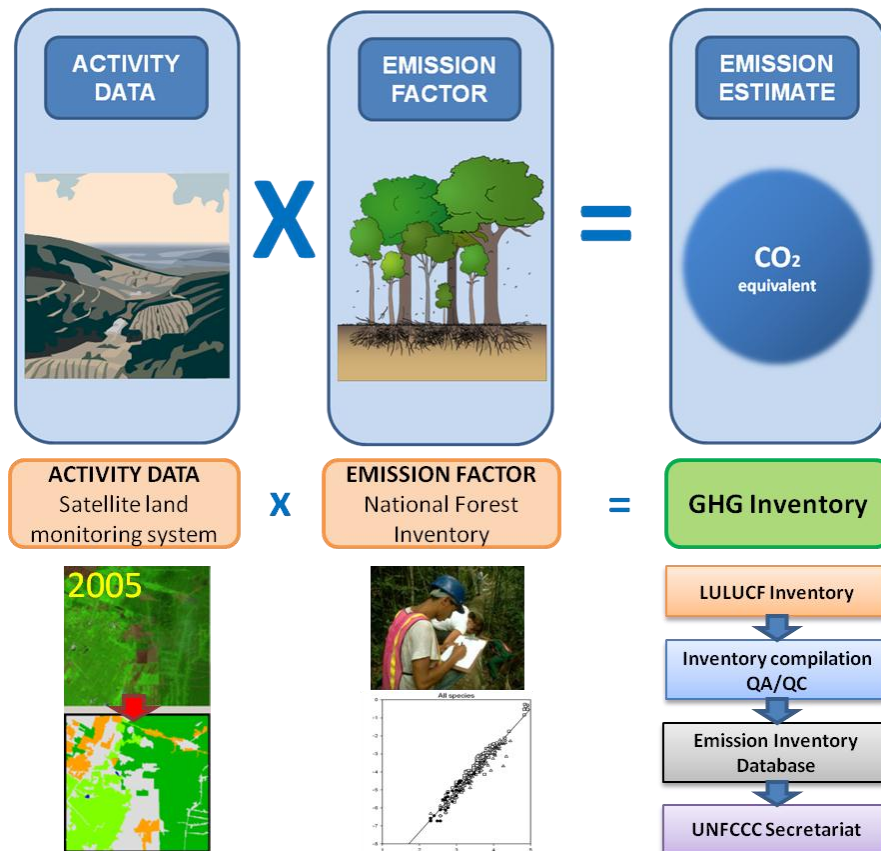


Figure 4a-2. The IPCC's methodological approach to calculate anthropogenic GHG emissions by sources and removals by sinks related to forest land.

The implementation of the technical components of the NFMS will be implemented through the three-phased approach. This allows time to build capacity, learning lessons and improving the systems, as necessary:

Phase 1

Capacity building on, and design of, technical elements (e.g. Satellite Land Monitoring System, remote sensing, forest inventory); establishment of institutional arrangements; activity planning; design of demonstration (pilot) activities.

Phase 2

Implementation and monitoring of (and learning from) demonstration activities, and further capacity building on technical elements.

Phase 3

Satellite Land Monitoring System is upgraded to monitor national performance of REDD+ policies and measures; full MRV in place for assessing GHG emissions and removals in the forestry sector and to report mitigation performance to the UNFCCC Secretariat.

The objective of this chapter is to set out how Bhutan will follow the above UNFCCC guidance and modalities to develop its NFMS for REDD+.

NFMS development and implementation in Bhutan

Institutional Arrangements

The first step towards the development of Bhutan's NFMS will be the determination of transparent and effective institutional arrangements for 1) the production and sharing of land use monitoring and forest carbon stock data, 2) compilation of the national GHG inventory for the LULUCF sector, and 3) compilation and reporting of the National Communication to the UNFCCC. Transparent and accountable institutional arrangements will be essential to ensure the effective functioning of the system; RGoB will therefore aim to formalize these arrangements through a Memorandum of Understanding (MoU) to ensure long-term accountability and sustainability of the NFMS.

Discussions held during a national NFMS workshop in November 2012 led to the proposal of the institutional arrangements set out in Figure 4a-3. The institutions indicated in the boxes are proposed to act as the lead government agencies/institutions for each of the respective components of the NFMS; namely DoFPS for the Satellite Land Monitoring System (SLMS) and NFI; NEC for the national GHG inventory for the LULUCF sector and for the compilation and reporting of the National Communication to the UNFCCC. Specific quality control processes will be integrated in to the processes as set out by the IPCC and an overall Quality Assurance (QA) assessment will be carried out by an independent third party. Under these arrangements activity data, emission factors and GHG emissions data should be shared between the involved institutions to maximize transparency and openness.

The institutions listed in figure 4a-3 will act as lead entities for their respective components, though this does not preclude the receipt of additional technical and capacity building support from other national and international agencies and institutions, for example for the collection and analysis of data.

A first step in the implementation of the REDD+ Readiness Roadmap will be the formalization of these arrangements among relevant institutions and stakeholders, followed by the publishing of the proposal on agreed institutional arrangements in Bhutan's NFMS Action Plan – see next section.

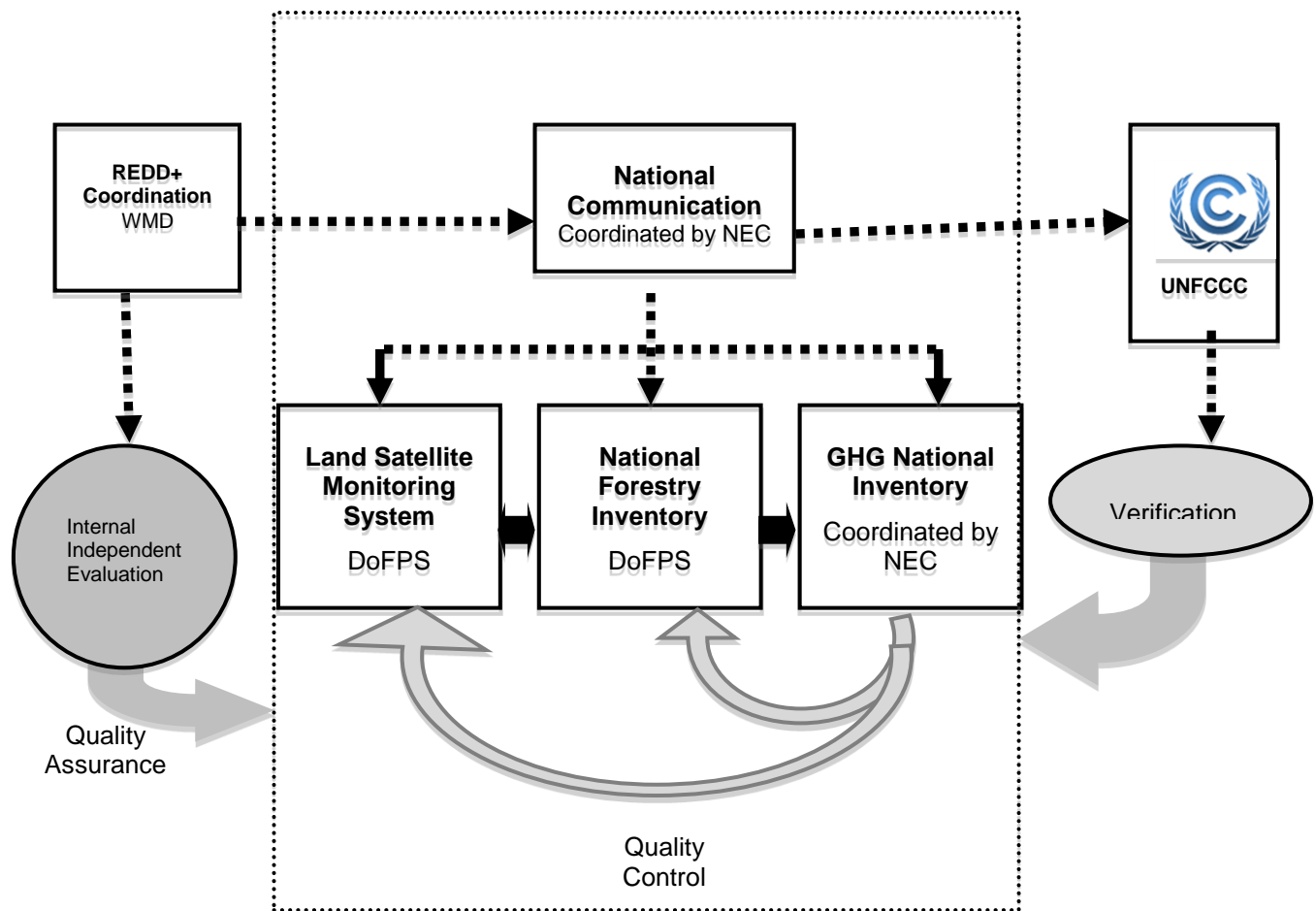


Figure 4a-3. Proposed institutional arrangements for Bhutan's NFMS.

Capacity building planning for the NFMS

In order to specify in detail the steps that Bhutan will take to develop and implement its NFMS, DoFPS will lead on the formulation of a National Forest Monitoring System Action Plan (NFMS-AP) document. This document will set out the actions that the country will undertake, in the context of the provision of adequate and predictable support, including financial resources and technical and technological support, to implement its NFMS for REDD+ activities. The NFMS-AP is likely to include sections on the following:

- Detailed capacity assessment of RS/GIS, forest inventory and GHG inventory, both in government and non-government entities; and support received to date,
- Guidance on the phased implementation of the NFMS, from concretizing institutional arrangements and capacity building (Phase 1) to demonstration and monitoring (Phase 2) to full national monitoring and MRV for REDD+ activities,
- A timeline for the implementation of activities, and
- A budget.

Data availability and capacity building needs

Preliminary ideas on methods to be employed and systems to be developed are outlined below; but will be subject to change, based on results of national and sub-national consultations.

Forest monitoring

Remote Sensing and GIS

Details of existing data, capacities and activities on RS/GIS are set out in Component 3.

The SLMS will be developed to fulfill two roles. The first is the monitoring of REDD+ activities, which is necessary in order to assess whether activities are being implemented effectively. Consultations will be undertaken to determine the proxies that will be most useful to monitor the activities, depending on which REDD+ activities are selected for implementation and where. To fulfill this role, staff of DoFPS will require training on proxy-based forest monitoring, including training on appropriate software. Lessons learnt from open source satellite monitoring systems world-wide (ICIMOD, TerrAmazon, etc.) will be incorporated into designing an appropriate system for Bhutan. The feasibility of complementing NFI with LIDAR assessments has been explored by FRMD. A consultative workshop held in 2011 concluded that the use of LIDAR cannot be justified, given the high costs associated. However, in case dedicated funds would be made available without FRMD having to actively explore them, LIDAR could provide a meaningful value addition to NFI. In this context, concerns about uncertainties in the accuracy of the results were raised, as positive experiences from Nepal were gained in flat areas in the Terai region.

The second role of the SLMS will be to produce activity data to feed into the national GHG inventory for the LULUCF sector. This role will require a national analysis of land use change based on the IPCC categories and methodologies. This form of land use change analysis has to date not been completed at the national level in Bhutan. Training will therefore be required for relevant technical staff on IPCC guidance and guidelines, as well as appropriate software and other tools.

Forest monitoring data sharing

There is currently no national mechanism or tool in place in Bhutan to openly and transparently share forest information. Key features of the NFMS will be 1) open-access data sharing and 2) ability to feed-back data, information and/or corrections, as necessary, to the centralized system. One method which will be used to share forest monitoring data and information at the national and international level will be a web-GIS portal, through which any internet user will be able to view forest information through a GIS mapping interface, including viewing of forest areas and types, deforestation statistics, forest governance structures, etc. staff of DoFPS will require capacity building on the design, hosting and management of the web-GIS portal, including data uploading and editing processes.

Other forest monitoring methods and approaches

While there are legal provisions for CF management in Bhutan, forest monitoring activities are currently limited at the community level. Nevertheless, the CF management infrastructure in place is likely to facilitate the integration of local-level monitoring activities which will provide critical data and information for Bhutan's NFMS. Local monitoring information could include tree counts, delineation of forest areas and GPS routes of monitoring/patrolling activities.

Consultations will be held to decide the ways in which non-RS/GIS forms of forest monitoring will be incorporated into the NFMS, including the potential role and function of CF monitoring. Training workshops will then be held for the national and sub-national level stakeholders who will be participating in this monitoring, including on how to collect data and information and feed it up to the national level.

National Forest Inventory

Assessment of the existing forest cover and growing stock in the forest is crucial for proper planning and sustainable management of forest. Inventory of carbon stock in different pools in forest ecosystem which will be generated from NFI will be crucial for REDD+ mechanism. The first national forest cover assessment was carried out in 1976 by Forest Survey of India (FSI), Dehradun, based on the interpretation of aerial photographs of 1956 and 1958. Since then a total of seven land cover assessments had been carried out.

Current Status

Bhutan started the NFI fieldwork in 2012 based on the methodology developed through series of consultative workshops and meetings with national and international experts and completed. Funds required for NFI were beyond the financial capacity of RGoB, as well as individual donor agencies. Accordingly, data collection was organized by regions, for which funds were sought separately. The lack of knowledge on forest resources including carbon stocks was felt so pressing that the NFI process was started before funds sufficient to complete the process could be secured.

Out of twenty districts segregated into four regions, namely Western Region, Eastern Region, Central region and Southern region, DoFPS has by now completed data enumeration from three districts of the Western region comprising of 244 cluster plots or 10.23 % of the total sample plots to be enumerated. The data enumeration from the Western Region and three dzongkhags of Eastern Region and one in Central Region (Zhemgang) is expected to be complete by July 2015, funds for which have already been secured from RGoB, BTFEC and GCCA.

Knowledge on carbon stocks in forests is a prerequisite for REDD+ activities and therefore Bhutan seeks financial support from FCPF through the REDD+ R-PP for completion of field work on the remaining 1030 NFI cluster plots, covering approximately 42% of the country. Basic financial support to the NFI data collection process is provided by RGoB, which however is not sufficient to complete the process. The projected timeframe necessary for completion of the entire NFI field work is towards the end of 2017.

Bhutan has 60 dedicated forestry personnel trained as NFI field crew members.

NFI data to be used for REDD+ pilots

REDD+ pilot sites will be selected to correspond with areas, for which NFI data collection has already been completed. The data collection process will be completed by July 2015 for areas adequately representing all agro-ecological zones as well as geographic regions of the country. Accordingly REDD+ pilot sites will adequately capture different climatic and social conditions throughout the country.

Methodology

The approach for Bhutan's new NFI, which was completed in 2011, was determined through two technical exercises. Initially, land was classified into forest and non-forest using a remote sensing data (LUPP (1995)– see Component 3). The forests were then classified into homogenous forest type categories.

The sampling design of the NFI, based on cluster plots on a 4km*4km grid will provide reliable estimates at 15% Margin of Error for basal area at 90% Confidence Interval at the Dzongkhag level and greater precision at the national level.

The data collection parameters were discussed during the Data User Stakeholder Consultation Workshop, through which it was decided that Bhutan's NFI will collect data and information not limited to timber but also capture wide ranging information on NWFPs, shrubs, herbs, biomass, wildlife, biodiversity, forest health and disturbances. Specifically, the targeted outputs of the NFI are:

- i. Stems per hectare and total number of stems,
- ii. Basal area per hectare and total basal area,
- iii. Volume per hectare and total volume,
- iv. Biomass per hectare and total biomass,
- v. Carbon per hectare and total above ground carbon,
- vi. Increment and growth,
- vii. Regeneration,
- viii. Forest stand structure,
- ix. Distribution of plant species,
- x. Biological diversity (using indicators like species richness indices, species diversity indices, ecological similarity/dissimilarity indices),
- xi. Coarse Woody Debris (CWD) per hectare and total CWD,
- xii. Cover percent of identified NWFPs,
- xiii. Cover percent of bamboos,

- xiv. Geo referenced locations of bamboo populations,
- xv. Distribution of wildlife,
- xvi. Extent and types of forest disturbance,
- xvii. Land use information,
- xviii. Health of forests (pests and diseases)
- xix. A soil map and
- xx. Tree Canopy Cover (TCC) percent Map, Forest Cover Map, Forest Type Map. The ongoing TCC mapping will complement information obtained through the NFI by establishing a relationship between the tree canopy cover and forest carbon stocks. Therefore TCC will be able to provide more accurate estimates for forest carbon stocks in areas with REDD+ activities. Areas with high potential for enhancement of carbon stocks can thus be more easily identified using TCC.

Assessment of carbon stocks in trees will be done using species-specific allometric equations to be developed using Randomized Branch Sampling technique (Gregoire and Valentine, 2008).

Capacity building and implementation support needs

The implementation of Bhutan's NFI is currently underway, yet some important gaps remain that require attention in order for the first cycle of the NFI to be completed, and to apply the data for REDD+ MRV. Firstly, allometric biomass equations for at least 50 key tree species have to be developed and the methodology trained. Secondly, additional support is required for assessment of forest understorey (shrubs, herbs, litter) and soil carbon, requiring specialized field and laboratory equipment and capacity building. Thirdly, a NFI database management system is required for the analysis and archiving of NFI data. Work has been initiated with FAO on this work area, but further development, implementation and capacity building is required. Finally, Bhutan requires further support to continue the implementation of the NFI and to ensure the continued capacity building of its field staff, as funding of the NFI and associated staff training is currently not guaranteed by the government.

Forest-Related national GHG reporting

Forest-related national GHG inventory

All country Parties to the UNFCCC are requested to estimate and report on forest-related GHGs by sources and removal by sinks (Decision 4/CP.15, paragraph 1(d) and (d) (i)). Information published in GHG inventories allows the COP to observe progress achieved by the Parties in fulfilling their commitments and achieving the ultimate objective of the Convention.

The quality of a GHG inventory depends not only on the robustness of the results resulting from the measurements made along with the credibility of estimates, but also on the manner and method in which the information is collated and presented. Information should be documented coherently following the reporting guidelines of the UNFCCC. Countries should follow the most recent IPCC guidance and guidelines, adopted or encouraged by the COP, as a basis for estimating anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks. Furthermore forest carbon stocks and forest area changes are to be reported in order to comply with the five GHG inventory reporting principles: Transparency, Coherence, Comparability, Completeness and Accuracy.

Central national GHG inventory archiving system

An archive system is a critical tool to underpin the sustainability of the national GHG inventory system by ensuring that GHG estimates can be easily (re-)produced, safeguarding against data and information loss, and allowing replicability of estimates.

National Communication

Parties to the Convention must submit national reports on their progress in implementing the Convention to the UNFCCC COP. The core elements of the National Communications are information on emissions and removals of GHGs and details of the activities a Party has undertaken to implement the Convention.

National Communications usually contain sections on national circumstances, vulnerability assessment, financial resources and transfer of technology, and education, training and public awareness.

RGoB submitted its Second National Communication (SNC) to the UNFCCC in November 2012 (National Environment Commission, 2011). The report was compiled by then NEC with the support of the Global Environment Facility (GEF) through UNDP, and used 2000 as the inventory year. Default values from the IPCC's global Emissions Factor Database (EFDB) were used to compile the forestry sector inventory; and the 2006 IPCC guidelines for national GHG inventories were followed for the compilation of the inventory report.

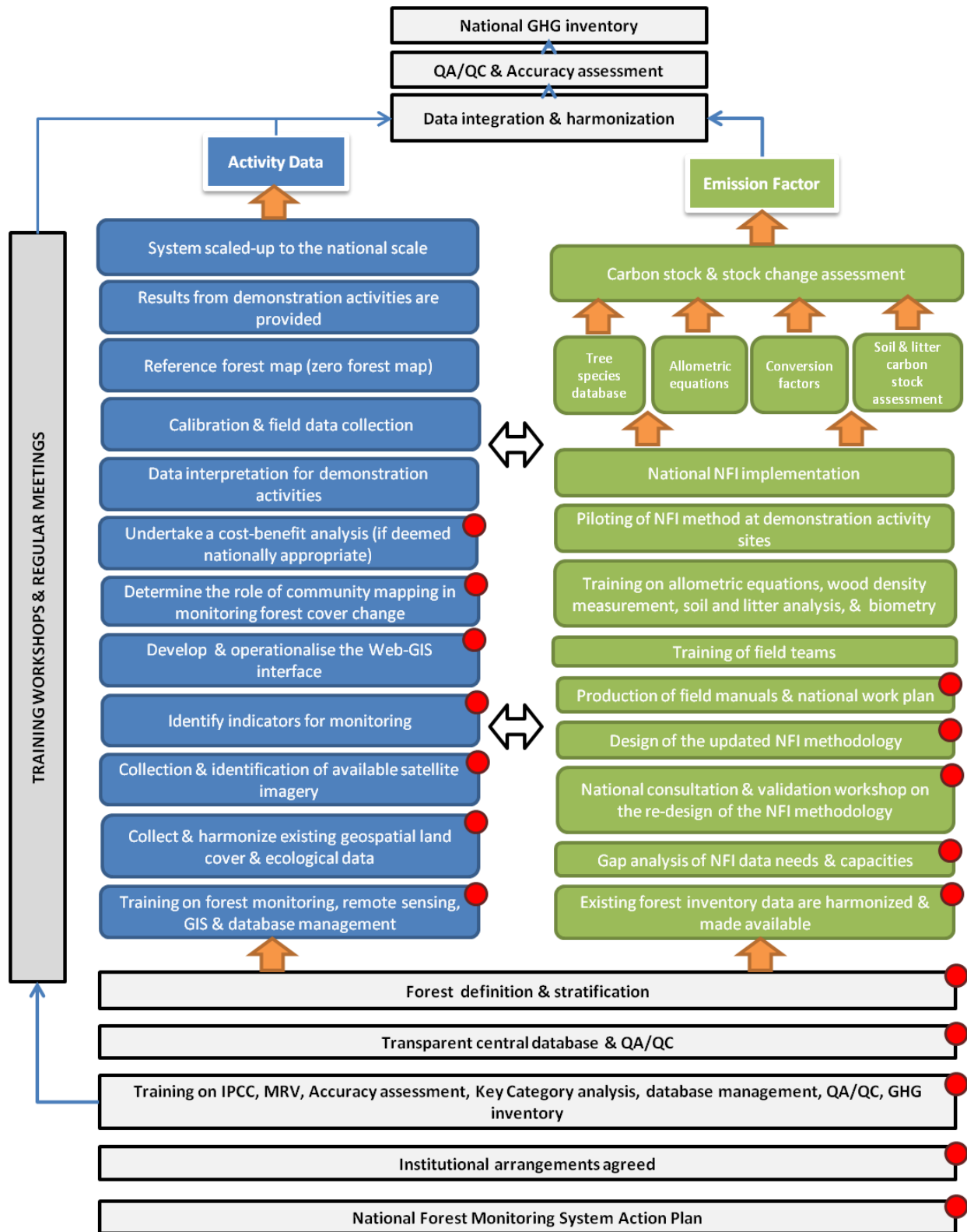
Capacity building needs

Technical officers involved in the GHG inventory process need to undergo capacity building on IPCC guidance and guidelines for GHG inventory compilations, as well as software tools used to support inventory compilation, database development and management, including QA/QC procedures.

NFMS-related scientific research

Potential research areas

Following initial awareness raising and capacity building on REDD+, internal and external consultations and discussions will be undertaken into potential new research areas to support the implementation of REDD+ in Bhutan, and in particular the multipurpose NFI and CF monitoring. In particular, the development of country-specific allometric equations for 50 key tree species, as identified above, is a central potential area of necessary research for the operationalization of the NFMS.



● Implemented or initiated in Phase 1 of REDD+

Figure 4a-5. Indicative activities marking progress towards the generating of the Bhutan's national GHG inventory for the LULUCF sector.

Description of Activities to implement component 4a

Component 4a contains five outputs and numerous associated activities, representing considerable workload and financial implications. Each one of five different government agencies (WMD, FRMD, NEC, RDC/UWICE) will be assigned to lead the implementation of activities to accomplish one or two targeted outputs, effectively reducing the workload for each agency to manageable levels.

Output 1: NFMS developed

The first step towards the development and implementation of Bhutan's NFMS will involve general awareness raising on the components of the system, as well as in-depth training workshops at national and sub-national levels on the specifics of each component. A senior forestry official will be appointed to coordinate all activities along with the REDD+ Secretariat under components 3 and 4. Technical experts will be hired as and when required. SLMS will be designed and implemented to monitor REDD+ activities and (eventually) assess national activity data. Consultations will be undertaken to determine an efficient and cost-effective approach, including consideration of open-source software packages and through support from experienced international organizations and countries. Training will be delivered to technical officers who will then process national data and upload it to the purpose-built web-GIS portal. In addition, a systematic data archive will be built to store national remote sensing data securely and transparently.

Activity 1.1: Organize NFMS work and capacity building

Under this activity, the following sub-activities will be implemented:

1. Establish an NFMS/RELS TWG,
2. Develop a calendar of meetings to be held over the Roadmap implementation period,
3. Collaboratively formulate the ToR for the TWG,
4. Identify the topics to be discussed in each of the meetings and relevant contributors,
5. Document and archive all output produced during the meetings,
6. In collaboration with all relevant stakeholders, contribute to national consultations on the NFMS-AP, national forest definition, SLMS and GHG inventory, and
7. Organize and deliver capacity building events across the country to relevant stakeholders.

Expected outputs:

- List of NFMS stakeholders with contact address and associated institution names,
- ToR, work plan and calendar for the Roadmap implementation period,
- Minutes of meetings,
- Archive of all documents produced,
- Capacity and awareness of relevant stakeholders built, and
- Reports of National Consultations.

Activity 1.2: Formalize institutional arrangements for the implementation and management of the NFMS

Under this activity, the following sub-activities will be implemented:

1. Propose institutional arrangements for effective and transparent implementation,
2. Identify roles, coordination mechanisms and contact information for those providing relevant data for estimating GHG emissions and removals from the LULUCF sector,
3. Provide information on lead agencies, identify inventory management team members, contact information and status of institutional arrangements in a tabular format,
4. Identify policy support necessary for institutional arrangement and obtain government approval (e.g. notification on institutional structures, roles and mandate) for effective implementation, and

5. Identify the strengths, and recommend potential improvements in the management structure of the national GHG inventory system.

Expected outputs:

- Essential information in a tabular format,
- Standardized tasks, to compare and contrast results provided,
- Roles and responsibilities clarified,
- Objective and efficient system for identifying priorities for future improvements provided, and
- Concrete institutional arrangements established in Bhutan's NFMS-AP.

Activity 1.3: Develop Bhutan's NFMS Action Plan

The NFMS-AP will set out institutional arrangements and guidance for implementation. In addition to detailed capacity and needs assessment, it will set out the activities and work plan to implement the NFMS, including details of logistics, procurement, equipment and software needs, etc.

The NFMS-AP will be consulted upon with relevant stakeholders, re-drafted (as necessary) and proposed for official government endorsement in order to formalize the institutional arrangements and the work plan. In addition to guiding national activities, this document will also be used to seek additional funding for components of the NFMS not funded through the R-PP.

Under this activity, the following sub-activities will be implemented:

1. Develop a table of contents (led by NFMS TWG),
2. Gather input through meetings and consultations with relevant ministries, NGOs and private sector stakeholders,
3. Design NFMS methodology including scales and parameters of assessment
4. Explore mechanisms for trans-boundary monitoring as per agreed international guidelines
5. Develop a first draft of the document and consult widely with stakeholders through a workshop,
6. Gather input and re-draft the document and
7. Produce final version and hold national a validation workshop.

Expected outputs:

- Bhutan's NFMS Action Plan document,
- Report of the proceedings of national consultation workshop and
- Report of the proceedings of national validation workshop.

Activity 1.4: Capacity building on geospatial data processing and database management

Stakeholders will receive training on geospatial data capture, processing, analysis and management. Part of the training will be delivered in collaboration with relevant centers of excellence (e.g. ICIMOD, Brazilian Institute for Space Research (INPE), holding a partnership with FAO/UN-REDD) to deliver training to government counterparts from partner countries. This activity will also include the hiring of a team of people to coordinate the SLMS work and design, operationalize and manage Bhutan's SLMS.

Under this activity, the following sub-activities will be implemented:

1. Assess existing GIS/RS hardware and software and identify additional needs
2. Identification of RS/GIS and database management training needs,
3. Develop and deliver training programmes on satellite data geo-rectification, interpretation, classification, field data collection, accuracy assessment and change matrix generation,
4. Develop and deliver a training program on RS/GIS database structure and data capture including metadata, editing and retrieval, visualization, analysis, mapping and modelling and

5. Provide guidelines and training on RS/GIS data archiving and database management, with preference for open-source database software.

Expected outputs:

- Capacity enhanced on GIS, RS data handling and data base management,
- Training materials and guidelines on GIS and remote sensing and
- Training materials and guidelines on RS/GIS data archiving and management.

Activity 1.5: Establish a harmonized classification system for land representation

This activity involves setting the National Forest Definition and classification for land representation. It is important to have an appropriate national definition of forest and land representation system allowing for effective and sustainable monitoring tools of forest resources. Under the UNFCCC, forest definitions are provided based on biophysical thresholds. The forest thresholds will need to be within the thresholds identified by the UNFCCC. The forest classification systems will need to account for measuring and monitoring REDD+ activities.

Under this activity, the following sub-activities will be implemented:

1. Collect existing land cover and land use maps of Bhutan and identify differences in forest and other land use definitions and criteria used to develop the maps,
2. Organize consultations on forest classification, including a forest monitoring training workshop,
3. Assess the impact of different forest definitions on the feasibility, sustainability and efficiency of methods for forest monitoring,
4. Provide recommendations on forest classification and forest stratification and
5. Develop a harmonized classification system of land use.

Expected outputs:

- Harmonized land use classification for mapping,
- Manual of the classification system and
- Minutes of the national consultations.

Activity 1.6: Satellite image characterization for forest monitoring

The selection of the types of satellite imagery will depend on their quality, cloud cover, spatial, temporal and spectral resolution, as well as their cost. It is therefore necessary to decide the parameters to be used for collecting remote sensing data to accurately monitor forest cover change and provide information on some of the REDD+ safeguards. It is also important to decide on the use of correct levels of resolution, to accurately monitor forest degradation or enhancement of forest carbon stocks by way of distinguishing forest landscape feature changes or forest area changes.

Under this activity, the following sub-activities will be implemented:

1. Assess and organize all available satellite and/or aerial imageries for the country, e.g. by resolution, date, geographical coverage, etc.,
2. Obtain and analyze freely available satellite imageries like LANDSAT 5,7 & 8
3. Assess the quality of these data in terms of spatial and temporal coverage, cloud cover, spatial and spectral resolution and image registration,
4. Analyze the impact of different spatial resolutions in identifying deforestation and forest degradation, and
5. Provide recommendations for the use of imagery for past and future forest cover assessments, forest stratification and monitoring of REDD+ activities.

Expected outputs:

- All existing satellite imagery for Bhutan assessed,
- Standardised procedure for integrating medium- and high-resolution satellite data,
- Freely available satellite imageries archived and transparently available for the national entities involved in the NFMS and
- Recommendations provided on satellite imagery to be used to monitor REDD+ activities.

Activity 1.7: Establish an RS/GIS Forest Information System and web-GIS platform

Information and monitoring systems for the forest sector have become important tools for forest planning, monitoring and reporting. An RS/GIS Forest Information Systems (FIS) will be developed to support decision makers as well as ensure transparency of forest data, including for REDD+. Development of the system will involve documentation at all levels, including of meta-data, development of a data dictionary and user manuals, and instructions for data storage, manipulation, retrieval and update. Transparency and verifiability is a key principle of REDD+ activities and an openly accessible web-GIS platform would greatly contribute to adherence to this principle.

Under this activity, the following sub-activities will be implemented:

1. Review, harmonize and standardize existing statistical and spatial data information related to the forest sector and identify additional information requirements,
2. Develop a database structure for FIS,
3. Assess hardware requirements and procure hardware
4. Review capacity building needs for FIS,
5. Develop a design for hosting a web-based GIS platform for database management,
6. Standardize existing GIS and RS data and integrate them into the system,
7. Develop training manuals for managing and maintaining the system and
8. Develop technical documentation and deliver training on the system.

Expected outputs:

- Operational FIS,
- Documentation of the system design, data flow, storage and retrieval models,
- Web-based GIS platform operational and
- User manual.

Activity 1.8: Develop and operationalize Bhutan's SLMS

SLMS is a crucial element of Bhutan's NFMS for the monitoring of REDD+ activities and for the generation of activity data.

Under this activity, the following sub-activities will be implemented:

1. Organize national consultations on SLMS development and identify and validate parameters for forest monitoring,
2. Develop Bhutan's forest base map (forest mask), to use as the basis for forest/REDD+ monitoring,
3. Develop an operational methodology for the monitoring of forests (including staffing and logistical issues and costs),
4. Carry out field tests of the monitoring system for selected demonstration activities and
5. Integrate lessons from field demonstration activities into the national system.

Expected outputs

- Report of the consultations to identify the forest monitoring parameters and recommendations for Bhutan's SLMS
- Nationally appropriate SLMS developed and operationalized, and
- Results from demonstration sites integrated into the national SLMS.

Activity 1.9: Develop participatory tools for community forest monitoring

Given the importance of community monitoring in generating and delivering local data and ground-truthing national monitoring activities, activities will also be designed to support the assessment of integrating community monitoring into the NFMS.

Under this activity, the following sub-activities will be implemented:

1. Research on a) current CF monitoring practices in Bhutan and b) community monitoring integration in other countries in SE Asia,
2. Socio-economic assessment of the potential involvement of forest communities in the NFMS,
3. Provide recommendations on the involvement of forest communities in the NFMS,
4. Stakeholder consultation and validation workshops to select an approach to CF monitoring for REDD+, and
5. Selection of demonstration sites based on transparent criteria.

Expected outputs:

- Diagnosis of the roles, methods and costs of the involvement of the forest communities in the NFMS, and
- List of potential demonstration sites.

Activity 1.10: Forest boundary delineation in the field and GIS boundary generation for demonstration activities

Some of the risks involved in REDD+ implementation include the displacement of deforestation or forest degradation from the demonstration activities to other forest areas, leading to lower actual net carbon savings by the project. The entire demonstration area should be delineated to assure effective and accurate management and monitoring.

Under this activity, the following sub-activities will be implemented:

1. Collect forest / field maps / cadastral maps of forest boundaries,
2. Provide orientation and training for forest land survey using maps and GPS,
3. Execute a forest land survey in coordination with several ministries and local stakeholders,
4. Develop a boundary demarcation plan,
5. Identify the potential organisations involved in GIS database building for forest boundary digitization and contract for GIS data generation and
6. Provide guidelines for GIS boundary generation.

Expected outputs

- Forest boundary defined and mapped and
- Training materials developed and delivered for forest delineation.

Output 3: Multipurpose NFI implementation completed and data management strengthened

This output will result in the full national implementation of Bhutan's NFI and ensure the continued training of field staff. It will also support the development of country-specific allometric equations, which will underpin the country's efforts towards reporting its GHG inventory to the UNFCCC at Tier 3 level (through the development and use of country-specific emission factors).

Activity 3.1: Ongoing training provided to field crews and data analysts

This activity will ensure that NFI field crews and data analysts receive regular and updated training and that training manuals are regularly reviewed, updated and published.

Under this activity, the following sub-activities will be implemented:

1. Deliver training program on forest inventory (data collection, compilation, analysis etc.) to field crews on periodic basis,
2. Regularly review, update and publish NFI training manuals and
3. Produce training manuals on data processing, data management and statistical analysis and deliver training to relevant officers.

Expected outputs:

- Details of trained staff (field crews and data analysts),
- Regularly updated field training manuals and
- Training manuals on NFI data processing, data management and statistical analysis.

Activity 3.2: Harmonize existing inventory data and develop robust tree species and NFI databases

In order to ensure the comparability of data collected and to improve the estimates of forest biomass and carbon stocks, existing data should be stored in a central tree species and forestry database and used to support the design of the multipurpose NFI. An NFI database will be designed, according to the parameters measured, to facilitate storage, analysis and archiving of the data collected.

Under this activity, the following sub-activities will be implemented:

1. Consultations held with the relevant stakeholders involved in forest inventory and measurement and collate all existing forest inventory data,
2. Tree species and forestry database developed based on open-source software,
3. All available existing inventory data and land cover maps collected and reviewed,
4. Robust geo-referenced database developed, preferably based on open-source software,
5. Populate the database with existing inventory data (including allometric equations, wood density and conversion factors, soil and litter carbon stock assessment, etc.),
6. Variability of the biomass and carbon stocks in the various forest types assessed and
7. NFI database for inputting, analysing and archiving NFI data, preferably based on open-source software.

Expected outputs

- List of the stakeholders involved in forest inventory and measurement activities,
- Central database containing the available and harmonized tree species and forestry data,
- Statistical method for data harmonization and accuracy assessment and
- Database for new multipurpose NFI.

Activity 3.3: Allometric equations developed using destructive sampling for 50 key species

A current major gap in Bhutan's NFI work is the lack of country-specific allometric equations, which allow the estimation of forest carbon stocks. This activity will address this gap by providing training to technical DoFPS staff on allometric equations and destructive sampling methodologies, as well as funding the field data collection work.

Under this activity, the following sub-activities will be implemented:

1. Review of allometric equations developed in the South Asian region,
2. Development of destructive sampling methodology for Bhutan, including formulation of field manuals,
3. Training workshop on allometric equation development, including field demonstration of destructive sampling methodologies and
4. Field data collection for 50 key tree species using Bhutan's destructive sampling methodology.

Expected outputs:

- Report of allometric equations developed for Bhutan,
- Training materials and list of trained personnel on allometric equation development,
- Field manual for Bhutan's destructive sampling methodology and
- Country-specific allometric equations for 50 key species.

Activity 3.4: First cycle of NFI completed in Bhutan

Bhutan has developed an NFI methodology, including a calendar for implementation, though there is a funding shortfall for full national implementation of the NFI. This activity will fund field data collection for the completion of a full cycle of the NFI over a period of three years, including for the purchase and maintenance of necessary equipment (data collection and data recording devices).

Under this activity, the following sub-activities will be implemented:

1. Purchase of necessary data collection and recording equipment,
2. NFI field data collection completed for the country by trained field crews, and
3. Equipment checks and maintenance.

Expected outputs:

- Field crews equipped with all necessary data collection and recording equipment,
- NFI equipment maintained to full working order and
- Full NFI completed for Bhutan and data entered in the purpose-built database (Activity 3.2).

Output 4: National capacity built for compiling the GHG Inventory for the LULUCF sector

Activity data and emission factors estimated through the SLMS and NFI will be compiled, following international guidance, to produce Bhutan's GHG inventory for the LULUCF sector. Figure 4a-5 summarizes the sequence of generic activities to develop and implement Bhutan's national GHG inventory for the LULUCF sector.

Activity 4.1: Technical capacity building for the GHG inventory for the LULUCF sector

Bhutan has limited experience in developing national GHG inventories for the LULUCF sector. The objective of this activity is to provide preliminary training and identify the future training needs in order to prepare the inventory plan for data compilation and reporting with the aim of promoting the establishment of the national system.

Under this activity, the following sub-activities will be implemented:

1. Training delivered on GHG inventory implementation for the LULUCF sector,
2. Training needs identified for inventory planning, data collection, data compilation, Quality Assurance/Quality Control (QA/QC) procedures, reporting, uncertainty estimation,
3. Bhutan-specific training manuals developed and training program delivered, as necessary,
4. Technical support provided for use of GHG inventory software tools for data compilation and reporting,
5. QA/QC plans developed for data collection and compilation and
6. Reporting manual designed.

Expected outputs:

- Government working group on GHG inventory for the LULUCF sector and associated reports/documentation from meetings,
- Government personnel trained in GHG inventory for LULUCF and able to undertake inventory activities independently, and
- Manuals, plans, designs of data collection, compilation and QA/QC procedures developed.

Activity 4.2: Develop a central GHG database and archiving system

An archiving system is essential for the preparation of the national inventory reports. No common archive system currently exists for GHG data management in Bhutan. A common archiving procedure will be developed in order to secure the REDD+ data related to monitoring and MRV as well as information on some of the REDD+ safeguards. The archiving system will be used by the relevant institutions and the documents and data will be shared in order to ensure that the activities are implemented in a timely manner. The archiving system will host a central database whose structure will allow effective, efficient and transparent QA/QC procedures.

Under this activity, the following sub-activities will be implemented:

1. Assess existing database management, archiving and sharing mechanisms in place,
2. Develop design of a specialized database structure,
3. Standardize existing data and integrate in a specialized data structure,
4. Design a web-based platform for sharing the data,
5. Procure necessary equipment to establish servers,
6. Establish servers,
7. Identify training needs and deliver training programs for the operation and maintenance of the archiving system,
8. Develop necessary training manuals and
9. Provide training to operationalize the system.

Expected outputs:

- Report on the assessment of the existing data and needs for GHG inventory server,
- List of the necessary equipment for the relevant entities,
- Web-based data sharing and archiving system for data sharing,
- Technical staff trained to operationalize the system and
- Transparency of national system ensured.

Output 5: NFMS-related research supported

Following initial awareness raising and capacity building on REDD+, internal and external consultations and discussions will be undertaken by the DoFPS and research institutions into potential new research areas to support the implementation of REDD+ in Bhutan, and in particular the multipurpose NFI.

Activity 5.1: Support NFMS-related research and dissemination of findings

The assessment of forest resources needs to be carried out together in conjunction with research on local knowledge and uses of forestland as these two elements will be crucial to define policies for sustainable forest management.

Under this activity, the following sub-activities will be implemented:

1. Gathering of existing research activities and findings related to REDD+/NFMS,
2. Implementation of studies on forest and tree characterization,
3. Publishing of study reports and scientific papers based on findings,
4. Provision of internships for university students to support specific studies on forest and tree characterization and
5. Organization of technical and scientific workshops/seminars in Bhutan involving national, international researchers and university students.

Expected outputs:

- Report on the scope of potential studies to support NFMS development,
- NFMS-related studies completed,
- Results disseminated through published reports and articles in peer-reviewed journals,
- Reports on workshops/seminars on NFMS-related research and
- Trained university interns.

Box 4-1: The Cancun COP Decision 1/CP.16, National Forest Monitoring System

"71. ... (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 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;

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"

Source: <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

Box 4-2: Decision 4/CP.15, Methodological guidelines 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

Note: this COP decision pre-dates the COP 16 decision, but provides useful additional detail on the sense of the Parties relevant to MRV design.

"...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 guidelines 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 guidelines 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 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, 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 agreed by the Conference of the Parties;..."

Source: http://unfccc.int/files/na/application/pdf/cop15_ddc_auv.pdf

**Standard 4a the R-PP text needs to meet for this component:
National Forest Monitoring System**

The R-PP provides a proposal and workplan for the initial design, on a stepwise basis, of an integrated monitoring system of measurement, reporting and verification of changes in deforestation and/or forest degradation, and forest enhancement activities. The system design should include early ideas on enhancing country capability (either within an integrated system, or in coordinated activities) to monitor emissions reductions and enhancement of forest carbon stocks, and to assess the impacts of the REDD-plus strategy in the forest sector.

The R-PP should describe major data requirements, capacity requirements, how transparency of the monitoring system and data will be addressed, early ideas on which methods to use, and how the system would engage participatory approaches to monitoring by forest-dependent indigenous peoples and other forest dwellers. The R-PP should also address the potential for independent monitoring and review, involving civil society and other stakeholders, and how findings would be fed back to improve REDD-plus implementation. The proposal should present early ideas on how the system could evolve into a mature REDD-plus monitoring system with the full set of capabilities.

(FCPF and UN-REDD recognize that key international policy decisions may affect this component, so a staged approach may be useful. The R-PP states what early activities are proposed.)

Table 4a. Summary of monitoring activities and budget						
Output	ACTIVITIES	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Capacity building and NFMS Action Plan development	Develop Bhutan's NFMS Action Plan	0	0	50	50	100
	Organize NFMS work and capacity building	20	20	20	0	60
	Formalize institutional arrangements for the implementation and management of the NFMS	5	5	5	0	15
Satellite Land Monitoring System developed and operationalized	Satellite Land Monitoring System developed and operationalized	40	39	30	40	149
	Forest boundary delineation in the field and GIS boundary generation for demonstration activities	5	5	5	0	15
	Capacity building on geospatial data processing and database management	0	50	50	0	100
	Establish a Forest Management Information System and web-GIS platform	40	10	10	0	60
Multipurpose NFI implementation completed and data management strengthened	Develop participatory tools for community forest monitoring	15	5	5	0	25
	Establish a harmonized classification system for land representation	20	20	0	0	40
	Capacity building of NFI field crews and data analysts	20	20	20	20	80
	Support to conducting NFI	0	270	270	130	670
National capacity built for compiling the GHG inventory for the LULUCF sector	Technical capacity building for the GHG inventory for the LULUCF sector	15	15	15	0	45
NFMS-related research supported	Support NFMS-related research and dissemination of findings	15	15	15	20	65
Total		195	474	495	260	1424
Royal Government of Bhutan		20	30	50	0	100
FCPF		175	444	445	260	1324

Other donors						
Output	ACTIVITIES	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Multipurpose NFI implementation completed and data management strengthened	Develop participatory tools for community forest monitoring	5	5	5	0	15
	Development of allometric equations using destructive sampling for 50 key species	10	10	10	0	30
National capacity built for compiling the GHG inventory for the LULUCF sector	Technical capacity building for the GHG inventory for the LULUCF sector	5	5	5	0	15
NFMS-related research supported	Support NFMS-related research and dissemination of findings	5	5	5	0	15
Total		25	25	25	0	75

4b. Designing an information system for multiple benefits, other impacts, governance and safeguards

Introduction

This sub-component proposes a process for development of a component of the NFMS referred to in Component 4a for monitoring benefits from REDD+ interventions other than reductions in net GHG emissions that includes biodiversity, soil and water conservation and SEI and the effectiveness of the planned safeguards and governance.

Existing arrangements for monitoring co-benefits

Multiple benefits are critical to ensuring that the right people get the right incentives to implement REDD+ activities. Socio-economic benefits that could include diversification of livelihoods, increased productivity, employment, increased income, food security and reduction of poverty are important tangible incentives. REDD+ activities can help to secure benefits such as ownership of land resources and services, participation in decision-making, improvement of governance in the forest sector, and cross-sector coordination to address emissions resulting from land use change.

The GNH indicators considered were those indicators that are designed to be measures of the specific dimensions, which make up the GNH model. For instance, demographic indicators constitute an important set of indicators to allow an analysis of the distribution of GNH dimensions across different social and demographic groups in the country. This includes various age and gender groups, occupational and employment clusters, educational backgrounds, types of households, ethnic groupings and geographical areas. The causal indicators that were considered were those factors affecting the performance of GNH status indicators. For instance, the general ratings of central government performance were broken down into more specific components to allow a more detailed analysis of factors affecting general governance performance ratings. As such these indicators are being broadly classified into various domains relating to the areas of psychological well being, cultural diversity and resilience, education, health, time use, good governance, community vitality, ecological diversity and resilience and economic living standards. These areas and their various indicators/indices were determined based on a pilot survey and a National GNH Survey conducted in 2006 and 2008 (The Centre for Bhutan Studies, 2010).

The composite GNH index is to be aggregated from these indices and indicators from among the nine domains with appropriate weighting. These indices and indicators – include a wide range of factors with a significant bearing on individual and collective happiness and include the mental health index, family relationship index, financial security indicator, healthy days per month indicator, body mass index, education level indicator, local air and water pollution indicators, house ownership indicator, human rights indicator and government performance index.

Given the nature of human happiness and well being, the evolution of GNH policies and strategies and the index must necessarily follow a dynamic, inclusive and open ended process that takes into consideration the relative importance of different variables and factors of happiness and well being that may or may not be relevant to Bhutanese society at a particular point of time

Biodiversity

Monitoring initiatives and tools developed within the framework of the Biodiversity Action Plan (National Biodiversity Centre, 2009) include: the publication of the first-ever “Field Guide to the Mammals of

Bhutan”, which provides brief accounts of the physical characteristics, social behavior, habitat and conservation threats of some 200 mammal species found in the country; field studies on the white-bellied heron (*Ardea insignis*) initiated in 2005 by RSPN, as well as research and monitoring of the black-necked crane (*Grus nigricollis*) as a part of their conservation management program in the Phobjikha Valley; and the first Bhutan Snow Leopard Information Management System (SLIMS), with training and field surveys conducted in Thimphu and Jigme Dorji National Park by WCD, in collaboration with the WWF Bhutan Program and the International Snow Leopard Trust. As for floral resources, Bhutan has published three volumes of the “Flora of Bhutan” (Grierson and Long, 1983); work on ferns and their allies is ongoing and the Red Book of Bhutan’s flowering plants is in preparation. The National Information Sharing Mechanism (NISM) is also in place and constitutes a valuable tool for the transparent and effective monitoring of the implementation of the Global Action Plan for Plant Genetic Resources for Food and Agriculture (PGRFA).

The Poverty Analysis Report 2012 estimated that 12 percent of the population was poor (National Statistics Bureau, 2013). Poverty in rural areas is significantly higher (16.7%) than in urban areas (1.8%) and thus poverty in Bhutan can be clearly characterized as a rural phenomenon. Around 66% of all the poor live in rural areas with most of the poor primarily engaged in subsistence farming as their primary occupation.

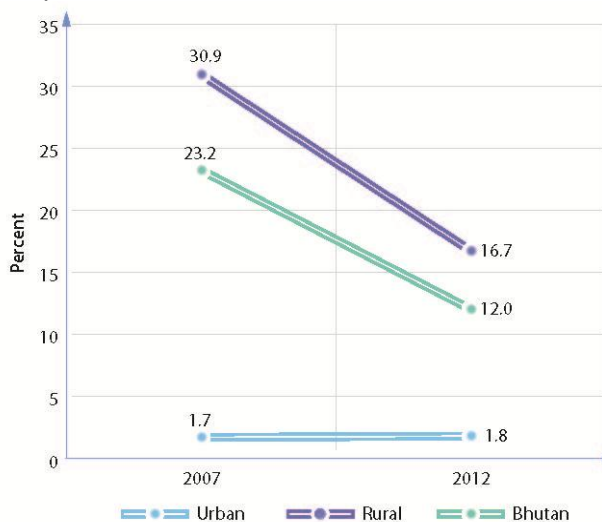


Figure 4b-1a: Poverty development trends in Bhutan (2007-2012; NSB (2013))

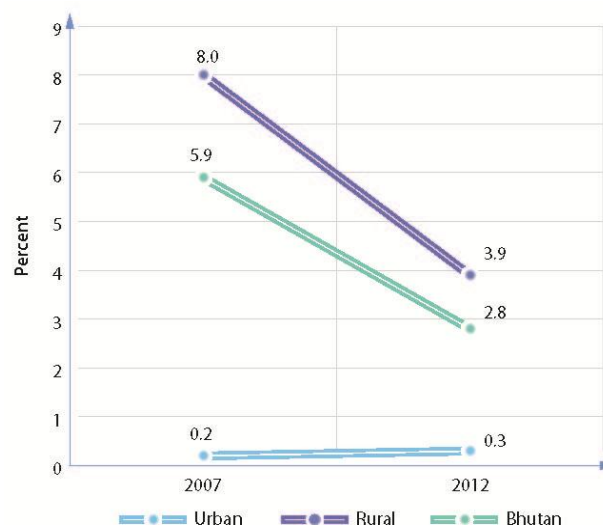


Figure 4b-1b: Populations subsistence poverty development trends in Bhutan (2007-2012; NSB (2013))

Tracking this for the years that the data are available, income poverty incidence has declined to present levels of 12% in 2012 from 36.3% in 2000, 31.7% in 2003 and 23.2% in 2007 (Figure 4b-1). While, subsistence or food poverty has risen from 3.8% in 2003 to 5.9% in 2007, it has declined subsequently to 2.8% in 2012. In addition to headcount ratios, measuring poverty gap and severity ratios provides a useful perspective on the depth and severity of poverty. Available data for 2003, 2007 and 2012 reflect significant reductions in the national and rural poverty gap ratios that declined from 8.6% to 6.1% to 2.6% and from 10.5% to 8.1% to 3.6% respectively. The poverty severity ratios at both the national level and in rural areas also respectively declined from 3.1% to 2.3% to 0.9% and from 3.8% to 3% to 1.2% (National Statistics Bureau, 2013).

Policies to address poverty in Bhutan are also viewed from a broader and multi-dimensional context than just an income perspective. This takes into account several other aspects of human deprivation such as access to improved drinking water and sanitation, educational and health attainment levels and access to basic infrastructure such as roads and electricity. While significant progress has been made to reduce human poverty levels, more effort will be required to address rural poverty and multi-dimensional aspects of poverty.

Governance and other impacts

The existing legal and regulatory framework relating to the forest and other sectors that provides the basis for governance of REDD+ is described in Component 2a. As discussed above, responsibility for implementing and monitoring these laws and regulations lies primarily with the GNHC through its mandate to promote effective and good governance, and its role of being the central government body for coordinating and spearheading policy formulation.

The functions of the GNHC that are relevant to this Component include:

- Preparing a Strategy for GNH (SGNH), a twenty-year perspective that provides long term development framework for the five year plans and programs till the year 2020.
- Developing mechanisms for effective enforcement of policies and resolving all issues arising from the implementation of policies and plans.
- Ensuring efficient and judicious allocation and utilization of scarce resources to bring about regionally balanced development and growth with stability, equity and social justice.
- Establishing coherence of policies to promote performance and growth, through a regular process of policy review and commissioning of policy research/studies/surveys by expert groups.
- Monitoring the implementation of development activities by instituting an effective monitoring and reporting system.
- Commissioning impact assessments and evaluations of policies, programs and activities to assess the progress towards the achievement of national goals and targets that are articulated in the SGNH.

Transparency of and access to information, and the provision of information in a timely manner, are important to ensure effective participation. The need for sufficient capacity to implement genuine multi-stakeholder processes is vital.

Multiple benefits to be included in the monitoring system

The main direct benefits, other than reductions in GHG emissions, from forest protection, management and restoration will strengthen conservation of biodiversity, improved seasonal distribution of water and improved water quality through maintaining forest cover and reducing the risk of soil erosion. Substantial indirect benefits will be obtained through improved governance, especially relating to land tenure and improved livelihoods for rural communities. Infrastructure development will generally have large economic benefits, but these must take into account the environmental cost of reduced biodiversity and soil and water degradation.

Monitoring governance

Improved governance will contribute to overall benefits from implementation of REDD+, especially through addressing the issue of land-tenure, which will both help to resolve the question of ownership of the carbon, and provide the basis for a concerted effort to improve livelihoods of rural communities, contributing to the broad aims of REDD+. Given some capacity constraints, public resources are managed reasonably well in Bhutan, though significant issues need to be addressed. Ensuring the maximum development impact of expenditures from increasing revenues from hydropower exports will require enhanced fiscal discipline. Moreover, the ongoing process of political and administrative decentralization has led to a paradigm shift in the planning and implementation of development activities, heightening the need for greater transparency and accountability, as well as increased capacity at the Dzongkhag and Geog levels. RGoB needs to improve accuracy and consistency of macroeconomic forecasting to help underpin sound revenue projections and inform policymaking.

System for developing a co-benefit monitoring system

At the beginning of Readiness phase a workshop with all relevant stakeholders will be convened. This workshop will aim to record in detail the precise parameters being measured by each agency, together with important statistical characteristics, including the frequency and intensity of sampling and locations for site-specific sampling such as river flow. The indicators to be used for monitoring various benefits will be identified and any gaps that may exist in current monitoring arrangements using guidelines produced by UNFCCC will be addressed. Information on the format in which the data is recorded will be assembled together with the quantity of data generated annually for each of the indicators identified. In view of the number of agencies that will need to be involved and the extent and complexity of the current monitoring arrangements, more than one workshop is likely to be required, but the aim will be to complete the first step within six months. The results of the workshop(s) will be publicized for further stakeholder inputs.

Having assembled information on the parameters monitored and the quantity, quality and format of the data, the TWG on REL and NFMS development will assess and recommend integration of the data into an Information System compatible with the NFMS that can be readily and easily accessed for monitoring purposes. It is expected that this step will be completed in the early stage of Readiness phase. This will be followed by consultations with relevant agencies that will be required to monitor aspects of implementation and agreements on responsibilities and procedures for sharing data. At the same time, investigations will be proceeding to select sites for pilot studies under Component 2b, and arrangements for relevant stakeholders to contribute to the monitoring will be discussed, agreed and approved. It is expected that it will require around a year to identify pilot sites and conduct consultations with participating stakeholders and to complete the co-benefit monitoring system. The monitoring of co-benefits will be an integral part of the monitoring system set up and piloted at the selected pilot sites as shown in Figure 4-1 under Component 4a. After an appropriate period, monitoring results from the pilot sites will be evaluated and the national co-benefit monitoring system refined and approved.

The role of stakeholders in the monitoring system

The roles of local communities, NGOs, various government agencies or institutes, and the private sector will need to be determined in detail during the design stage of each of the pilot activities. Voluntary participation will be welcomed, especially where the stakeholder already has the capacity, hardware and software to contribute.

The scope for community monitoring of carbon stocks is referred to under Component 4a and trials will also be extended to include community monitoring of biodiversity and water quality. Successful low cost community monitoring of stream flow and water quality has been developed in the Philippines (Deutsch et al., 2001) and of biodiversity in Australia (Carlton, 2001) and similar methods based on international experience will be piloted in Bhutan. At present, there is some experience involving communities in biodiversity monitoring in Bhutan.

The cooperation and participation of government agencies referred to above mandated to monitor relevant social and environmental parameters will be sought and their roles and responsibilities agreed.

NGOs and NRDCL, a state enterprise, already have various initiatives, as described in Component 2a and discussions will be held with them regarding their current arrangements and experience with monitoring the performance of their initiatives. Consultations will be held with as many of these stakeholders as possible to assess their interest in supporting the monitoring of co-benefits and the resources and capacity that they are willing and able to contribute.

Monitoring systems and indicators

The overall aim is to have a unified monitoring system that covers changes in forest composition and carbon stocks as well as co-benefits and social and environmental impacts to ensure compliance with safeguards. A REDD+ monitoring system will be created to incorporate the NFMS described under Component 4a and a co-benefit monitoring system. This latter will include biodiversity data and relevant socio-economic data compiled by GNHC. Changes and improvements to livelihoods and other co-benefits, resulting from REDD+ interventions will be collected by relevant government agencies and, where appropriate and feasible, local communities and the private sector. The information submitted will be checked by the REDD+ Office to ensure consistency between sources, and re-assessment will be requested where data appears anomalous. Once evaluated, results will be posted on a web-GIS forest monitoring portal to facilitate accessibility and sharing of data both nationally and internationally. The workshop among relevant stakeholders on identifying potential indicators to be used for monitoring co-benefits will be carried out during the Readiness phase. Preliminary potential indicators that may be considered to assess REDD+ co-benefits are listed in Table 4b-1.

Table 4b-1. Potential indicators to assess REDD+ co-benefits and safeguards

Topics for monitoring	Examples of indicators
Policy and governance	Development of relevant policies, regulations, guidelines, rules, acts, strategy documents, and procedures for REDD+ Implementation of FYPs for MoAF "on track" (compliance and budgetary monitoring using the PLAMS on-line) Number of resource management plans approved by Minister, MoAF Number of management units established Number of conflicts overuse of resources Number of corrupt practices reported to ACC for the forest sector Number of forest offences reported Percentage of reported offences settled Number of incidences of non-respect for FPIC Number of forest-related plans, policies etc. that are "referred for further development" by GNHC
Biodiversity	Change in endemic species Degraded areas rehabilitated including vegetation Identify key species (flora and fauna) that characterize the health of different ecosystems, and assess changes PAs established and encroachment of existing Pas
Poverty alleviation Indicators are defined in 10 th FYP NSB Living standards survey 2012	Food security Employment: creation or loss due to REDD+ Income: gains or losses Enterprises: diversification and migration Technologies made available and accessibility Access to education and health Value of NWFPs harvested
Cultural diversity	Number of complaints related to changes resulting from REDD+ interventions
Gender equality	Percentage of men and women participating in planning Percentage of women participating in decision making in forest-margin communities Percentage of women receiving positive incentives for REDD+ interventions Average value of positive incentives received by women and men
Environmental quality	Water quality Water quantity Incidence of landslides

Main interventions to be considered (see Component 4a):

- Preparation of web-GIS portal (as a component of NFMS)
- A national forest cover and land use map will be developed, based on recent satellite data, for use as the base map of the web-GIS platform,
- Analyze existing data collection and compilation platforms and establish a mechanism for complementarities of processes and information sharing, and
- Establish a system for regular updates of information.

Development of methodologies and establishment of systems for assessing performance related to REDD+ co-benefits:

- Refine indicators and establish mechanisms of assessing REDD+ co-benefits performance,
- Establish reference levels for co-benefits, and
- Establish participatory monitoring processes and train land users in data collection methodologies (see Component 4a)

Monitoring capacity and future capacities required

Discussions and negotiations will take place with various government agencies and local communities to evaluate the existing facilities and capacity for monitoring co-benefits during the implementation of REDD+ demonstration activities. The roles and responsibilities of participating departments and national institutions, for the selection/design of indicators, and for ensuring compliance with social and environmental safeguards will be negotiated during the first year of the Readiness phase. The need for capacity building, training, and additional hardware and software will be assessed and a plan drawn up for implementation of the identified actions.

Sub-national level monitoring

Monitoring of co-benefits may be conducted at the sub-national level (e.g., Dzongkhag and/or Geog), as part of NFMS. The monitoring of co-benefits will be included in the studies proposed in Component 4a.

Social and environmental safeguards

The Cancun Agreements encourage all Parties to find effective ways to reduce the human pressure on forests that results in GHG emissions, including actions to address drivers of deforestation. The Decision also affirms that the implementation of REDD+ activities should be carried out in accordance with annex I to the decision, which provides guidance and safeguards for the implementation of REDD+ activities. In addition, in Bhutan (see Component 2a and 2d) there are a number of laws, environmental policies, procedures (EIA) and measures that are used to mitigate and protect social and environmental impacts relating to programs/projects. These sets of policies and procedures along with the World Bank's Safeguard Policies³, will be used during the Readiness phase as a safeguard tool. In order to ensure that the implementation of REDD+ activities in Bhutan is consistent with the Cancun Agreements and that safeguards are being addressed and respected, a Safeguards Information System (SIS) will be designed. The system will be developed and tested at the demonstration sites, subject to available financial support. The design will be based on a participatory approach. The related activities and budget are outlined in Component 2d.

Table 4b shows activities and budget for designing systems for the integration of monitoring co-benefits into NFMS.

³ Or the Safeguard Policies of the Delivery Partner

Description of activities to implement component 4b

Output 1: SIS and co-benefit monitoring systems established and operational

Under this output a process for the development of a component for monitoring benefits from REDD+ interventions other than reductions in net greenhouse gas emissions, which includes biodiversity, soil and water conservation would be pursued. Assessment of REDD+ safeguards and co-benefits in the context of Bhutan and development of country-specific indicators will also be carried out including the integration of SIS into the NFMS of Component 4a.

Activity 1.1: Identification of non-carbon aspects, information sharing and definition of mandates

For a holistic assessment of the impacts of REDD+ activities, non-carbon aspects need to be considered.

Under this activity the following sub-activities will be implemented:

1. Stakeholder consultation
2. identify priority non-carbon aspects of REDD+ implementation.
3. Development of SIS
4. Design and develop a transparent system for sharing consistent information on non-carbon aspects/safeguards and
5. Make the following information available: key quantitative and qualitative variables on the impacts of REDD+ activities on rural livelihoods, conservation of biodiversity and natural forests, ecosystem services provision, key governance factors directly pertinent to REDD+ implementation, and the implementation of safeguards, paying attention to the specific provisions included in the ESMF
6. Assign mandates to perform tasks related to non-carbon aspects/safeguards, and
7. Identify and estimate resource needs (e.g., human, financial and technical capacities and training requirements).

Expected outputs:

- Non-carbon aspects of REDD+ activities along with their impacts analyzed
- Organizational mandates pertaining to non-carbon aspects of REDD+ assigned
- Transparent information sharing platform developed

Activity 1.2: Development of methodologies and establishment of system for assessing performance related to REDD+ co-benefits

In order to objectively identify the co-benefits, a set of indicators needs to be defined and reference levels established. Along with this, a monitoring mechanism needs to be put in place.

Under this activity, following sub-activities will be implemented:

1. Establish participatory monitoring procedures
2. Refine indicators and establish mechanisms of assessing REDD+ co-benefits performance,
3. Establish reference levels for co-benefits and
4. Establish participatory monitoring processes and train land users in data collection methodologies (see Component 4a)

Expected outputs:

- Indicators to assess co-benefits defined and reference levels established
- Monitoring system in place

Box 4-3: The Cancun COP Decision 1/CP.16: Reporting on Safeguards

Par. 71 calls for: “(d) A system for providing information on how the safeguards referred to in appendix I to this decision are being addressed and respected throughout the implementation of the activities referred to in paragraph 70...”

Appendix I Guidance and safeguards...:

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

(a) That 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 the actions referred to in paragraphs 70 and 72 of this decision;

(e) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the 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;

(f) Actions to address the risks of reversals;

(g) Actions to reduce displacement of emissions.

Source: <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>

Standard 4b the R-PP text needs to meet for this component: Designing an Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards:

The R-PP provides a proposal for the initial design and a workplan, including early ideas on capability (either within an integrated system, or in coordinated activities) for an integrated monitoring system that includes addressing other multiple benefits, impacts, and governance. Such benefits may include, rural livelihoods enhancement, conservation of biodiversity, and/or key governance factors directly pertinent to REDD-plus implementation in the country.

(The FCPF and UN-REDD recognize that key international policy decisions may affect this component, so a staged approach may be useful. The R-PP states what early activities are proposed.)

Table 4b. Summary of monitoring activities and budget						
Output	ACTIVITIES	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Identification of non-carbon aspects, information sharing and definition of mandates	Stakeholder consultation	5	5	0	5	15
	Identify priority non-carbon aspects of REDD+ implementation.	5	0	0	0	5
	Development of SIS	10	0	0	0	10
Development of methodologies and establishment of system for assessing performance related to REDD+ co-benefits	Establish participatory monitoring process	5	5	0	0	10
	Establish reference level and indicators for REDD+ co-benefits	10	0	0	0	10
Total		35	10	0	5	50
Royal Government of Bhutan		10	0	0	0	10
FCPF		25	10	0	5	40

Other donors						
Output	ACTIVITIES	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Identification of non-carbon aspects, information sharing and definition of mandates	Stakeholder consultation	5	5	0	0	10
Total		5	5	0	0	10

Component 5: Schedule and Budget

The total funding sought from all sources is US\$ 4,612,000 with \$3.8 million from FCPF and \$0.372 million from RGoB. Additional funding to be sought from other donors as mentioned in the budget plan is US\$ 0.440 million.

Other donors include:

- Global Climate Change Alliance (GCCA) supports mainstreaming of climate change adaptation into the RNR sector aiming at enhanced resilience of rural households against the effects of climate change.
- Bhutan Trust Fund for Environmental Conservation (BT FEC): see Component 2c: specifically supports the establishment of PES schemes with co-funding from the Blue Moon Fund (BMF). It will also support partially the National Forest Monitoring System component.
- Blue Moon Fund (BMF) supports adaptation to climate change. In Bhutan, BMF specifically supports the establishment of Payment for Environmental Services (PES) schemes through SNV, Bhutan.
- UNDP, UNEP and FAO as part of the UN REDD will provide funding from targeted support (TS) towards specific activities in the Bhutan's REDD+ Readiness preparation proposal such as developing Anti-corruption measures, Benefit distribution System, in-depth consultation meeting with the local communities, carbon stock assessment trainings, NFI database development, social safeguards and capacity building of the staffs.
- The Government of Austria provides support to DoFPS through research on climate change resilience and adaptation.

Component	Y1	Y2	Y3	Y4	Total
Component 1 (1a+1b+1c)	495	420	344	316	1575
Sub-component 1a	195	165	135	135	630
Sub-component 1b	187	161	144	124	616
Sub-component 1c	113	94	65	57	329
Component 2 (2a+2b+2c+2d)	345	340	225	75	985
Sub-component 2a	125	95	55	0	275
Sub-component 2b	110	120	90	20	340
Sub-component 2c	80	90	55	40	265
Sub-component 2d	30	35	25	15	105
Component 3	75	195	175	40	485
Component 4 (4a+ 4b)	260	514	520	265	1559
Sub-component 4a	220	499	520	260	1499
Sub-component 4b	40	15	0	5	60
Component 6	2	2	2	2	8
TOTAL	1177	1471	1266	698	4612
Royal Government of Bhutan	128	93	108	43	372
FCPF	899	1235	1053	613	3800
Other Dev. partners (GCCA, BT FEC, BMF, UNDP, FAO, Gov. of Austria)	210	143	105	42	500

Budget Summary: Component Wise

Table 1a. Summary of national Readiness management arrangements activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands US\$)				
		2014-15	2015-16	2016-17	2017-18	Total
Establishment and operationalization of REDD+ Taskforce and TWGs	TWG and REDD+ Taskforce Meetings	10	10	10	10	40
	Dissemination of reports	5	5	5	5	20
	Capacity building of Working Groups & Taskforce	20	20	10	10	60
Establishment of REDD+ information centre	Hardware for database management and operating cost	25	10	5	5	45
	Hire an information specialist	10	10	5	5	30
Establishment of REDD+ secretariat	National Office space operating costs	10	10	10	10	40
	Regional Office space cost	25	25	25	25	100
	National operating cost (amenities and furniture and computers)	20	5	5	5	35
	Capacity building of the local staff	10	10	10	10	40
	Attending International meetings, seminars	30	30	30	30	120
Total		165	135	115	115	530
Royal Government of Bhutan		10	10	10	10	40
FCPF		155	125	105	105	490

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands US\$)				
		2014-15	2015-16	2016-17	2017-18	Total
Support REDD+ readiness process	Technical support	5	5	5	5	20
	Capacity building	5	5	3	5	18
Establishment of REDD+ information centre	Hardware for database management	5	5	2	2	14
Establishment of REDD+ secretariat	Capacity building	10	10	5	5	30
	Attending International meetings, seminars	5	5	5	3	18
Total		30	30	20	20	100

Table 1b. Summary of information sharing and early dialogue with key stakeholder groups activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Preparation of information sharing and consultation process	Developing awareness program materials (documentary, posters, brochures)	20	0	20	0	40
	Capacity Building of local communities and Training of trainers (TOT)	30	30	0	0	60
Communication media	Developing website	5	2	2	2	11
	Media campaign process	10	10	10	10	40
Workshops and seminars	20 Dzongkhag level workshops	90	90	90	90	360
	National Level	10	10	10	10	40
Total		165	142	132	112	551
Government		15	5	10	10	40
FCPF		150	137	122	102	511

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Preparation of information sharing and consultation process	Develop awareness raising materials	5	1	1	0	7
	Capacity Building of local communities and Training of trainers (TOT)	3	3	3	2	11
Workshops and seminars	Regional workshops	10	5	5	5	25
	National Level	4	10	3	5	22
Total		22	19	12	12	65

Table 1c. Summary of consultation and participation activities and budget						
Main Activity	Sub-Activity	Estimated cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Consultation meeting at national/regional/Dzongkhag level	MRV and monitoring	10	0	0	10	20
	BDS	10	8	10	10	38
	Grievance mechanism meeting	8	5	5	5	23
	Climate change Taskforce meeting	2	2	2	2	8
	Stakeholders meeting	20	20	20	20	80
Capacity building at Dzongkhag and community level	Stakeholders capacity building in 20 Dzongkhags	0	0	0	0	0
Implementation of pilot project activities	CFs/PAs/FMUs	45	45	20	10	120
Total		95	80	57	57	289
Royal Government of Bhutan		12	12	7	7	38
FCPF		83	68	50	50	251

Other donors						
Main Activity	Sub-Activity	Estimated cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Consultation meeting at national/regional/Dzongkhag level	Stakeholder Participation Plan/guideline	60	0	0	0	60
	BDS	6	5	3	0	14
	ACM	6	5	3	0	14
	Grievance mechanism meeting	6	4	2	0	12
Total		78	14	8	0	100

Table 2a. Summary of assessment of Land Use, Land Use Change drivers, forest law, policy and governance activities and budget

Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Assess and update existing drivers that lead to deforestation and degradation of forests	Assess drivers and update the current drivers	45	45	45	0	135
	Assess CF management and update in accordance to REDD+ options	10	10	0	0	20
	Assessment of current forest governance and update	10	0	0	0	10
	Conduct a study on Tseri	10	0	0	0	10
	Assessment of FMU operations	10	10	0	0	20
	Update and prioritize drivers in terms of contribution to overall emission	0	10	0	0	10
	Economic analysis of strategy options	10	10	0	0	20
	Update Livestock for Green Enterprise Development and Poverty Alleviation	10	0	0	0	10
Total		105	85	45	0	235
Royal Government of Bhutan		15	10	0	0	25
FCPF		90	75	45	0	210

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Assess and update existing drivers that lead to deforestation and degradation of forests	Study climate change effects on fire hazard and behavior in affected forest ecosystems	20	10	10	0	40
Total		20	10	10	0	40

Table 2b. Summary of REDD-plus strategy activities and budget (or Results Framework)

Output (major activity)	Organizations involved	Activities or Sub-activities	Budget allocation in thousand (estimated cost in thousands)				
			2014-15	2015-16	2016-17	2017-18	Total
Outcome 1: National REDD+ Strategy							
Output 1.1		1.1.1 Development of Strategy	0	20	0	0	20
	DoFPS	SA 1. Risk analysis: A risk analysis framework that summarizes major types of risks, and how significant they are for the major REDD+ strategy activities.	0	10	0	0	10
	DoFPS	SA 2. Feasibility assessments (socioeconomic, political and institutional)	20	0	0	0	20
	DoFPS	SA 3. Financing mechanisms for REDD+ activities and transactions.	0	20	0	0	20
	DoFPS	SA 4. Identification of Pilot project area	10	0	0	0	10
	DoFPS	SA 5. Benefit sharing arrangements piloting in community forest	0	0	10	20	30
	DoFPS	SA 6. Economic valuation to assess the value of the forest at the national level (PhD)	45	45	45	0	135
	DoFPS	SA 7. Good governance in REDD+ activities	0	0	10	0	10
	CoRBB	SA 1. Review existing research on alternative livelihoods	5	0	10	0	15
	DoFPS	SA 2. Study on domestic demand and trade of logs/timber	5	0	0	0	5
	DoFPS	SA 3. Analyze capacity building needs for improving technical background knowledge and skills e.g. financial management, accounting, facilitation, negotiation, moderation, planning, monitoring and evaluation skills	5	0	0	0	5
	DoFPS	SA 4. Processes EIAs and SIAs and biomass disposal regulations	5	0	0	0	5
	DoFPS	SA 5. Pilot participatory boundary demarcation	0	10	0	0	10
Total			95	105	75	20	295
Royal Government of Bhutan			10	10	15	5	40
FCPF			85	95	60	15	255

Other donors							
Output (major activity)	Organizations involved	Activities or Sub-activities	Budget allocation in thousand (estimated cost in thousands)				
			2014-15	2015-16	2016-17	2017-18	Total
Outcome 1: National REDD+ Strategy							
637	DoFPS	Improve forest fire management mechanism	15	15	15	0	45
Total			15	15	15	0	45

Table 2c. Summary of REDD-plus implementation framework activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Capacity building	Review of capacity building needs	5	0	0	0	5
	Training of 5 Trainers	25	10	0	0	35
	Training on carbon benefits/ management	0	10	10	0	20
	Training on GHG database development	0	10	10	10	30
	RELS/RLs and NFMS	0	10	10	10	30
	Training on forest management	0	10	10	10	30
	Training on Information system	0	5	5	0	10
Institutional reform	Study gaps in institutional arrangement	5	5	0	0	10
Development of regulatory framework	Assessment of existing regulation	0	10	0	0	10
	Developing framework for REDD+ activities & registry	20	0	0	0	20
	Develop Benefit sharing modality	15	0	0	0	15
Total		70	70	45	30	215
Royal Government of Bhutan		5	5	5	5	20
FCPF		65	65	40	25	195

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Capacity building	Training on forest management	0	5	5	5	15
Development of regulatory framework	Assessment of existing regulation	0	5	0	0	5
	Develop Benefit sharing modality	10	10	5	5	30
Total		10	20	10	10	50

Table 2d. Summary of social and environmental impacts during Readiness preparation and REDD-plus implementation activities and budget

Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Development of ESMF	Identify and analyze key drivers influencing society and environment	10	10	0	0	20
	Analyze policy and strategy framework related to REDD+	5	0	0	0	5
	Assess Social and Environmental Impact of REDD+ activities	5	15	15	15	50
	Establish monitoring system	10	0	0	0	10
	Develop ESMF	0	10	10	0	20
Total		30	35	25	15	105
Royal Government of Bhutan		5	5	5	5	20
FCPF		25	30	20	10	85

Table 3. Summary of reference level activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Capacity building and review of methodologies for establishing REL/RLs	REL/RL capacity building workshop held with stakeholders	0	10	0	0	10
	Study carried out into the context of REL/RL implementation in Bhutan and methodological options available	0	30	30	20	80
	Stakeholder consultation workshop to present findings of the REL/RL methodological study	0	0	10	0	10
	Consultations to determine which methodologies to pilot at demonstration sites	0	0	30	0	30
Analyze historical land use change trends at the national scale	See activities under Component 4a land use change analysis activities	0	0	0	0	0
	Historical annual emissions calculated using emission factors from national forest monitoring system (Component 4a)	0	20	0	0	20
Review relevant national circumstances and collect data	Assessment of the drivers of deforestation (see Component 2), including policy and land use governance context	0	0	0	0	0
	Stakeholder consultation workshop to present findings of the study on national circumstances	0	20	20	0	40
	Development of potential REL/RL adjustment factors	40	40	40	0	120
Selection of demonstrations sites for piloting and testing of national and/or sub-national RELs/RLs	Proposals for locations of pilot sites where RELs/RLs methodologies will be tested	20	0	0	0	20
	Preliminary national and/or sub-national RELs/RLs and feedback on the methodology used from the UNFCCC	10	10	20	0	40
	Lessons learned and feedback from implementation	0	30	0	0	30
	Refined RELs/RLs methodology/ies	0	30	20	20	70
Total		70	190	170	40	470
Royal Government of Bhutan		25	5	5	0	35
FCPF		45	185	165	40	435

Other donors						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Review relevant national circumstances and collect data	Development of potential REL/RL adjustment factors	5	5	5	0	15
Total		5	5	5	0	15

Table 4a. Summary of monitoring activities and budget						
Output	ACTIVITIES	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Capacity building and NFMS Action Plan development	Develop Bhutan's NFMS Action Plan	0	0	50	50	100
	Organize NFMS work and capacity building	20	20	20	0	60
	Formalize institutional arrangements for the implementation and management of the NFMS	5	5	5	0	15
Satellite Land Monitoring System developed and operationalized	Satellite Land Monitoring System developed and operationalized	40	39	30	40	149
	Forest boundary delineation in the field and GIS boundary generation for demonstration activities	5	5	5	0	15
	Capacity building on geospatial data processing and database management	0	50	50	0	100
	Establish a Forest Management Information System and web-GIS platform	40	10	10	0	60
Multipurpose NFI implementation completed and data management strengthened	Develop participatory tools for community forest monitoring	15	5	5	0	25
	Establish a harmonized classification system for land representation	20	20	0	0	40
	Capacity building of NFI field crews and data analysts	20	20	20	20	80
	Support to conducting NFI	0	270	270	130	670
National capacity built for compiling the GHG inventory for the LULUCF sector	Technical capacity building for the GHG inventory for the LULUCF sector	15	15	15	0	45
NFMS-related research supported	Support NFMS-related research and dissemination of findings	15	15	15	20	65
Total		195	474	495	260	1424
Royal Government of Bhutan		20	30	50	0	100
FCPF		175	444	445	260	1324

Other donors						
Output	ACTIVITIES	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Multipurpose NFI implementation completed and data management strengthened	Develop participatory tools for community forest monitoring	5	5	5	0	15
	Development of allometric equations using destructive sampling for 50 key species	10	10	10	0	30
National capacity built for compiling the GHG inventory for the LULUCF sector	Technical capacity building for the GHG inventory for the LULUCF sector	5	5	5	0	15
NFMS-related research supported	Support NFMS-related research and dissemination of findings	5	5	5	0	15
Total		25	25	25	0	75

Table 4b. Summary of monitoring activities and budget						
Output	ACTIVITIES	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Identification of non-carbon aspects, information sharing and definition of mandates	Stakeholder consultation	5	5	0	5	15
	Identify priority non-carbon aspects of REDD+ implementation.	5	0	0	0	5
	Development of SIS	10	0	0	0	10
Development of methodologies and establishment of system for assessing performance related to REDD+ co-benefits	Establish participatory monitoring process	5	5	0	0	10
	Establish reference level and indicators for REDD+ co-benefits	10	0	0	0	10
Total		35	10	0	5	50
Royal Government of Bhutan		10	0	0	0	10
FCPF		25	10	0	5	40

Other donors						
Output	ACTIVITIES	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Identification of non-carbon aspects, information sharing and definition of mandates	Stakeholder consultation	5	5	0	0	10
Total		5	5	0	0	10

Table 6. Summary of program M&E activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Monitoring report	Report preparation and dissemination	1	1	1	1	4
Meetings and workshops with stakeholders Reports	Reports preparation and dissemination	1	1	1	1	4
Total		2	2	2	2	8
Royal Government of Bhutan		1	1	1	1	4
FCPF		1	1	1	1	4

Component 6: Design a program monitoring and evaluation framework

Introduction

The REDD+ preparation activities described above are intended to get Bhutan ready over the next four years to be able to fully access global REDD+ funding from a future compliance mechanism and to benefit from the various other forms of carbon incentive mechanisms that currently exist or are being developed. Whatever form these mechanisms may take, it will be important for Bhutan to participate fully in international negotiations, and the preparatory process also requires that experience gained from implementing a wide range of REDD+ related activities informs national policies and future activities as well as the government's position in international negotiations.

The REDD+ Readiness phase will be extremely complex to manage, because of the wide variety of activities and stakeholders involved, the innovative nature of many of the actions needed and the multiple funding sources that will be involved. The establishment of a REDD+ Secretariat with full-time staff will be a vital component in managing the process, but it will require sound M&E to ensure effectiveness and the achievement of overall objectives.

The purpose of the M&E Framework is to provide the REDD+ Secretariat with the means to manage the REDD+ Readiness phase in an effective, efficient and transparent manner, to ensure coordination among different initiatives, to identify gaps in REDD+ Readiness that need to be addressed, and to assess progress in REDD+ Readiness activities.

The REDD+ strategy will be developed in detail during Readiness phase based on inputs under Components 1-4, and regular monitoring and evaluation will be essential. Table 6-1, below, provides the framework for monitoring REDD+ Readiness.

Many of the activities and much of the capacity building required for REDD+ Readiness will be implemented through donor-funded projects, and it is essential that the REDD+ Secretariat maintains a detailed register of all the activities as part of the overall monitoring process.

A key function of WMD, and subsequently of the REDD+ Secretariat, will be to manage and coordinate the work plan for the four years of the Readiness phase, ensuring that all donor-funded activities and any projects initiated by NGOs or the private sector are effectively coordinated, and not duplicative. This will enable the targets and indicators outlined below to be evaluated, elaborated and milestones set in accordance with the capacity available for implementation.

Further stakeholder consultations will be needed to confirm the Dzongkhags and Geogs where activities aimed at reducing CO₂ emissions will be piloted, and these consultations will determine the detailed time schedule for implementation.

Table 6-1: M&E framework

Outcome for component	Component	Output	Major activities	Indicators	Timeframe
REDD+ framework in place based on stakeholder consultation process	1a	All REDD+ Readiness management structures are operational	Establishment and operationalization of Taskforce	Official document establishing Taskforce Reports of Taskforce meetings	2014 Quarterly review meetings
			Establishment and operationalization of TWGs	Official document establishing TWGs Reports of TWG meetings	2014 Quarterly review meetings
			Establishment and operationalization of REDD+ Secretariat	Official document establishing Taskforce Reports of Taskforce meetings	2014 Quarterly review meetings
	1c	National and sub-national government agencies, private sector, NGOs and communities have capacities required to implement REDD+	Regular and structured stakeholder consultation processes inform development of REDD+ Strategy	Stakeholder consultation strategy established Reports of stakeholder consultations	2014-2017 Biennial review meetings
All stakeholder groups aware of relevant REDD+ issues and trained accordingly			Capacity needs assessment reports Training reports	2014-2017 Biennial review meetings	
National REDD+ Strategy developed	2b	National REDD+ strategy finalized following comprehensive consultation process	Drafting of REDD+ strategy sections	Interim progress reports to Taskforce	2014-2015
			Consultation, review and validation	Reports of stakeholder consultations Publication of strategy	2015
	2c	Financial management and benefit sharing guidelines approved	Studies and consultations	Interim progress reports to Taskforce Reports of stakeholder consultations	2014-2016
			Production of guidelines	Publication of guidelines	2016
	2d	Pilot interventions deliver lessons	Design and implementation of pilot interventions	Design documents Project reports	2014-2018
			Review international best practice and lessons	ToR endorsed by Taskforce Report of assessment	2014
		Environmentally and socially appropriate environmental and social safeguards system	Design, consult and secure validation for safeguards system	ToR endorsed by Taskforce Preliminary draft Reports on stakeholder consultations Taskforce report approving final proposal	2014-2016
			Undertake SESA	ToR endorsed by Taskforce Consultants recruited Report produced	2014-2015
Environmental and social management framework approved	Draft ESMF, consult and validate	Draft ESMF Reports on stakeholder consultations Taskforce report approving ESMF	2015-2016		
	National RELs/RLs developed	3	Reference Emission Levels established	Historical forest change analysis, assessment of national circumstances, national and provincial REL development	Published national and sub-national RELs Report of assessment of national circumstances Results of historical national land use change analysis
NFMS designed	4a	NFMS established and	Implement satellite land	National forest mask	2017-2018

		operational	monitoring system, implement full NFI, compile GHG inventory for LULUCF sector using national data	Report of the full implementation of the NFI National emission factors and activity data GHG inventory based on national data	
	4b	SIS and co-benefit monitoring systems established and operational	Assessment of REDD+ safeguards and co-benefits in the context of Bhutan and development of country-specific indicators	REDD+ safeguard and co-benefit indicators for Bhutan SIS integrated with the NFMS	2016-2017

Achievement of the results indicated for each Component is subject to a number of assumptions and risks. These are set out in Table 6-2, below. The budget for monitoring activities is shown in Table 6-3.

Table 6-2: Assumptions and risks associated with each Component

Component	Assumptions and risks
1a	<p>Assumptions Taskforce is designed appropriately to oversee process of REDD+ Readiness REDD+ Secretariat and TWGs established in a timely fashion Arrangements for managing REDD+ funding agreed and established Full-time staff assigned to REDD+ Secretariat REDD+ TF and TWGs meet regularly Government staff and stakeholder representatives made available for training Government assigns sufficient staff and office space.</p> <p>Risks Delays in disbursing funds Insufficient qualified staff available</p>
2b	<p>Assumptions Stakeholder support maintained Government approves proposed strategy Stakeholder commitment for negotiating land-use changes to minimize CO₂ emissions secured</p> <p>Risks Stakeholders fail to agree to crucial parts of the proposed strategy National or local political interference in land-use planning process</p>
2c	<p>Assumptions All stakeholders agree an equitable financial management and benefit sharing arrangements</p> <p>Risks Disagreement over benefit sharing arrangements insoluble</p>
2d	<p>Assumptions Selected communities are able to fully comprehend and agree to the measures that they are expected to implement Stakeholder commitment for negotiating land-use changes to minimize CO₂ emissions secured</p> <p>Risks National or local political interference in land-use planning process</p>
3	<p>Assumptions Guidance from the UNFCCC COP on RELs/RLs is completed Feedback on preliminary RELs/RLs methodology/ies will be received from the UNFCCC Secretariat in a timely manner Agreement can be reached on the influence of national circumstances on adjusting RELs/RLs</p> <p>Risks Agreement cannot be reached on methodologies among government agencies Agreement cannot be reached among stakeholders on relevant national circumstances for RELs/RLs UNFCCC is overwhelmed with submissions and unable to provide timely feedback on preliminary RELs/RLs methodologies</p>
4a	<p>Assumptions Data on concessions for land-use change reported accurately and in a timely manner Adequate and accurate data available from satellite and other sources Government agencies reach data sharing agreements Government agencies agree to transparently sharing NFMS data online</p> <p>Risks Obstacles to acquisition of necessary data No significant barriers encountered to field implementation of the NFI Government agencies fail to agree to share forestry data Poor internet connection prevents continual updating of the NFMS web-portal Data sharing agreement(s) not reached between government agencies</p>
4b	<p>Assumptions Nationally appropriate safeguards systems established Adequate and accurate data on safeguards and co-benefits available</p> <p>Risks Obstacles to acquisition of necessary data</p>

**Standard 6 the R-PP text needs to meet for this component:
Design a Program Monitoring and Evaluation Framework**

The R-PP adequately describes the indicators that will be used to monitor program performance of the Readiness process and R-PP activities, and to identify in a timely manner any shortfalls in performance timing or quality. The R-PP demonstrates that the framework will assist in transparent management of financial and other resources, to meet the activity schedule.

Table 6.3. Summary of program M&E activities and budget						
Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2014-15	2015-16	2016-17	2017-18	Total
Monitoring report	Report preparation and dissemination	1	1	1	1	4
Meetings and workshops with stakeholders Reports	Reports preparation and dissemination	1	1	1	1	4
Total		2	2	2	2	8
Royal Government of Bhutan		1	1	1	1	4
FCPF		1	1	1	1	4

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Annex 1a: National Readiness management arrangements

Annex 1a-1 ToR for the Multi-Sectoral Technical Committee on Climate Change

Purpose

The purpose of MSTCCC is to serve as an official national forum for discussion and coordination of matters related to climate change in Bhutan and to make recommendations for consideration by the National Climate Change Committee (NCCC) of Bhutan.

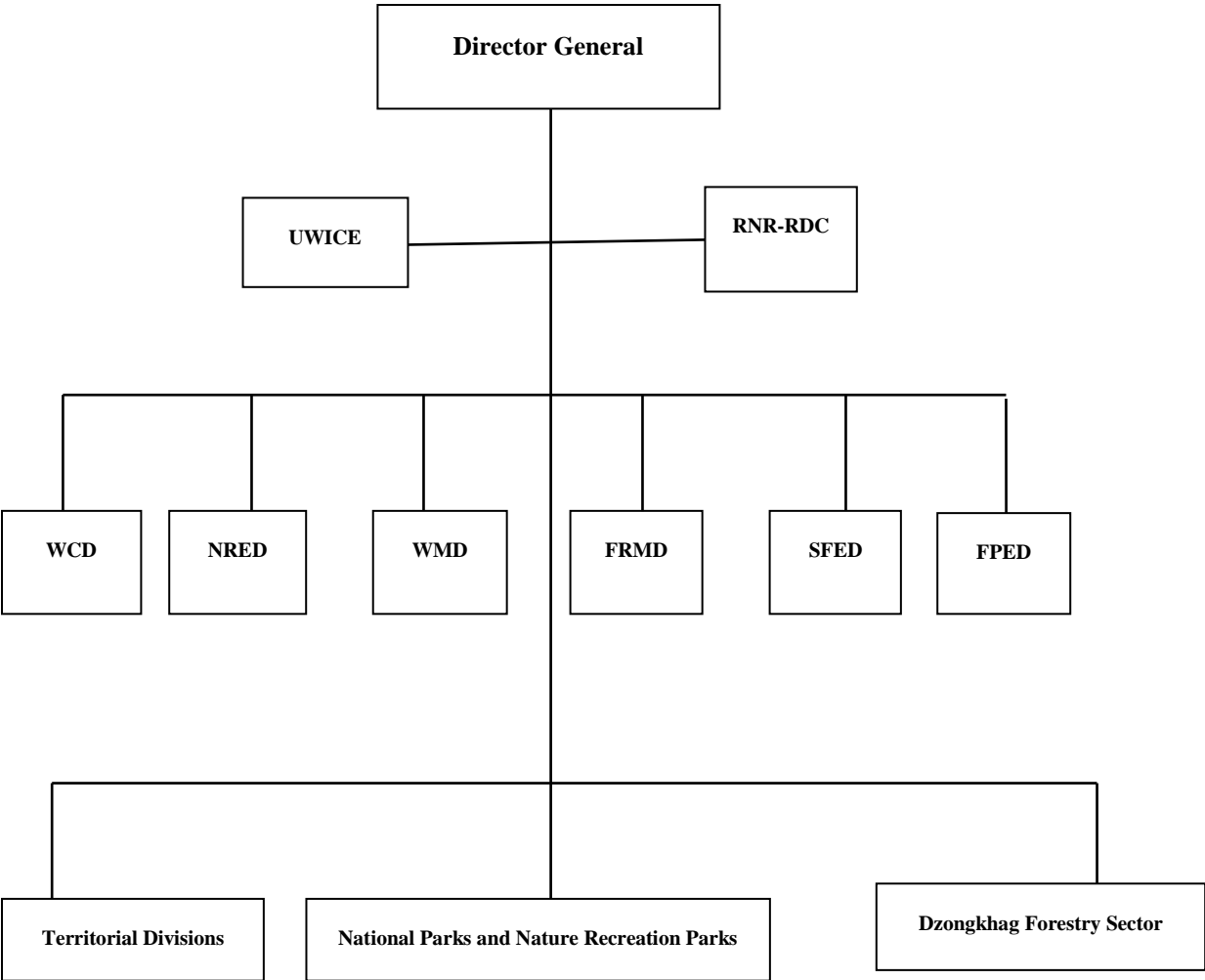
Membership

- The members of MSTCCC will be selected based on their technical capabilities and/or nature of their work
- The members of MSTCCC may serve for a period of two year term. The tenure may be renewed by NCCC.
- Quorum of 2/3^d
- The MTSCCC will be chaired by Secretary, NECS
- The Climate Change Unit, NECS will coordinate the meetings of the MTSCCC
- The MSTCCC will meet at least quarterly and as and when required.
- Member secretary will inform members of proposed meeting date at least 21 working days from the date.
- Members may raise relevant issues/proposals for consideration by the committee. Members will submit the relevant information/proposal to the Secretariat not less than 15 working days prior to the meeting, which will be made available to the members not less than 10 working days before the meeting by electronic means.

Roles and Responsibilities

- The MSTCCC will be accountable to the National Climate Change Committee
- The MSTCCC will be a forum for coordinating climate change activities, sharing of information to avoid duplication of efforts
- Any climate change proposal or activity must be submitted to MSTSCCC for review and recommendations.
- The MSTCCC will make recommendations to the NCCC to ensure smooth implementation of climate change activities, policies and programs in Bhutan. The recommendations of the committee will also be shared with the GNHC.
- The MSTCCC may consider issues related to climate change in Bhutan such as;
 - Vulnerability and Adaptation to adverse impacts of climate change
 - Mitigation of greenhouse gas emissions
 - Climate Finance
 - Climate Observation and Science
 - Capacity Building & Awareness
 - Technology needs and transfer for climate change
 - Positions and issues under multilateral climate change agreements

Annex 1a-2: Organogram of DoFPS



Annex 1a-3: ToR for REDD+ Taskforce

Purpose

The purpose of the REDD+ Taskforce is to serve as an official national forum for discussion and coordination of matters related to REDD+ programs in Bhutan and to decide and recommend actions for consideration by MoAF.

Membership

1. The REDD+ Taskforce will be chaired by DG, DoFPS
2. The members of REDD+ Taskforce will be selected based on the relevance of their work and experience pertaining to REDD+
3. The head of the REDD+ Secretariat will serve as Member Secretary and will coordinate the meetings of the REDD+ Taskforce
4. The REDD+ Taskforce will meet at least twice a year and as and when required.

Roles and Responsibilities

The overall roles and responsibilities of the REDD+ Taskforce is to provide recommendation on all REDD+ programs to the Minister, MoAF through the Secretary, MoAF, while also carrying out the following:

1. Inform NCCC and MSTCCC through REDD+ Taskforce Chairperson (DG, DoFPS),
2. To oversee the work of the three TWGs,
3. Supervise and guide the three TWGs as and when required,
4. Coordinate and review all REDD+ activities and share information to avoid duplication of efforts
5. The REDD+ Taskforce will make recommendations to DoFPS and/or MoAF to ensure smooth implementation of REDD+ activities, policies and programs in Bhutan. The recommendations of the REDD+ Taskforce will also be shared with the GNHC,
6. Monitor and evaluate REDD+ activities as and when required
7. The REDD+ Taskforce may consider issues related to REDD+ activities in Bhutan such as;
 - a. Review and recommend all capacity building & awareness programs
 - b. Approval of REDD+ activities that will be required to be implemented in different sectors
 - c. Provide issues and position that need to be submitted to the UN REDD Secretariat

Reporting

REDD+ Taskforce members will provide updates about all activities to the REDD+ Taskforce Chairperson as and when required. The Chairperson will be responsible for reporting to the Minister, MoAF.

Annex 1a- 4 ToR REDD+ TWG on National Forest Monitoring System and Forest Reference (Emission) Levels (NFMS-RELS/RLs)

1. Background

A future mechanism for Reduced Emissions from Deforestation and Degradation in developing countries (REDD+) being developed through the United Nations Framework Convention on Climate Change (UNFCCC) provides an opportunity to support Bhutan's efforts to reduce levels of deforestation and help to maintain and protect natural forests. In 2012 the RGoB initiated a REDD+ Readiness planning process, which in 2013 led to the development of Bhutan's REDD+ Readiness Preparation Proposal (R-PP) for the World Bank's Forest Carbon Partnership Facility (FCPF), a document outlining how the country will prepare to implement REDD+ activities, known as 'REDD+ Readiness'.

Decisions under the UNFCCC set out that developing countries aiming to undertake REDD+ activities should develop a number of technical elements. This working group will address two of these elements and assess what their implementation means in the context of Bhutan. The first is a national forest monitoring system (NFMS). Once developed, the NFMS will serve two functions:

- Monitoring of REDD+ activities: this function serves to assess whether REDD+ activities are resulting in positive outcomes. A key tool for this function is satellite remote sensing and analysis.
- Measurement, Reporting and Verification (MRV) of greenhouse gas (GHG) emissions: this function will assess whether REDD+ activities are resulting in reductions in forestry emissions and enhancements of forest carbon stocks. Key tools for this function are satellite remote sensing, a national forest inventory and a national GHG inventory.

The second element is forest reference emission levels and forest reference levels (RELS/RLs). RELS/RLs are the benchmarks that the performance of REDD+ activities in reducing GHG emissions will be measured against. RELS/RLs will be central to determining the levels of positive incentives countries will receive for implementing REDD+ activities. Key components for developing RELS/RLs are satellite remote sensing and assessments of national circumstances. UNFCCC guidance on RELS/RLs is not complete, and Bhutan will need to determine how best to approach RELS/RLs, based on its national circumstances.

2. Objectives

The objectives of the Technical Working Group are to 1) to support the assessment and development of approaches to NFMS development and implementation, 2) ensure that lessons and experiences from current forest monitoring systems in Bhutan are incorporated into the NFMS design; and that lessons from similar analyses in other countries are integrated into recommendations for Bhutan's system, and 3) assess and support the establishment of a system to develop and implement RELS/RLs in Bhutan.

3. Membership

Membership will be limited to 6 members and consist of representatives from:

- The REDD+ Taskforce (2 members); one of the Taskforce members to be nominated as Secretary of the TWG;
- Relevant offices within line agencies (3 members, to be nominated by the line agencies)
- Non-governmental stakeholder with skills and experience within relevant technical areas (1 member)

All members must designate alternates to attend if they are not available. Additional representatives may be invited to meetings as temporary participants, as required.

4. Operations

The TWG will meet on a monthly basis. The Secretary will ensure that a notification of each meeting is sent out at least one week ahead of the meeting, accompanied by any relevant documents to be discussed at the meeting. The Secretary will also circulate draft minutes of each meeting within three working days. All members of the TWG (or their alternates, if they attended the meeting) will provide comments on the draft minutes within three further working days, after which the Secretary will circulate the final minutes. The minutes will include the date, time, location, and subject matter of the following meeting. The final minutes will be widely circulated to REDD+ stakeholders.

5. Decision-making

The TWG will not be a decision making body but will provide recommendations to the REDD+ Taskforce on a monthly basis. Recommendations will be formulated on a consensual approach.

6. Responsibilities

The TWG is responsible for supporting the development of proposals for 1) Bhutan's NFMS (including subnational approaches, as necessary, as an interim measure), including institutional arrangements; 2) approaches to developing RELs/RLs in Bhutan (with subnational RELs/RLs being considered, as necessary, as an interim measure). Technical work areas will include (but not limited to);

- Developing a proposal for institutional arrangements for Bhutan's NFMS;
- Undertaking or commissioning assessments of existing international and national approaches to forest monitoring and measurement in Bhutan;
- Developing proposals for elements of a national approach for the development and implementation of Bhutan's NFMS and RELs/RLs;
- Designing a consultative process for establishing consensus on Bhutan's NFMS and RELs/RLs;
- Discussing and proposing approaches to integrated community forest monitoring into Bhutan's NFMS;
- Reviewing proposals for REDD+ NFMS and RELs/RLs in other countries.

Specific responsibilities of TWG members include:

- Attending monthly meetings;
- Reviewing documents and presentations and providing comments and input to them;
- Providing assistance to consultants and the REDD+ Taskforce to carry out their assignments;
- Attending training events and workshops.

7. Reporting

TWG members are responsible for reporting to and consulting with their respective line agencies and constituent groups. Members can request additional time on specific issues if they feel it is of high importance to their line agency and further discussion is needed. The TWG will report directly to the REDD+ Taskforce directly through the Secretary of the TWG.

8. Duration and timing

It is expected that members will be required to work between 2 and 4 days per month, depending on activities.

8. Funding

Financial support will be provided from the FCPF (R-PP) to cover expenses incurred for TWG meetings.

Annex 1a-5: ToR for REDD+ TWG on Safeguards and Benefit Distribution

1. Background

The future mechanism of REDD+ in developing countries, being developed through the UNFCCC, provides an opportunity to support Bhutan's efforts to reduce levels of deforestation and help to maintain and protect natural forests. In 2012 RGoB initiated a REDD+ Readiness planning process, which in 2013 led to the development of Bhutan's REDD+ Readiness Preparation Proposal (R-PP) for the World Bank's Forest Carbon Partnership Facility (FCPF), a document outlining how the country will prepare to implement REDD+ activities, known as 'REDD+ Readiness'.

A number of REDD+ safeguards are listed in the Cancun Agreements, which are designed to ensure that the implementation of REDD+ activities does not result in negative social or environmental impacts. Safeguards can be broadly understood as measures that aim to address both direct and indirect impacts on communities and ecosystems by identifying, analyzing, and ultimately working to manage risks and opportunities. If designed and implemented appropriately, safeguards can help REDD+ provide a suite of multiple benefits. All countries aiming to implement REDD+ activities must develop nationally appropriate systems to provide information on how the REDD+ safeguards are being addressed and respected through the implementation of REDD+ activities, which will require extensive consultation and assessment of options.

The successful implementation of REDD+ activities will lead to the accrual of positive incentives from the international community. All countries implementing REDD+ will require a system to distribute these benefits in a manner that is equitable, transparent and cost-efficient. Such a system needs to take account of examples of benefit distribution currently or previously applied in Bhutan, as well as factors and issues that are specific to REDD+.

2. Objectives

The objectives of the TWG are to 1) to support the assessment and development of approaches to safeguards as part of Bhutan's REDD+ Readiness process, and 2) ensure that lessons and experiences from current or previous benefit distribution systems in Bhutan are assessed in the context of REDD+ requirements; and that lessons from similar analyses in other countries are integrated into recommendations for a REDD+ distribution system in Bhutan.

3. Membership

Membership will be limited to 6 members and consist of representatives from:

- The REDD+ Taskforce (2 members); one of the Taskforce members to be nominated as Secretary of the TWG;
- Relevant offices within line agencies (3 members, to be nominated by the line agencies)
- Non-governmental stakeholder with skills and experience within relevant technical areas (1 member)

All members must designate alternates to attend if they are not available. Additional representatives may be invited to meetings as temporary participants, as required.

4. Operations

The TWG will meet on a monthly basis. The appointed Secretary will ensure that a notification of each meeting is sent out at least one week ahead of the meeting, accompanied by any relevant documents to be discussed at the meeting. The Secretary will also circulate draft minutes of each meeting within three working days. All members of the TWG (or their alternates, if they attended the meeting) will provide comments on the draft minutes within three further working days, after which the Secretary will circulate

the final minutes. The minutes will include the date, time, location, and subject matter of the following meeting. The final minutes will be widely circulated to REDD+ stakeholders.

5. Decision-making

The TWG will not be a decision-making body but will provide recommendations to the REDD+ Taskforce on a monthly basis. Recommendations will be formulated on a consensus approach.

6. Responsibilities

The TWG is responsible for supporting the development of proposals for 1) REDD+ safeguards (including indicators) and systems for providing information on the safeguards; and 2) a REDD+ BDS for Bhutan. Technical work areas will include (but not be limited to):

- Undertaking or commissioning assessments of existing international and/or national approaches to safeguards;
- Developing proposals for elements of a national approach to the implementation of REDD+ safeguards;
- Designing a consultative process for drafting safeguards and safeguards information systems that ensure effective broad-based stakeholder participation;
- Reviewing lessons learned from other natural resource management projects involving benefit distribution;
- Reviewing proposals for REDD+ benefit distribution systems in other countries;
- Developing preliminary proposals for benefit distribution through broad-based consultations.

Specific responsibilities of TWG members include:

- Attending monthly meetings;
- Reviewing documents and presentations and providing comments and input to them;
- Providing assistance to consultants and the REDD+ Taskforce to carry out their assignments;
- Attending training events and workshops.

7. Reporting

TWG members are responsible for reporting to and consulting with their respective line agencies and constituent groups. Members can request additional time on specific issues if they feel it is of high importance to their line agency and further discussion is needed. The TWG will report directly to the REDD+ Taskforce directly through the Secretary of the TWG.

8. Duration and timing

It is expected that members will be required to work between 2 and 4 days per month, depending on activities.

8. Funding

Financial support will be provided from the FCPF (R-PP) to cover expenses incurred for TWG meetings.

Annex 1a-6: ToR for REDD+ TWG on REDD+ Strategy Options

1. Background

The future mechanism REDD+ being developed through the UNFCCC provides an opportunity to support Bhutan's efforts to reduce levels of deforestation and help to maintain and protect natural forests. In 2012 the RGoB initiated a REDD+ Readiness planning process, which in 2013 led to the development of Bhutan's REDD+ Readiness Preparation Proposal (R-PP) for the World Bank's Forest Carbon Partnership Facility (FCPF), a document outlining how the country will prepare to implement REDD+ activities, known as 'REDD+ Readiness'.

A central aspect of the REDD+ Readiness process will be the determination of 1) which REDD+ activities will be implemented and 2) how the selected REDD+ activity/ies will be implemented in Bhutan. The outcomes of these decisions will comprise Bhutan's REDD+ Strategy Options. Making these key decisions about REDD+ implementation in Bhutan will necessitate thorough assessment of the costs, risks and benefits of each option; as well as wide consultation with all relevant stakeholders.

2. Objectives

The objectives of the TWG are to lead discussions and generate proposals for strategy options to implement REDD+ activities in Bhutan through a consultative process, including for the design of demonstration activities, for subsequent review by the Taskforce.

3. Membership

Membership will be limited to 6 members and consist of representatives from:

- The REDD+ Taskforce (2 members); one of the Taskforce members to be nominated as Secretary of the TWG;
- Relevant offices within line agencies (3 members, to be nominated by the line agencies)
- Non-governmental stakeholder with skills and experience within relevant technical areas (1 member)

All members must designate alternates to attend if they are not available. Additional representatives may be invited to meetings as temporary participants, as required.

4. Operations

The TWG will meet on a monthly basis. The appointed Secretary will ensure that a notification of each meeting is sent out at least one week ahead of the meeting, accompanied by any relevant documents to be discussed at the meeting. The Secretary will also circulate draft minutes of each meeting within three working days. All members of the TWG (or their alternates, if they attended the meeting) will provide comments on the draft minutes within three further working days, after which the Secretary will circulate the final minutes. The minutes will include the date, time, location, and subject matter of the following meeting. The final minutes will be widely circulated to REDD+ stakeholders.

5. Decision-making

The TWG will not be a decision-making body but will provide recommendations to the REDD+ Taskforce on a monthly basis. Recommendations will be formulated on a consensus approach.

6. Responsibilities

The TWG is responsible for supporting the development of proposals for strategy options to implement REDD+ activities in Bhutan. Technical work areas will include (but not be limited to):

- Discussing and proposing the selection of the REDD+ activities to be implemented in Bhutan;
- Define a consultative process for designing and implementing REDD+ strategies, including supporting the organization of consultation workshops and seminars;
- Reviewing proposals for REDD+ strategy options in other countries;
- Developing proposals for strategies and concrete actions to implement REDD+ activities in Bhutan, including demonstration activities at the national and/or sub-national level, and means to learn and apply lessons from demonstration activities;
- Developing a draft table of contents for Bhutan's National REDD+ strategy document, to be submitted to the Taskforce for review;
- Supporting the production and/or commissioning the drafting of sections of Bhutan's national REDD+ strategy document;
- Carrying out or commissioning an analysis of the climate change mitigation impacts of different strategy options.

Specific responsibilities of TWG members include:

- Attending monthly meetings;
- Reviewing documents and presentations and providing comments and input to them;
- Providing assistance to consultants and the REDD+ Taskforce to carry out their assignments;
- Drafting documents;
- Attending training events and workshops.

7. Reporting

TWG members are responsible for reporting to and consulting with their respective line agencies and constituent groups. Members can request additional time on specific issues if they feel it is of high importance to their line agency and further discussion is needed. The TWG will report directly to the REDD+ Taskforce directly through the Secretary of the TWG.

8. Duration and timing

It is expected that members will be required to work between 2 and 4 days per month, depending on activities.

9. Funding

Financial support will be provided from the FCPF (R-PP) to cover expenses incurred for TWG meetings.

Annex 1a-7: ToR for the Local Level REDD+ Committee

1. Background

For proper implementation of REDD+ activities, a local committee called as Local Level REDD+ Committee will be instituted at the pilot sites. The committee will be either group of villages or Community Forests Management Groups in the REDD+ Sites

2. Membership

Membership of the Committee will consist of:

- Chairperson to be elected from the members
- Representatives from the Geog/ Villages
- Representatives from the CFs/ NWFP Groups
- Geog Extension Officers (RNR)

3. Responsibilities

- The committee will have the direct responsibility of planning and coordinating the implementation and monitoring of REDD+ activities.
- The committee will also be a forum to discuss the concerns and issues with regard to REDD+ and for forwarding to higher committees like REDD+ Task Force and Climate Change committees.
- Will represent in the REDD+ Task Force, TWGs and Climate Change Committees.